**Davies G. Information and Communications Technology for Language Teachers**

**Module 1**

[**[](http://www.ict4lt.org/index.htm)**](http://www.ict4lt.org/index.htm)**ICT4LT Module 1.1**

**Introduction to new technologies and how they can contribute to language learning and teaching**

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**Aims**

The main aim of this module is to introduce you to new technologies and to present the arguments for using them in the language classroom. The module includes a discussion on the effectiveness of new technologies as learning and teaching aids.

This Web page is designed to be read from the printed page. Use **File / Print** in your browser to produce a printed copy. After you have digested the contents of the printed copy, come back to the onscreen version to follow up the hyperlinks.

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**1. Definitions of terms**

In the context of the ICT4LT website, the term **new technologies** includes Information and Communications Technologies (ICTs) for language teaching and learning in which the computer plays a central role, embracing a variety of different software applications, e.g.

* **Generic software:** This includes software designed for general use rather than specfically for Modern Foreign languages, such as word-processors (e.g. *Word*) and presentation software (e.g.*PowerPoint*). See [Module 1.3](http://www.ict4lt.org/en/en_mod1-3.htm), *Using word-processing and presentation software in the Modern Foreign Languages classroom*.
* **CALL software:**Programs specially designed for Computer Assisted Language Learning (CALL). See [Module 1.4](http://www.ict4lt.org/en/en_mod1-4.htm),*Introduction to Computer Assisted Language Learning (CALL)*, and[Module 2.2](http://www.ict4lt.org/en/en_mod2-2.htm), *Introduction to multimedia CALL*.
* **Generic CALL authoring software:** This is a term which is normally used to describe an authoring package designed to cover all aspects of CALL program authoring and interaction, from simple gap-filling and multiple-choice exercises to exercises incorporating interactive multimedia, e.g. the **MALTED** authoring package as described by Paul Bangs in [Module 2.5](http://www.ict4lt.org/en/en_mod2-5.htm),*Introduction to CALL authoring programs*.
* **Communications software:** This includes **email** **software** and **Web browsers**. See [Module 1.5](http://www.ict4lt.org/en/en_mod1-5.htm), *Introduction to the Internet*.
* **Concordancing software**. See [Module 2.4](http://www.ict4lt.org/en/en_mod2-4.htm), *Using concordance programs in the Modern Foreign Languages classroom*.
* **Natural Language Processing (NLP) software**, e.g. **speech synthesisers** and **speech analysers**. See [Module 3.5](http://www.ict4lt.org/en/en_mod3-5.htm), *Human Language Technologies* *(HLT)*.

See the list in [Section 4.2](http://www.ict4lt.org/en/en_mod1-1.htm#4.2), headed *Twenty different ways of using ICT in the Modern Foreign Languages classroom*.

**Terminology**

There is a bewildering array of acronyms, abbreviations and new coinages associated with new technologies, with which you will need to become familiar. The most widely understood abbreviation is **ICT(Information and Communications Technology)**. ICT is the term that is currently favoured by most businesses and educational institutions worldwide to describe new technologies. The "C" reflects the important role that computers now play in **communications**, e.g. by email, the Web, by satellite and mobile phone (cellphone). We always insist on the "s" at the end of "communications", which is a term that predates computer technology and was originally associated with morse code and radio communications and usually abbreviated to **comms**. You will also find references to **IT (Information Technology)**, which is an older term and is still widely used in some circles. Many more abbreviations and definitions can be found in the [Glossary](http://www.ict4lt.org/en/en_glossary.htm). We welcome suggested additions to the Glossary:[Feedback](http://www.ict4lt.org/en/en_mod1-1.htm#anchor162535).

**E-learning**

**E-learning (electronic learning)** has become a buzzword in recent years. To some people, e-learning describes *any* application of ICT in learning and teaching, from producing a word-processed handout to a full-blown course on the Web. The whole of the ICT4LT website is, therefore, in this sense all about e-learning in the context of teaching and learning foreign languages. Other people perceive e-learning in a more limited way, i.e. **online learning** in the sense of **distance learning** on the Internet. Because of a lack of agreement on what e-learning is all about, it probably makes sense to use the term **online learning** when talking about **distance learning** on the Internet and to use **CALL** **(Computer Assisted Language Learning)** as a catch-all term for the use of computers in language learning and teaching. See the [Glossary](http://www.ict4lt.org/en/en_glossary.htm) entry on **E-learning**, which will link you to other relevant terms.

Mark Pegrum's wiki on **E-language** is a useful source of information: [http://e-language.wikispaces.com](http://e-language.wikispaces.com/)

See especially Mark Pegrum's wiki on **Myths of E-learning**: <http://e-language.wikispaces.com/myths>

**2. Why should the language teacher be concerned with new technologies?**

Here are some of the benefits of ICT that have been identified by teachers:

* ICT is **motivating** both for students and for teachers. It makes the learning process more enjoyable.
* ICT offers a **wide range of multimedia resources** enabling text, still images, audio and video to be combined in interesting and stimulating ways for presentation purposes in the classroom, using a data projector and an interactive whiteboard. See:
  + [Section 7, Module 1.3](http://www.ict4lt.org/en/en_mod1-3.htm#ppwc), headed *Using PowerPoint*
  + [Section 4, Module 1.4](http://www.ict4lt.org/en/en_mod1-4.htm#iwbs), headed *Whole-class teaching and interactive whiteboards*
* ICT offers opportunities for **intensive one-to-one learning in a multimedia computer lab**. See:
  + [Module 2.2](http://www.ict4lt.org/en/en_mod2-2.htm), *Introduction to multimedia CALL*
  + [Module 3.1](http://www.ict4lt.org/en/en_mod3-1.htm), *Managing a multimedia language centre*
* ICT offers access to a **rich resource of authentic materials on the Internet**. See:
  + [Module 1.5](http://www.ict4lt.org/en/en_mod1-5.htm),*Introduction to the Internet*
  + [Module 2.3](http://www.ict4lt.org/en/en_mod2-3.htm), *Exploiting World Wide Web resources online and offline*
* ICT offers access to a **wide range of authentic materials on CD-ROM and DVD**. See:
  + [Module 2.2](http://www.ict4lt.org/en/en_mod2-2.htm), *Introduction to multimedia CALL*
* ICT **makes worldwide communication possible** via email and via audio- and videoconferencing with native speakers. See:
  + [Section 14, Module 1.5](http://www.ict4lt.org/en/en_mod1-5.htm#compmedcomm), headed *Computer Mediated Communication (CMC)*.
* ICT can open up a **new range of self-access and distance learning opportunities**, thereby making access to learning more widely available to students who have to study outside normal hours, who live in remote areas, or who have special needs. See:
  + [Section 6, Module 1.4](http://www.ict4lt.org/en/en_mod1-4.htm#selfaccess), headed *Self-access learning*
  + [Section 7, Module 1.4](http://www.ict4lt.org/en/en_mod1-4.htm#distancelearning), headed *Distance learning*

What other benefits of ICT can you think of? Let us know: [Feedback](http://www.ict4lt.org/en/en_mod1-1.htm#anchor162535).

It has also been argued that technology of any sort gets in the way of language learning. People have learned languages successfully for hundreds of years without resorting to any kind of technology. During the 1960s language laboratories were introduced into educational institutions in the UK. The language lab boomed in the late 1960s and 1970s, and then went rapidly out of fashion. The demise of the language lab is often pointed to as an example of the failure of technology. But it was **not the failure of technology**. The failure of the language lab was due largely to **human failures** - a **lack of investment in training** teachers how to use it and a **lack of****imagination**: see [Ely (1984)](http://www.ict4lt.org/en/en_mod1-1.htm#ely). Training is crucial - the main reason why we have designed the ICT4LT materials. Technology alone is not a panacea - although it is often perceived that way by administrators. If insufficient effort is put into training teachers to use technology - and to use it imaginatively - then it is probably better to dispense with technology altogether: see [Davies (1997)](http://www.ict4lt.org/en/en_mod1-1.htm#davies97).

Learning to use a computer is rather like learning to drive a car. Some people can learn to drive in ten hours while others need 40 hours. Once you have learned to drive, however, you can get from point A to point B quicker than you did before - subject to traffic conditions. The same principle applies to learning to use a computer. The time taken to learn how to use it varies considerably from person to person, but once the necessary skills have been acquired you can do many things quicker than you did before. You still need to use your imagination, however. The main problem with introducing computers into language teaching was identified by [Jones (1986)](http://www.ict4lt.org/en/en_mod1-1.htm#jones86) in an article that should be essential reading for all language teachers considering using new technologies. The title of Jones's article says it all: "It's not so much the program: more what you do with it: the importance of methodology in CALL".

With adequate training the teacher will find that ICT offers a new range of teaching and learning opportunities. The ICT4LT website does not aim to teach you how to use a computer. It is assumed that you already have a basic knowledge of *Windows*, word-processing, using a **browser** and **email** - i.e. that you have already passed your basic "computer driving test" or have even gained a qualification such as:

* [The European Computer Driving Licence (ECDL)](http://www.bcs.org/category/5829).
* [The ECDL for Schools](http://www.educatorsecdl.com/), which is designed specifically to help teachers, support staff and ICT coordinators develop practical computing skills for teaching and learning in the classroom and leads to an internationally recognised level of certification.

The main target group of the ICT4LT project is language teachers already in service, although parts of the syllabus are suitable for teachers undergoing initial training and for teachers following short intensive courses. The ICT4LT website materials have been developed by practising language teachers who have many years of experience in using a wide range of technological aids in language teaching. Our approach is **pedagogy driven**and the emphasis is on language teaching **methodologies** that can be implemented successfully with the aid of new technologies.

A document containing a set of ICT "can do" lists can be found here in Word DOC format: [ICT\_Can\_Do\_Lists](http://www.ict4lt.org/en/ICT_Can_Do_Lists.doc). This document is still undergoing development and will be added to on a regular basis. It is designed for:

* ICT trainers, to enable them to identify trainees' strengths and weaknesses
* Language teachers undergoing training, to enable them to assess the development of their own ICT skills, experience and understanding

[Feedback](http://www.ict4lt.org/en/en_mod1-1.htm#anchor162535) is welcomed.

**3. How effective are new technologies in promoting language learning?**

This is a question that has been raised on a regular basis ever since the introduction of the language lab in the 1960s and, from the early 1980s, when personal computers were introduced into schools. In November 1998, the following message appeared in the [Linguanet Forum](http://www.mailtalk.ac.uk/cgi-bin/webadmin?A0=linguanet-forum):

At a meeting comprising some significant figures in the field of education and training which I attended last week, it was suggested that there was little on-going or completed systematic research which could evidence the benefits of ICT in the delivery of Modern Foreign Languages.

This statement prompted two swift replies, one by **David Wilson**, a teacher in secondary education, and one by **Graham Davies**, Editor-in-Chief of the ICT4LT website. Both expressed surprise at the lack of awareness of the "significant figures". Relevant extracts from their replies are quoted here:

**David Wilson:** Researching CALL effectiveness is admittedly a very difficult endeavour. In the past, projects which chose to deliver MFL teaching wholly via ICT have often flopped because students understandably craved human contact. The scientifically approved but ethically flawed control-group / experimental-group approach to educational ICT research frequently fails because the subjects in the control group resent being denied access to technology, while the subjects in the experimental group revel briefly in the novelty value of technology - the Hawthorne Effect. Properly integrated with off-computer teaching, CALL appears to be a very effective tool, but then it is extremely difficult to tease out whether pupils progress because of good teaching or good CALL or an equal measure of both. If we accept the premise that educational research findings, especially in the field of ICT, may be contradictory, do these "figures in the field of education and training" conclude that we should banish computers altogether, even when they are "just" used in foreign language word-processing and communications technologies? If so, what about MFL learners with special educational needs? What about school pupils' general educational entitlement to ICT skill development across the curriculum?

**Graham Davies:** ICT has been making a contribution to modern language learning and teaching since the early 1960s and quite significantly so since the early 1980s: v. the flurry of publications in the early 1980s: [Davies & Higgins (1982; 1985)](http://www.ict4lt.org/en/en_mod1-1.htm#davhigg), [Kenning & Kenning (1984)](http://www.ict4lt.org/en/en_mod1-1.htm#kenning), [Higgins & Johns (1984)](http://www.ict4lt.org/en/en_mod1-1.htm#higgjohns), [Last (1984)](http://www.ict4lt.org/en/en_mod1-1.htm#last), [Ahmad et al. (1985)](http://www.ict4lt.org/en/en_mod1-1.htm#ahmad). The list of relevant publications continues right up until the present day, the most comprehensive recent work being [Levy (1997)](http://www.ict4lt.org/en/en_mod1-1.htm#levy), which contains a wealth of information on the effectiveness of CALL in Modern Foreign Languages in its historical context and in the present. See also the Web page created by [Ridwan Sedgwick](http://www.ict4lt.org/en/en_mod1-1.htm#anchor13261), which contains an annotated bibliography on the effectiveness of CALL. Finally, many papers presented at [CALICO](http://www.ict4lt.org/en/en_mod1-1.htm#calico), [EUROCALL](http://www.ict4lt.org/en/en_mod1-1.htm#eurocall) and [IALLT](http://www.ict4lt.org/en/en_mod1-1.htm#iallt) conferences have addressed the issue of the effectiveness of CALL since the early 1980s: v. especially [Nina Garrett's paper](http://www.ict4lt.org/en/en_mod1-1.htm#garrett), presented at EUROCALL 1997 (*ReCALL* 10, 1). See also an interesting paper by [Caroline Grace](http://www.ict4lt.org/en/en_mod1-1.htm#graceb), *CALICO Journal* 15, 1-3, reporting on her extensive research study which appears to confirm that students learn vocabulary better and retain it longer if they have access to translations when working with multimedia packages. [See also [Grace (1998a)](http://www.ict4lt.org/en/en_mod1-1.htm#gracea), [Myles (1998)](http://www.ict4lt.org/en/en_mod1-1.htm#myles)]

**Concrete evidence** on the effectiveness of CALL is difficult to obtain. There is plenty of **anecdotal** **evidence** about the positive effects of CALL. Teachers often report on their students being "enthusiastic", "engaged", "motivated" and even "excited" in classes in which CALL is used, but are sceptical about **measuring** its effectiveness. See this summary in *Word* format of a discussion that took place in the MFL Resources Forum in 2008: **How effective is the use of ICT in language learning and teaching? A small-scale investigation by Graham Davies:** [ICT Effectiveness](http://www.ict4lt.org/en/ICT_Effectiveness.doc). See also[Section 3, Module 1.4](http://www.ict4lt.org/en/en_mod1-4.htm#iwbs) on the effectiveness of using **interactive whiteboards** in whole-class teaching.

There have been relatively few controlled research studies, namely where one group of students has been taught with regular use of CALL and a control group has been taught at the same time without the use of new technologies. Such studies have often been inconclusive, with mixed reactions from students and mixed outcomes, depending on the skills being taught: for example, some students may progress better in speaking the foreign language when taught by a teacher in the classroom but may develop better listening skills as a result of regular exposure to CALL programs. Often the only positive conclusion that can be drawn is that students in the 21st century feel comfortable using technology and expect it to be available for learning.

In 2002 a **Survey of unanswered questions in Computer Assisted Language Learning** was carried out by Phil Hubbard, Linguistics Department, Stanford University in July and August, 2002. Effectiveness issues are a major theme in this survey. See: <http://www.stanford.edu/~efs/callsurvey/>

Some small-scale studies have provided useful data. Have a look at the report on the mini-research project conducted by Heather Rendall: [Section 5, Module 1.4](http://www.ict4lt.org/en/en_mod1-4.htm#anchor32045), headed *Teaching in the computer network room*. Heather writes:

Within the first year it was clear that CALL was having a positive effect. In those areas where a grammar point was totally lacking in English - such as gender and adjective agreement - students’ performances could be seen to move rapidly from total confusion to a system for resolving each task faultlessly.

See also the article by Heather Rendall, *Life without the computer*, in which she describes the drop in standards, especially awareness of genders in French and written accuracy, that she observed as a result of one class having to forego its regular CALL sessions in the computer lab: [Rendall (1988)](http://www.ict4lt.org/en/en_mod1-1.htm#rendall88).

Evidence of the effectiveness of CALL can also be seen in two of the case studies described in [Module 3.1](http://www.ict4lt.org/en/en_mod3-1.htm), *Managing a multimedia language centre*:

* Richard Hamilton claims that, as a result of regular use of ICT in the Language Centre's computer lab at Cox Green School: "Our A\*-C GCSE results went up by 15% in three years." ([Case Study 1: Section 1.3, Module 3.1](http://www.ict4lt.org/en/en_mod3-1.htm#anchor210679))
* Helen Myers, Assistant Head at The Ashcombe School, writes: "We feel that the most efficient and effective use of the multimedia rooms is to exploit the fantastic capability to present and reinforce listening and speaking." ([Case Study 5: Section 5.1.5, Module 3.1](http://www.ict4lt.org/en/en_mod3-1.htm#5.1.5))

A report on a research study conducted by BECTA, [ImpaCT2 (2002)](http://www.ict4lt.org/en/en_mod1-1.htm#becta2002), was tentative in its conclusions:

1. There were strong indications of a positive association in GCSE Modern Foreign Languages (MFL) at Key Stage 4, and some indications of a positive association in GCSE geography, although neither reached statistical significance.
2. It is possible […] to estimate that high ICT use in Modern Foreign Languages can help to raise performance by the equivalent of 0.82 of a GCSE grade.
3. There is no consistent relationship between the average amount of ICT use reported for any subject at a given Key Stage and its apparent effectiveness in raising standards. It therefore seems likely that the *type* of use is all-important. [My italics.]

Uschi Felix provides a comprehensive survery of research into CALL in her article *The unreasonable effectiveness of CALL: what have we learned in two decades of research?* In her conclusion she writes:

We are beginning to see enough data in CALL that suggest positive effects on spelling, reading and writing. There is also a substantial body of data that indicates that student perceptions of CALL are on the whole positive, provided technologies are stable and well supported. On the negative side there are still concerns about technical difficulties interfering with the learning process; older students not feeling comfortable with computers; younger students not possessing the necessary metaskills for coping effectively in these challenging environments; training needs in computer literacy for both students and teachers; problems with group dynamics; and time constraints. [(Felix 2008: 156)](http://www.ict4lt.org/en/en_mod1-1.htm#felix2008)

See also:

* [Davies (2001)](http://www.ict4lt.org/en/en_mod1-1.htm#daviesswets): "New technologies and language learning: a suitable subject for research?"
* [Fitzpatrick & Davies (2003)](http://www.ict4lt.org/en/en_mod1-1.htm#fitz): *The impact of ICT on the teaching of foreign languages and on the role of teachers of foreign languages*.
* [Felix (2005)](http://www.ict4lt.org/en/en_mod1-1.htm#felix2005): "What do meta-analyses tell us about CALL effectiveness?" *ReCALL* 17, 2: 269-288.
* [BECTA (2007)](http://www.ict4lt.org/en/en_mod1-1.htm#becta07): *Impact of ICT in schools: a landscape review*.
* [Leakey (2011)](http://www.ict4lt.org/en/en_mod1-1.htm#leakey2011) *Evaluating Computer Assisted Language Learning: an integrated approach to effectiveness research in CALL*.
* Results of a research study conducted in 2008 by **Durham University** on the outreach work of **Monkseaton High School** to local primary schools showed that the primary school pupils progressed up to 80% faster when taught French with the aid of a set of ICT resources (*Word* worksheets, IWB *PowerPoint* presentations, audio files, etc) compared to those who learned using traditional methods. 1000 pupils were split into two groups for the purposes of the research study. Paul Kelly, headteacher of Monkseaton High School, is reported as saying: "The pupils who used computers improved by between 0.5 and 0.8 of a level more than those who used books. That can be translated into an improvement of up to an 80% cent with computers. They almost doubled the speed at which they were learning". See: <http://www.monkseaton.org.uk/languages/Pages/IntheNews.aspx>
* **Education, Audiovisual and Culture Executive Agency (EACEA)** of the EU (2009):  
  *Study on the impact of ICT and new media on language learning*  
  <http://eacea.ec.europa.eu/llp/studies/study_impact_ict_new_media_language_learning_en.php>

At one time CALL research was often not properly recognised by bodies that awarded research funding, but the situation has changed over the years and now there is no lack of research acivities in this area. Professional associations such as [EUROCALL](http://www.ict4lt.org/en/en_mod1-1.htm#eurocall), [CALICO](http://www.ict4lt.org/en/en_mod1-1.htm#calico) and [IALLT](http://www.ict4lt.org/en/en_mod1-1.htm#iallt) have addressed this question and produced a [Joint Policy Statement on CALL Research](http://www.eurocall-languages.org/research/research_policy.html). Journals published by EUROCALL (*ReCALL*), CALICO (*CALICO Journal*) and IALLT (*IALLT Journal*) have a strong focus on research: see the [Journals](http://www.ict4lt.org/en/en_resource.htm#journals) section in our [Resource Centre](http://www.ict4lt.org/en/en_resource.htm).

In the end, however, the effectiveness of ICT hinges on the individual teacher. Angela McFarlane, Professor of Education and Director of Learning Technology, Graduate School of Education, University of Bristol, sums it up:

What we do know, whether from personal experience as teacher or learner, or as the result of 20 years of research into the question, is that ICT has an impact on learning, for some learners, under some conditions, and that it cannot replace a teacher. We know that a key factor in impact at school level is and remains the teacher, whose role in managing and integrating the ICT-based experiences learners have with the rest of the curriculum and culture is vital and probably always will be. (*Times Educational Supplement, ICT in Education Online*, 26 April 2002, p. 17.)

**4. What can ICT offer the language teacher and the language learner?**

**Contents of Section 4**

* [4.1 Traditional media and digital media](http://www.ict4lt.org/en/en_mod1-1.htm#4.1)
* [4.2 Twenty different ways of using ICT in the Modern Foreign Languages classroom](http://www.ict4lt.org/en/en_mod1-1.htm#4.2)

**4.1 Traditional media and digital media**

Language teachers are used to dealing with a range of "traditional" media: **printed texts**, **images**, **audio materials** and **video materials**. They are familiar with the characteristics of each of these media and what they can do best in terms of supporting language teaching and learning. For example, **printed materials** and **images** can be easier for a beginner to deal with than **audio materials** because they "stand still", and **video** **materials** are invaluable in providing both aural and visual input and thereby giving the learner visual clues to the meaning of what is being said. Video can also be used to add a cultural perspective. ICT, however, brings with it new characteristics and new opportunities that are not always obvious. [Section 5](http://www.ict4lt.org/en/en_mod1-1.htm#anchor96740), [Section 6](http://www.ict4lt.org/en/en_mod1-1.htm#anchor97257) and [Section 7](http://www.ict4lt.org/en/en_mod1-1.htm#anchor97794) of this module contain a summary of the characteristics of the components of ICT that language teachers need to be aware of. The most important point to grasp is that ICT is more than just a medium incorporating electronic versionsof the various media with which language teachers are already familiar. ICT opens up exciting new possibilities of combining different media. It is a new concept in that it is multi-faceted, and the media facets of which it consists are not exact replicas of those that language teachers are used to dealing with.

**4.2 Twenty different ways of using ICT in the Modern Foreign Languages classroom**

ICT in the context of the Modern Foreign Languages classroom can manifest itself in many different ways as a tool for assisting the development of the four key skills: **Listening**, **Speaking**, **Reading** and**Writing**. Here are twenty different ways in which the teacher and learner of foreign languages might use ICT. This list is by no means exhaustive. Language teachers are continually finding new ways in which they can make use of ICT. See, for example, the collection of articles in Josй Picardo's **Box of Tricks** **Blog**: [Technology in Modern Foreign Languages - a practitioner's perspective](http://www.boxoftricks.net/2010/02/technology-in-modern-foreign-languages-a-practitioners-perspective/). The complete collection of these articles can be downloaded in PDF format from [Scribd](http://www.scribd.com/doc/27012493/Technology-in-Modern-Foreign-Languages-A-Practitioner-s-Perspective). Have a look at other blogs written by language teachers in [Section 12.2.2, Module 1.5](http://www.ict4lt.org/en/en_mod1-5.htm#ltblogs), headed *Useful blogs created by and for language teachers*. Our downloadable *Word* document, containing a set of "can do" lists, may also be useful: [ICT\_Can\_Do\_Lists](http://www.ict4lt.org/en/ICT_Can_Do_Lists.doc). The document is designed for:

* trainers, to enable them to identify trainees' strengths and weaknesses in ICT;
* language teachers undergoing training, to enable them to assess the development of their own ICT skills, experience and understanding.

This document covers selected generic applications (e.g. *Word*, browsers, email software, *PowerPoint*) and software applications that are particularly relevant for language teachers. Under the heading for each application there is a range of essential tasks that the teacher should be able to carry out in order to feel comfortable working with the software - a so-called "can do" list. If you need information on using a specific application have a look at Russell Stannard's excellent set of [Teacher Training Videos](http://www.teachertrainingvideos.com/) for a range of ICT applications.

What other uses of ICT can you think of? Let us know: [Feedback](http://www.ict4lt.org/en/en_mod1-1.htm#anchor162535).

1. Use by students of materials that the teacher has created for them with **generic software applications**, e.g. word-processed handouts, electronic worksheets, *PowerPoint* presentations for whole-class teaching using an interactive whiteboard - and materials of this type downloaded from Web resource centres. See [Module 1.3](http://www.ict4lt.org/en/en_mod1-3.htm), *Using word-processing and presentation software in the Modern Foreign Languages classroom*. See also the [Teacher's Pet](http://www.teachers-pet.org/) text tool.
2. Use of **generic software applications** such as *Word* and *PowerPoint* by students to create their own materials, e.g. essays and presentations. See [Module 1.3](http://www.ict4lt.org/en/en_mod1-3.htm), *Using word-processing and presentation software in the Modern Foreign Languages classroom*.
3. Use by students of **audio and video recordings** that can be downloaded from the Web. See:
   1. [Section 2.1.3 (v.), Module 1.5](http://www.ict4lt.org/en/en_mod1-5.htm#podcasttools), *Podcasting*
   2. [Section 2.1.3 (vii.), Module 1.5](http://www.ict4lt.org/en/en_mod1-5.htm#videotools), *Video sharing*
   3. [Section 2.2.3.6, Module 2.2](http://www.ict4lt.org/en/en_mod2-2.htm#savingstream), *Saving and converting streaming media for use offline*
   4. [Section 3.5.2, Module 2.3](http://www.ict4lt.org/en/en_mod2-3.htm#podcast), *Podcasting*
   5. [Section 3.5, Module 2.3](http://www.ict4lt.org/en/en_mod2-3.htm#audio), *Audio and video*
4. Use by students of **audio and video recordings** that the teacher has created for them with **audio and video editing tools**. See:
   1. [Section 2.2.3.3, Module 2.2](http://www.ict4lt.org/en/en_mod2-2.htm#sounded), *Sound recording and editing software*
   2. [Section 2.2.3.4, Module 2.2](http://www.ict4lt.org/en/en_mod2-2.htm#videoed), *Video editing software*
   3. [Section 2.2.3.6, Module 2.2](http://www.ict4lt.org/en/en_mod2-2.htm#savingstream), *Saving and converting streaming media for use offline*
   4. [Section 3.5, Module 2.3](http://www.ict4lt.org/en/en_mod2-3.htm#audio), *Audio and video*
5. Use of **audio and video editing tools** by students to create their own **audio and video recordings**. See:
   1. [Section 2.2.3.3, Module 2.2](http://www.ict4lt.org/en/en_mod2-2.htm#sounded), *Sound recording and editing software*
   2. [Section 2.2.3.4, Module 2.2](http://www.ict4lt.org/en/en_mod2-2.htm#videoed), *Video editing software*
   3. [Section 2.2.3.6, Module 2.2](http://www.ict4lt.org/en/en_mod2-2.htm#savingstream), *Saving and converting streaming media for use offline*
   4. [Section 3.5, Module 2.3](http://www.ict4lt.org/en/en_mod2-3.htm#audio), *Audio and video*
6. Use by students of **commercially-produced CD-ROMs and DVD**s. See [Section 3, Module 2.2](http://www.ict4lt.org/en/en_mod2-2.htm#anchor20887).
7. Use by students of **commercially-produced multimedia CALL packages**, e.g. the [EuroTalk](http://eurotalk.com/en/) series of CD-ROMs and DVDs. See [Section 3, Module 2.2](http://www.ict4lt.org/en/en_mod2-2.htm#anchor20887).
8. Use by students of materials that the teacher has created and tailored to their needs using **authoring programs** such as *Hot Potatoes*, *TaskMagic* and *Fun with Texts*, and materials of this type that can be downloaded from the Web. See[Module 2.5](http://www.ict4lt.org/en/en_mod2-5.htm), which focuses on authoring programs.
9. Use of the **Web as a resource**, including online interactive quizzes, webquests, scavenger hunts, dictionaries, encyclopaedias and grammar reference materials, as well as generic tools such as**search engines** for finding information. See [Module 1.5](http://www.ict4lt.org/en/en_mod1-5.htm) and [Module 2.3](http://www.ict4lt.org/en/en_mod2-3.htm).
10. Use of a range of **Web 2.0 tools** by the teacher or by students, including **social networking** sites. See:
    1. [Section 2.1, Module 1.5](http://www.ict4lt.org/en/en_mod1-5.htm#WEB2), *What is Web 2.0?*
    2. [Section 12 Module 1.5](http://www.ict4lt.org/en/en_mod1-5.htm#anchordiscuss), *Discussion lists, blogs, wikis, social networking*
11. Use of **email**, **e-pal** and **e-twinning** schemes, and **tandem learning (buddy learning)**. See [Section 14, Module 1.5](http://www.ict4lt.org/en/en_mod1-5.htm#compmedcomm), *Computer Mediated Communication (CMC)*.
12. Use of **audio- and videoconferencing facilities**. See [Section 14.1.2, Module 1.5](http://www.ict4lt.org/en/en_mod1-5.htm#audioconf) on **audioconferencing** and [Section 14.1.3, Module 1.5](http://www.ict4lt.org/en/en_mod1-5.htm#videoconf) on **videoconferencing**.
13. **Computer Aided Assessment (CAA)**. See [Module 4.1](http://www.ict4lt.org/en/en_mod4-1.htm).
14. **Mobile Assisted Language Learning (MALL)**. See [Section 5, Module 2.3](http://www.ict4lt.org/en/en_mod2-3.htm#mall), for further information on MALL.
15. Use of **chat rooms**: See [Section 14.2, Module 1.5](http://www.ict4lt.org/en/en_mod1-5.htm#14.2), *Chat rooms, MUDs, MOOs and MUVEs*.
16. Use of **MUDs, MOOs and MUVEs**. See [Section 14.2, Module 1.5](http://www.ict4lt.org/en/en_mod1-5.htm#14.2), *Chat rooms, MUDs, MOOs and MUVEs*.
17. Use of **virtual worlds**, e.g. **Second Life**. See [Section 14.2.1, Module 1.5](http://www.ict4lt.org/en/en_mod1-5.htm#secondlife).
18. Use of **concordance programs**. See [Module 2.4](http://www.ict4lt.org/en/en_mod2-4.htm),*Using concordance programs in the Modern Foreign Languages classroom*.
19. Use of tools falling into the category of **speech technologies**. See [Section 4, Module 3.5](http://www.ict4lt.org/en/en_mod3-5.htm#speechtech).
20. Use by the teacher of **whole-class presentation devices and software**, e.g. computer plus data projector or **interactive whiteboard (IWB)**. See [Section 4, Module 1.4](http://www.ict4lt.org/en/en_mod1-4.htm#iwbs).

See also [Section 3, Module 1.4](http://www.ict4lt.org/en/en_mod1-4.htm#typology), headed *CALL typology, phases of CALL, CALL software evaluation*, which describes a range of different manifestations of Computer Assisted Language Learning.

What other uses of ICT can you think of? Let us know: [Feedback](http://www.ict4lt.org/en/en_mod1-1.htm#anchor162535).

**5. General characteristics of digital media**

**Contents of Section 5**

* [5.1 Text](http://www.ict4lt.org/en/en_mod1-1.htm#5.1)
* [5.2 Images, audio and video](http://www.ict4lt.org/en/en_mod1-1.htm#5.2)
* [5.3 Mixing media](http://www.ict4lt.org/en/en_mod1-1.htm#5.3)
* [5.4 Distributing media](http://www.ict4lt.org/en/en_mod1-1.htm#5.4)

**5.1 Text**

The most important characteristic of text produced by a computer is that it is always **provisional** until the writer declares it to be final. Written or typed text on paper is fixed. Changes involve rewriting in one form or another. That is bad enough for a teacher producing a worksheet, and much worse for a student writing an essay. Computer-produced text is **flexible**. Using a computer to produce text means that the writer is able to review and revise their text as often as they like. This characteristic is an important factor in the development of writing skills in second language learning: see [Module 1.3](http://www.ict4lt.org/en/en_mod1-3.htm),*Using word-processing and presentation software in the Modern Foreign Languages classroom*. It is also an important factor in the production of **differentiated** paper-based or electronic worksheets where every student is to work on the same text, but some will demonstrate understanding by multiple-choice questions, others will compose open answers in their mother tongue and others will compose answers in the target language. Even when the teacher has declared the worksheets "finalised" by printing them out and issuing them to students, they still remain provisional in that they continue to exist in electronic format and can be edited in response to student performance and feedback.

**5.2 Images, audio and video**

Images and audio and video materials share the characteristic of **flexibility**. Like written text, they can be edited at will with the aid of appropriate **editing tools**, and they can be incorporated into learning materials using a variety of **authoring programs**. See:

* [Section 2.2.3.1, Module 2.2](http://www.ict4lt.org/en/en_mod2-2.htm#imageed), headed *Image editing software*
* [Section 2.2.3.2, Module 2.2](http://www.ict4lt.org/en/en_mod2-2.htm#scansw), headed *Scanning and OCR software*
* [Section 2.2.3.3, Module 2.2](http://www.ict4lt.org/en/en_mod2-2.htm#sounded), headed *Sound recording and editing software*
* [Section 2.2.3.4, Module 2.2](http://www.ict4lt.org/en/en_mod2-2.htm#videoed), headed *Video editing software*
* [Module 2.5](http://www.ict4lt.org/en/en_mod2-5.htm), *Introduction to CALL authoring programs*

**5.3 Mixing media**

Unlike paper-based documents, digital materials can include not only text and images, but also audio clips, video clips and animations. This facility provides a rich environment within which to create activities for students. It is not difficult, for example, to embed an audio clip into a word-processed document or to incorporate a video clip into a *PowerPoint* presentation. See [Section 8, Module 1.3](http://www.ict4lt.org/en/en_mod1-3.htm#anchor33015), headed *Enhancing Word and PowerPoint documents with pictures and sound*. See also [Module 2.2](http://www.ict4lt.org/en/en_mod2-2.htm),*Introduction to multimedia CALL*.

**5.4 Distributing media**

Texts, images, audio files and video files that have been produced on a computer can be distributed via a school **intranet** or, more widely, via the **Internet**. In addition they can usually be edited by the recipients. See:

* [Module 1.5](http://www.ict4lt.org/en/en_mod1-5.htm), *Introduction to the Internet*
* [Module 2.3](http://www.ict4lt.org/en/en_mod2-3.htm), *Exploiting World Wide Web resources online and offline*

However, you must pay attention to **copyright issues** regarding the distribution of any kind of media. See our [General guidelines on copyright](http://www.ict4lt.org/en/en_copyright.htm).

**6. Online media**

**Contents of Section 6**

* [6.1 Electronic communication](http://www.ict4lt.org/en/en_mod1-1.htm#6.1)
* [6.2 Information on the Web](http://www.ict4lt.org/en/en_mod1-1.htm#6.2)

**6.1 Electronic communication**

Communication is at the heart of language teaching and learning. Contact with speakers of the target language has always been encouraged, but has not always been easy to achieve, particularly in recent years when letter writing has not been a favourite activity of young people. But **electronic communication** is a less formal medium than paper-based letters, and students are therefore more likely to want to correspond with partners overseas. They know that they can edit their **email messages**, **blogs** and **wikis** in response to comments from their teacher and they know that their messages will reach their target audiences in a matter of hours rather than days. See:

* [Section 12, Module 1.5](http://www.ict4lt.org/en/en_mod1-5.htm#anchordiscuss), headed *Discussion lists, blogs, wikis, social networking*
* [Section 14, Module 1.5](http://www.ict4lt.org/en/en_mod1-5.htm#compmedcomm), headed *Computer Mediated Communication (CMC)*

**6.2 Information on the Web**

The advent of the **World Wide Web** in 1993 was undoubtedly the biggest breakthrough in the dissemination of information, but it is not always easy to find what you want. Although Web pages may look very like their paper-based counterparts, they are quite different because of the **hyperlinks** that they contain and the ability to navigate backwards and forwards between pages and sites at will with the click of a button, achieving a similar result as you would by consulting a number of different books at the same time, but in a more efficient way. The Web is also a publications medium open to everyone and anyone. Worldwide publication of documents is no longer solely in the hands of established publishers. This brings with it problems in terms of accuracy of language and authenticity of content. On the other hand, it does provide opportunities for teachers to publish their teaching materials and for students to publish their own work, which can either be available for the entire readership of the Web or, via a password, for a pre-determined audience who will understand the provenance of the work and provide appropriate feedback. See:

* [Module 1.5](http://www.ict4lt.org/en/en_mod1-5.htm), *Introduction to the Internet*, especially [Section 2](http://www.ict4lt.org/en/en_mod1-5.htm#theweb), headed *What is the World Wide Web?*
* [Module 3.3](http://www.ict4lt.org/en/en_mod3-3.htm), *Creating a World Wide Web site*

**7. Software**

**Software** is the collective term for computer programs (also known as **applications**) and contrasted with **hardware**, which describes the computer itself and the other bits and pieces attached to it: see[Module 1.2](http://www.ict4lt.org/en/en_mod1-2.htm), *Introduction to computer hardware and software*, and the [Glossary](http://www.ict4lt.org/en/en_glossary.htm) for further details. Different kinds of software have different characteristics, as described in further detail below.

**Contents of Section 7**

* [7.1 Interactivity](http://www.ict4lt.org/en/en_mod1-1.htm#7.1)
* [7.2 Feedback](http://www.ict4lt.org/en/en_mod1-1.htm#7.2)
* [7.3 Multimedia CALL](http://www.ict4lt.org/en/en_mod1-1.htm#7.3)
* [7.4 Which media?](http://www.ict4lt.org/en/en_mod1-1.htm#7.4)
* [7.5 Discussion topics](http://www.ict4lt.org/en/en_mod1-1.htm#anchor98246)

**7.1 Interactivity**

All software can provide the user with various levels of **interactivity**. The interactivity might only involve the user in making choices from a menu which determine the route that they take through the software. Higher levels of interactivity might influence what happens next in a much more detailed way. For example, by selecting a certain response the student might be able to change the course of a dialogue: see [Section 5.10, Module 3.2](http://www.ict4lt.org/en/en_mod3-2.htm#branch), headed *Branching dialogues*. The fact that the contents of the software are not displayed in their entirety the first time that a student uses it encourages the student to go back to it several times to discover what else there is to do. This multi-route approach to software design is unlike the "single-route" linear approach found in more traditional media, especially in books. It is of particular interest to the language teacher and learner in that it offers the opportunity to revisit vocabulary and structures in new contexts, which is likely to lead to deep learning. Further discussion of this topic can be found in [Section 1.2, Module 1.4](http://www.ict4lt.org/en/en_mod1-4.htm#interactivity), headed*Interactivity*, and throughout [Module 3.2](http://www.ict4lt.org/en/en_mod3-2.htm), *CALL software design and implementation*. See also [Sims (1996)](http://www.ict4lt.org/en/en_mod1-1.htm#sims96) on interactivity.

**7.2 Feedback**

One of the most important aspects of interactivity is that of **feedback**. In an evaluation of a number of software packages produced by the TELL Consortium, University of Hull, the most important feature of the various packages that was highlighted by students was the ability of the software to provide immediate feedback in direct response to the students' input. One of the packages evaluated, **GramEx**, focused on French and German grammar:

[The students] agreed that **GramEx** was an efficient learning tool. They felt that it helped them to return to basics as far as grammar was concerned. They referred in particular to the fact that it was a more efficient use of time than working with a text book, not least because of the speed of correction and readily available explanations. [...] Students liked the choice of different "problems", and being able to work in their own time, at their own pace. They appreciated the ease of use and the instant feedback. They also liked the quiz-like feel to the software. [(Hewer 1998:14)](http://www.ict4lt.org/en/en_mod1-1.htm#hewer98)

Students indicated that if they did grammar exercises for a tutor, they often had to wait up to a week to get their work back, by which time they had moved on and tended to take more notice of their mark than their corrections. When they did similar exercises on the computer they received immediate feedback, either by the way of clues to help them towards the correct answer or, after a certain number of attempts, the correct answer with the possibility of seeking an explanation. They found this extremely helpful and felt that the software contributed greatly to their improved performance in the grammar areas selected. The fact that they could do similar exercises from a grammar book containing a key to the answers in the back of the book did not have the same effect on their learning because they were only able to correct answers that they had actually completed, rather than being able to work towards the correct answer as a result of the feedback received.Tutors' and students' comments on another package produced by the TELL Consortium, **Encounters**, were also positive. One of the aims of *Encounters* was to improve students' speaking skills by engaging them in different role-play activities. Students could record and play back their own voices, hearing them slotted into a range of different dialogues:

The tutor has noted improved performance in role plays based on the dialogues in **Encounters**, not only when assessment follows practice with the software in the same class period, but also a week later when the assessment takes place at the beginning of the class. [(Hewer 1998:9)](http://www.ict4lt.org/en/en_mod1-1.htm#hewer98)

The most frequently cited aspect was the role play in terms of being able to listen to a native speaker, to role-play with them, to record one's own input, and to compare it with the native speaker's. The tutor remarked that students expressed great pleasure at hearing themselves in a dialogue with a native speaker and that they seemed to gain in confidence as a result of the experience. One respondent noted the value of the instant feedback in the exercise sections. [(Hewer 1998:10)](http://www.ict4lt.org/en/en_mod1-1.htm#hewer98)

Feedback is an important concept in the application of new technologies to language learning and features in a number of the ICT4LT modules. See especially [Section 8, Module 2.5](http://www.ict4lt.org/en/en_mod2-5.htm#feedback), headed *How to factor feedback into your authoring*, in which the distinction between **intrinsic feedback** and **extrinsic feedback** is discussed. Unfortunately, there is now a discernible trend, especially in Web-based materials, to provide very little feedback, apart from a "right" or "wrong" response or a tick or a cross next to the chosen answer. Many modern CALL packages appear to place more emphasis on presentation rather than meaningful interactivity. Far too many packages are characterised by a "point-and-click-let's-move-on-quick" approach. See also [Laurillard (1993)](http://www.ict4lt.org/en/en_mod1-1.htm#laurillard93) and [Bangs (2003)](http://www.ict4lt.org/en/en_mod1-1.htm#bangs2003).

**7.3 Multimedia CALL**

The power that enables you to produce multimedia materials, to communicate with people all over the world, and to receive multimedia materials from websites worldwide, has also enabled software developers to incorporate a number of features which distinguish computer-based language learning activities from those based on more traditional media. See [Module 2.2](http://www.ict4lt.org/en/en_mod2-2.htm), *Introduction to multimedia CALL*.

**7.4 Which media?**

A wide choice of multimedia software is available to the software designer just as it is to any computer user. The job of the software designer is to identify which of the media at their disposal is most appropriate for their purpose. When you evaluate software you should use this as one of your criteria: see the ICT4LT [CALL Software and Website Evaluation Forms](http://www.ict4lt.org/en/evalform.doc). For example, if a software package is intended to focus on reading skills but insists on providing a spoken version of every text, it might be that the inclusion of sound is either surplus to requirements or even positively detrimental if the spoken version contributes a great deal to exposing the meaning of the printed word. The fact that the various media are integrated makes software a very different learning environment from one in which, for example, the student starts with a printed worksheet and then has to play an audio- or videocasssette in order to complete the task. There is always a danger that newcomers to ICT may be bowled over by the multi-faceted facilities it offers and try to include everything but the kitchen sink. Software design needs careful thought: see [Module 3.2](http://www.ict4lt.org/en/en_mod3-2.htm), *CALL software design and implementation*.

**7.5 Discussion topics**

1. Some of the benefits of interactivity and feedback are referred to above. Why is the ability of software to provide interactivity of importance in the context of self-access? Does it have implications for homework when students have access to the Internet from home? [Feedback](http://www.ict4lt.org/en/en_mod1-1.htm#anchor162535).
2. What advantages can you see for students in working within an integrated multimedia learning environment as opposed to a multiple-media environment where they need to move to different resources for different aspects of a learning activity? [Feedback](http://www.ict4lt.org/en/en_mod1-1.htm#anchor162535).

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[WorldCALL](http://www.worldcall.org/" \t "_blank)**:** A worldwide professional association that embraces a number of national and international associations for Computer Assisted Language Learning and aims to address the needs of countries that are currently underserved in the use of ICT in learning foreign languages. The First World Conference on CALL was held at the University of Melbourne, Australia, in 1998, and the Second World Conference on CALL took place in Banff, Canada, in 2003. The Third WorldCALL Conference took place in Japan in 2008. WorldCALL 2013 is scheduled to take place in Glasgow, Scotland.

**Feedback and blog**

If you wish to send us feedback on any aspect of the ICT4LT website, use our online [Feedback Form](http://www.camsoft.force9.co.uk/custard.htm) or visit the [ICT4LT blog](http://ictforlanguageteachers.blogspot.com/).

The Feedback Form and a link to the ICT4LT blog can be found at the bottom of every page at the ICT4LT site.

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[**[](http://www.ict4lt.org/index.htm)**](http://www.ict4lt.org/index.htm)**ICT4LT Module 1.2**

**Introduction to computer hardware and software: what the language teacher needs to know**

**Contents**

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**Aims**

This module aims to tell the language teacher what he/she needs to know about computer technology. The module explains the jargon and concepts in ways which make sense to the non-specialist, enabling him/her to communicate more effectively with ICT managers and technicians in educational institutions and with software suppliers. The key components and functions of computer systems are described, including references to operating systems, applications software and the Internet. Key words and phrases can also be found in the [Glossary](http://www.ict4lt.org/en/en_glossary.htm).

This Web page is designed to be read from the printed page. Use **File / Print** in your browser to produce a printed copy. After you have digested the contents of the printed copy, come back to the onscreen version to follow up the hyperlinks.

**Author of this module**

Graham Davies, Editor-in-Chief, ICT4LT Website.

**Foreword**

Language teachers frequently complain about technical problems hindering them in the ICT activities that they would like carry out in the classroom. Problems that continually arise are: problems with headsets and microphones, problems playing audio and video clips, problems running multimedia applications on networks, problems accessing the Internet, etc. It can be argued that it is the ICT technician's responsibility to solve such problems, but sometimes the technician is not always around. With a little technical knowledge you should be able to solve many of the common problems yourself.One of the aims of this module is to provide you with that knowledge.

First of all, you have to cope with a lot of new ICT jargon. If you are the kind of person who thinks a **megabyte** is what you can expect from an unfriendly Rottweiler, then this module should enlighten you. ICT jargon is not as bad as it looks. You will soon begin to understand what the jargon means. If you come across an unfamiliar term whose meaning is not clear from its context in this module, have a look at our [Glossary](http://www.ict4lt.org/en/en_glossary.htm). The Glossary contains a large number of technical terms, as well as terms relating to Computer Assisted Language Learning in general. It is updated regularly as new terms appear. The [Google search engine](http://www.google.co.uk/) is also an excellent source if you are looking for definitions of unknown terms. Simply enter **define:** in the Google search box, followed by the term, e.g. **define:OCR**.

Understanding the jargon is important but, above all, do not allow yourself to be be intimidated by technology. The computer, like many devices that we use in our everyday lives, is no more than a tool that should make our lives easier:

Most people still think of the computer as a tool for the mathematician or scientist. It is strange that this myth persists. Perhaps it is thought that because the computer is a very complex piece of apparatus it can only be used by people with some understanding of the technology which created it. This is rather like saying it is impossible to become a car driver unless you understand how the internal combustion engine works. [(Davies 1985:1)](http://www.ict4lt.org/en/en_mod1-2.htm#davies85)

What is even stranger is "that this myth persists" in the 21st century. Computers have become more complex, and it is impossible to avoid using technical jargon when talking about them. The analogy with the car is appropriate. When you learn how to drive a car you learn new jargon such as **clutch**and **gearbox**. You do not have to understand how a clutch works, but you do have to know what it does and that if you fail to use it correctly you will do considerable damage to your car's gearbox. If, however, you understand a little bit more about your car - "what goes on under the bonnet" - you can talk more intelligently with your local garage mechanic. At the very least, you have to know what kind of car - make and model, engine capacity, etc - you are driving, and you also need to know the make, model, memory size of your computer, etc.

Some software suppliers, particularly the large chain stores, carry prominent warning notices that it is the customer's responsibility to ensure that the software that he/she is purchasing is appropriate for the customer's particular kind of computer and that refunds will not be made in the event of mistakes on the part of the customer. Lack of knowledge can, therefore, be expensive. Let us imagine that a teacher is considering purchasing a CD-ROM. The teacher contacts a software supplier and the following dialogue ensues:

**Teacher:** I am interesting in buying a copy of Acme Company's *Intermediate French*.  
**Supplier:** What kind of computer do you have?  
**Teacher:** I'm not sure. I think it's a PC.  
**Supplier:** What kind of PC?  
**Teacher:** I don't know. I'll have to ask our ICT manager.

The conversation then comes to a swift conclusion. According to several software suppliers that we approached, this is an everyday occurrence and underlines the importance of a minimum of technical knowledge on the part of the language teacher. These are the key components which you may find mentioned in the **minimum hardware specifications** that appear on software packaging or on certain websites. If you wish to find out what all these terms mean then click on those that are coloured blue and underlined.

* [1GHz processor](http://www.ict4lt.org/en/en_mod1-2.htm#cpu)
* [1GB of RAM](http://www.ict4lt.org/en/en_mod1-2.htm#ramrom)
* [100GB hard disc](http://www.ict4lt.org/en/en_mod1-2.htm#harddrive)
* [Soundcard](http://www.ict4lt.org/en/en_mod1-2.htm#soundcard)
* [Loudspeakers or headphones](http://www.ict4lt.org/en/en_mod1-2.htm#speakers)
* [Microphone](http://www.ict4lt.org/en/en_mod1-2.htm#mic)
* [Graphics card: 1024 x 768 pixels](http://www.ict4lt.org/en/en_mod1-2.htm#graphics)
* [Combination CD-ROM and DVD drive](http://www.ict4lt.org/en/en_mod1-2.htm#cdromdvd)
* [Microsoft Windows XP or higher](http://www.ict4lt.org/en/en_mod1-2.htm#cdromdvd)

If the application you wish to use is on the Web, then you will probably find a reference to the speed of the Internet connection that you need to have. This is dealt with in [Section 1.3.2](http://www.ict4lt.org/en/en_mod1-2.htm#modem), headed *Modem*.

Computer hardware specifications keep changing. Modern computers may have much higher specifications than the above. We will be updating the above specifications from time to time. [Feedback](http://www.ict4lt.org/en/en_mod1-2.htm#feedback)welcomed.

**1. Hardware**

Let us start with the *hardware*. Hardware is anything you can see, kick, drop or fall over, in other words the *computer* itself - which is a collection of electronic circuitry and other bits and pieces housed inside a case - and the essential devices you attach to it, such as the *monitor*, the *keyboard*, the *mouse*, the *printer*. Your home is full of hardware of a more familiar variety: a vacuum cleaner, a television set, a hi-fi set, a washing machine, etc.

These are the two main types of computers that you are likely to be using:

* the *Personal Computer* or *PC*
* the *Apple Macintosh* - usually known as "the Mac"

Both the above are available as **desktop computers** and **laptop computers**. More recently, so-called **tablet computers** have become very popular. A tablet computer is essentially a compact laptop computer that uses a **touchscreen** instead of a **keyboard** for typing and to run programs. A new section on tablet computers and **smartphones** will shortly be added to this module. See also [Section 5, Module 2.3](http://www.ict4lt.org/en/en_mod2-3.htm#mall), headed *Mobile Assisted Language Learning (MALL)*.

The PC dominates the market, having become virtually a standard in business and education worldwide. The Mac still commands a dominant position in certain geographical areas and in certain industries, e.g. the print and graphic design industry. There are literally hundreds of computers, trading under a variety of brand names, that are manufactured to the same specifications as PCs. On the whole, Apple equipment is usually traded under its own badge, but some Mac-compatible equipment is available under other brand names.

The two main computer types referred to above are to some extent incompatible, and there may even be a compatibility problem between different types of PCs produced by the same manufacturer. The implication of this is that you can only use programs that have been specially designed for your particular type of computer. There are ways round this problem, but when software suppliers ask you to specify precisely the type of computer you are using they are not being awkward; they need this information in order to provide you with the right kind of software.

Your choice of hardware may be predetermined by your institution or related to whatever deals have been struck with local or national suppliers. However, there is only one sensible criterion for choosing hardware: **it must be capable of running the software that you need**. If your hardware is incapable of running the software that you wish to use, then it is the wrong choice. PCs dominate the market so there is a wider choice of software for this type of computer, but you may have a specific need which can only be fulfilled by using a Mac. It's a question of horses for courses. This module focuses on the PC.

**Contents of Section 1**

* [1.1 Main components of a computer](http://www.ict4lt.org/en/en_mod1-2.htm#maincomp)
* [1.2 Multimedia PC (MPC)](http://www.ict4lt.org/en/en_mod1-2.htm#mpc)
* [1.2 Peripheral devices](http://www.ict4lt.org/en/en_mod1-2.htm#peripherals)

**1.1 Main components of a computer**

A personal computer consists of the following main components:

* The **computer** itself: All that will be visible to you is a case that contains all the essential electronic circuitry.
* The **monitor**or**display screen**: This displays what is going on inside the computer and whatever you type at the keyboard.
* The **keyboard**: Much the same as a typewriter, the keyboard enables you to input commands to control the computer and, for example, to type text with the aid of a word-processing program.
* The **mouse**: A standard component of modern computers. A **pointing device** that enables you to select from choices displayed on the monitor and to help you control the computer's actions.
* The **hard disc drive**: All computers have at least one internal hard disc drive for the storage of programs and data.

Let us first look at these elements in more detail:

* [1.1.1 Computer](http://www.ict4lt.org/en/en_mod1-2.htm#computer)
  + [1.1.1.1 Central Processing Unit (CPU)](http://www.ict4lt.org/en/en_mod1-2.htm#cpu)
  + [1.1.1.2 RAM and ROM](http://www.ict4lt.org/en/en_mod1-2.htm#ramrom)
  + [1.1.1.3 Graphics card](http://www.ict4lt.org/en/en_mod1-2.htm#graphics)
* [1.1.2 Monitor / Display screen](http://www.ict4lt.org/en/en_mod1-2.htm#monitor)
* [1.1.3 Keyboard](http://www.ict4lt.org/en/en_mod1-2.htm#keyboard)
* [1.1.4 Mouse](http://www.ict4lt.org/en/en_mod1-2.htm#mouse)
* [1.1.5 Disc drives](http://www.ict4lt.org/en/en_mod1-2.htm#discdrives)
  + [1.1.5.1 Hard disc drive](http://www.ict4lt.org/en/en_mod1-2.htm#harddrive)
  + [1.1.5.2 Floppy disc drive](http://www.ict4lt.org/en/en_mod1-2.htm#floppydrive)
  + [1.1.5.3 External hard disc drive](http://www.ict4lt.org/en/en_mod1-2.htm#external)
  + [1.1.5.4 Flash drive](http://www.ict4lt.org/en/en_mod1-2.htm#flashdrive)

**1.1.1 Computer**

A typical **desktop computer**is usually housed in a metal case:



*Desktop computer case: opened at side to show internal components*

Inside this case there is a lot of electronic circuitry, most of which is only of interest to the electronic engineer. You need to be aware of the functions of just a few key components. **Laptop computers** are self-contained, the key components, namely the computer itself, the display screen, the hard disc drive and the keyboard all being houosed in a compact case.

**1.1.1.1 Central Processing Unit (CPU)**

The heart of every computer is the **Central Processing Unit (CPU)**, the computer's "brain". In a modern computer the CPU is a single **microchip**. The CPU is often referred to as the **central processor**, **microprocessor** or - more commonly -just **processor**.

The important thing that you need to know about your computer is **how** **fast its processor runs**, as this determines whether a particular piece of software will run on your computer.The speed at which your processor runs is usually referred to as its **clock speed**. You will usually find a processor's speed described as a measurement abbreviated to **MHz**. The abbreviation **MHz** stands for **MegaHertz**, a unit of measurement of the computer's clock speed, which need not concern the non-specialist. All you need to know is that 500MHz is faster than 400MHz and that 600MHz is faster than 500MHz - and so on. Most modern software will run satisfactorily on processors with a clock speed of 500MHz or higher. Faster clock speeds are normally expressed in **GigaHertz** (= 1000MHz), which is usually abbreviated to **GHz**. Most modern computers have clock speeds of at least 1GHz.

**1.1.1.2 RAM and ROM**

**RAM:** Inside the main casing of the computer are a number of **microchips** (technically known as **integrated circuits**) containing the computer's **memory**, which is usually referred to as **RAM (Random Access Memory)**. RAM is a sort of working area in which the computer stores the programs it runs, performs its calculations and stores intermediate results. RAM is emptied the moment the computer is switched off. The important thing that you need to know is **how much RAM** your computer has, as this determines whether a particular piece of software will run on your computer.

RAM is measured in **bytes**. One byte can store one letter of the alphabet or one punctuation mark or one digit. For convenience, we usually measure memory in **kilobytes** (1000 bytes), **megabytes**(1,000,000 bytes) or **gigabytes** (1,000,000,00 bytes). Kilobyte, megabyte and gigabyte are normally abbreviated to **K**, **MB** and **GB** respectively. 500MB of RAM is considered adequate these days, although 1GB or higher is preferable if you wish to make use of audio and video material. See [Glossary](http://www.ict4lt.org/en/en_glossary.htm) under the entry **Measurement Units**.

**ROM:**Key programs that enable the computer to operate are stored in another set of microchips known as **ROM (Read Only Memory)**. ROM chips make up the computer's permanent memory, the place where it keeps the programs that tell it how to work.

The combination of the **clock speed** of the computer's **processor** (see [Section 1.1.1.1 above](http://www.ict4lt.org/en/en_mod1-2.htm#cpu)) and the **size** of the computer's **RAM** gives an indication of how powerful the computer is.

The CPU and the RAM and ROM chips are located on the main electronic circuit board of a microcomputer, which is known as the **motherboard**: see [Glossary](http://www.ict4lt.org/en/en_glossary.htm).

**1.1.1.3 Graphics card**

The term **card** in this context is jargon for an **electronic circuit board**. You will not be able to see thegraphics cardfrom outside the computer. All that is visible is the rear of the card is the socket into which you plug the **monitor**. It is important to know what kind of graphics card your computer is equipped with, as this affects what the monitor can display, i.e. the quality or **resolution** of its output. When you purchase software make sure that your computer has a graphics card that is compatible with the software you wish to use. Some software, e.g. computer games, will only work on computers equipped with cards with high specifications.

Graphics cards control the resolution of the text, pictures and video that appear on the screen. The resolution is determined by the number of small discrete dots, technically known as **pixels** (see [Glossary](http://www.ict4lt.org/en/en_glossary.htm)under the entry **pixel**), that make up the picture on your screen and therefore its definition or clarity. CALL software often requires a card that can display colour photographs and movies. It is therefore important that your graphics card can display a large number of different colours. You may need to adjust the **resolution** of what is displayed on your computer screen. Most modern graphics cards are accompanied by software that enables you to control the resolution of the display screen according to the software that you are using. You may need to vary the resolution according to the software you wish to use. For example, you may need to set the resolution to one of the following settings:

* 640 x 480
* 800 x 600
* 1024 x 768
* 1280 x 1024

The lower the numbers, the lower the resolution. A 640 x 480 setting offers a "chunky" appearance. 800 x 600 and 1024 x 768 are fairly "safe" general settings for most software. Getting the graphics card setting wrong is one of the commonest reasons for failing to get software to work properly. This is normally done using the *Windows***Control Panel**on your computer. If you are unsure about how to do this, consult your ICT manager.

**1.1.2 Monitor / Display screen**

The **monitor** displays text, pictures and video and shows you the results of any actions you perform with the **keyboard** or **mouse**. Older monitors are of the **cathode ray tube** **(CRT)** type. The **screen**(also referred to as **display screen**) looks more or less the same as that of a TV set. The size of the screen is measured diagonally in the same way as a domestic TV set: 14-inch, 15-inch, 17-inch, etc. Modern monitors are capable of displaying text, pictures and video in a wide range of colours, and it is worth purchasing a monitor with a larger screen for ease of viewing. The quality of the output on the display screen depends on the quality of the monitor itself, but it is also governed by the [graphics card](http://www.ict4lt.org/en/en_mod1-2.htm#graphics)inside the computer.



*Computer monitor*

Newer types of monitors are of the **LCD (Liquid Crystal Display)**flat panel type - like many modern TV sets. They are much lighter, use less electricity and take up less room on a desktop. A more advanced form of technology for producing flat panel display screens is known as **TFT (Thin Film Transistor)**. In TFT screens each **pixel** is controlled by one to four transistors: (see [Glossary](http://www.ict4lt.org/en/en_glossary.htm) under the entry **pixel**). TFT technology provides high-quality resolution and better brighter colours. TFT screens are sometimes called **active matrix** screens. TFT screens are also used in digital cameras and camcorders.



*LCD flat screen monitor*

**1.1.3 Keyboard**

There is nothing daunting about the **keyboard**. Computer keyboards are usually laid out in the same way as typewriter keyboards, plus a few extra keys that have special functions. Typing skills are essential if you wish to use a computer efficiently. For the non-typist there are a number of tutorial programs available to help you improve your keyboard skills.



*Computer keyboard*

**1.1.4 Mouse**

Modern personal computers are equipped with a mouse, technically known as a **pointing device**. The mouse is used to control the position of the cursor on the screen and to initiate actions to be carried out by the computer. The mouse is attached to the computer by a cable and sits on a **mat** that has the function of providing better traction for the ball located inside the mouse. The ball rotates as you move the mouse around on its mat. Nowadays you are more likely to be using an **optical mouse**, which does not use a mouse ball, or a cable-less **infrared mouse**.



*Computer mouse*

The function of the mouse is to enable the user to move the cursor around the computer screen and initiate actions without having to use the keyboard and without having to look away from the screen. The cursor on the screen follows the same path as the mouse on the mat. As you move the mouse the cursor moves in the same direction. It is essential to learn how to control the mouse and to carry out the most important actions: point and click, double-click, left-click, right-click, click-and-drag, drag-and-drop - all of which are used in *Windows* applications.

A useful and entertaining way of learning how to use the mouse is to play the *Microsoft Window*s card game *Solitaire* (known as *Patience* in the UK). Playing this game involves virtually all the mouse actions you are likely to need.

**1.1.5 Disc drives**

Modern computers are equipped with a variety of different kinds of **disc drives**. They may be internal, i.e. built into the main casing of the computer, or external, i.e. housed in their own casing and attached to the computer by a cable. A disc drive is a storage medium for programs and data. The **storage capacity** of discs is normally measured in **megabytes** (= 1,000,000 bytes) or **gigabytes**(= 1,000,000,000 bytes). Megabyte and gigabyte are normally abbreviated to **MB** and **GB**. See [Glossary](http://www.ict4lt.org/en/en_glossary.htm) under the entry **Measurement Units**.

**1.1.5.1 Hard disc drive**

The **hard disc drive** is a sealed unit consisting of a rigid magnetic disc enclosed within a metal case which is mounted internally in the PC. The storage capacity of a hard disc is measured in **megabytes (MB)** or **gigabytes (GB)** - see preceding paragraph [Disc drives](http://www.ict4lt.org/en/en_mod1-2.htm#discdrives).

It is important that you know how much **storage capacit**y your computer's hard drive has, as this determines how much software and data you can store on it. When you purchase a computer program you will usually find an indication in its accompanying instructions regarding the amount of hard disc space it requires. A hard disc in a modern computer can be expected to have a storage capacity of at least 50GB.

The hard disc is pre-formatted when you purchase your computer and will probably contain a number of pre-installed programs, e.g. the *Microsoft Windows* [Microsoft Windows](http://www.ict4lt.org/en/en_mod1-2.htm#windows) **operating system** and**communications software** that enables you to access the Web and receive and send emails.



*Hard disc drive with the top of the case removed*

Hard discs can contain vast amounts of data. Modern computer programs tend to be very large and usually have to be **installed** on the hard disc. Installation involves running an **installation** **program** or**setup program**, for example on a CD-ROM that contains the software you have purchased. This program then transfers a number of programs and data from the CD-ROM to the hard disc and creates**icons** for the application on your *Windows* **desktop**: see [Section 2.1](http://www.ict4lt.org/en/en_mod1-2.htm#windows). You only have to run the installation program once.

**1.1.5.2 Floppy disc drive**

At one time all computers had at least one internal **floppy disc drive**, which was fitted into a slot at the front of the computer case. These drives were used to read data and programs stored magnetically on a portable disc enclosed in 3.5-inch square plastic case. A typical floppy disc could store up to 1.44MB of data - which is not a lot by today's standards. Floppy discs were used mainly for carrying small amounts of data around from one location to another, e.g. a *Word* document or a *PowerPoint* presentation, but they are now virtually obsolete and have been replaced by **Flash Drives**, **CD-ROMs** and **DVDs**: see [Section 1.1.5.4](http://www.ict4lt.org/en/en_mod1-2.htm#flashdrive) and [Section 1.2.1](http://www.ict4lt.org/en/en_mod1-2.htm#cdromdvd).

**1.1.5.3 External hard disc drive**

It is also possible to buy additional **external hard disc drives** that sit outside the PC and which are connected to it by means of a cable. Such drives are useful if you run out of space on the internal hard disc, and they can also be moved around and connected to other PCs. External hard drives are often used for **backing up** essential programs and data.

**1.1.5.4 Flash drive**

These portable storage devices - also referred to **pen drives** or **memory sticks** - are around 3cm to 5cm in length and look like a small flat pen. They are small enough and robust enough to be carried in your pocket. Their storage capacity is impressive; 4GB to 8GB is not unusual these days. They are used to store data, e.g. a *PowerPoint* presentation, and programs that you wish to carry around. They can be plugged into any computer with a **USB port**, a special type of socket that is used for connecting external devices to your computer. All modern computers are equipped with USB ports. They used to be located at the back of the computer case but now they are usually located, for convenience, at the front.



*Flash drive*

**1.2 Multimedia PC (MPC)**

Most PCs on sale today are MPCs. An MPC is capable of handling text, pictures, sound and video in any combination. MPCs can also play audio CDs and movies on DVD. The main components of a multimedia PC, in addition to the components described in [Section 1.1](http://www.ict4lt.org/en/en_mod1-2.htm#maincomp), are:

* [1.2.1 CD-ROM and DVD drive](http://www.ict4lt.org/en/en_mod1-2.htm#cdromdvd)
* [1.2.2 Soundcard](http://www.ict4lt.org/en/en_mod1-2.htm#soundcard)
* [1.2.3 Loudspeakers / Headphones](http://www.ict4lt.org/en/en_mod1-2.htm#speakers)
* [1.2.4 Microphone](http://www.ict4lt.org/en/en_mod1-2.htm#mic)
* [1.2.6 Webcam](http://www.ict4lt.org/en/en_mod1-2.htm#webcam)

**1.2.1 CD-ROM and DVD drive**

Modern computers are now usually equipped with a **combination drive** that enables both CD-ROMs and DVDs to be played and recorded, as well as playing and recording audio CDs. CD-ROM stands for **Compact Disc Read Only Memory**. A CD-ROM is an optical disc on to which data has been written via a laser - a process often referred to as **burning a CD**. A CD-ROM looks much the same as an audio CD but can contain text, sound, pictures and motion video. Once written, the data on a CD-ROM can be fixed and rendered unalterable, hence the term **Read Only***-*but most modern computers are usually equipped with a **read/write**drive that enables new material to be stored on a recordable CD-ROM (CD-R) or rewriteable CD-ROM (CD-RW). Blank CD-Rs or CD-RWs can be bought from computer media suppliers at a relatively low cost. You can store data on CD-Rs using a read/write drive, adding to it until it is full, and then you can format the CD-ROM so that it is fixed and can be read by a standard CD-ROM drive. You can also store data on CD-RWs in the same way, but these discs can only be read by a CD read/write drive. The advantage of CD-RWs is that they can be erased and used over and over again, but now that the cost of blank CD-Rs has fallen to such a low level it is questionable how useful CD-RWs are. It is also possible to play, create or copy audio CDs on a CD read/write drive.

CD-ROMs can store at least 650 **megabytes** of data. A single CD-ROM can comfortably accommodate 500 medium-length novels, a 12-volume encyclopaedia, the complete works of Shakespeare, a whole year's edition of a newspaper, hundreds of your favourite photos, or a high-quality 30-minute movie.

**DVDs**(**Digital Video Discs)**, also known as**Digital Versatile Discs**, look just the same as CD-ROMs and audio CDs, but they are much more versatileand can store much more data. They are in widespread use to store movies that can be played back on DVD players connected to domestic TV sets.

First, an important distinction:

1. A **DVD-player** is the name given to the device used in home entertainment systems to play back video and audio. A DVD-player can play:
   * **DVD-Video discs** - also referred to as **DVD-Movie discs**: e.g. containing, full-length feature films, videos of concert performances, etc;
   * audio CDs.
2. A **DVD drive**, as fitted in a multimedia computer, can play:
   * **DVD-ROM discs**, which consist of combinations of computer programs and high-quality motion video;
   * **DVD-Video discs** - also referred to as **DVD-Movie discs**, e.g. containing, full-length feature films, videos of concert performances, etc;
   * CD-ROMs;
   * Audio CDs.

The main advantage of all types of DVDs is that they offer very high quality video and sound. Their capacity is impressive, which means that a DVD can comfortably hold a full-length movie.

CD-ROM and DVD drives are slow compared to hard disc drives. They are available in a variety of different speeds, the speed being described thus: 12x (12-times), 24x (24-times) - and much faster speeds nowadays. This indicates the speed at which data can be pulled off the drive, the so-called **spin-rate**, with 150 kilobytes per second being the notional original 1x spin-rate - long since superseded. A high spin-rate helps speed up data transfer, which is crucial when playing sound or video. A low spin-rate may cause hiccups when audio and video recordings are played. CD-ROMs and DVDs normally work fine on stand-alone computers but networking them, especially if they contain large amounts of sound and video, can be problematic. Although it is technically possible for a limited number of network users to access data on the same CD-ROM or DVD, the success of this depends on a number of technical factors that are too complex to discuss here, and you are therefore advised to consult your network manager. See [Appendix, Module 2.2](http://www.ict4lt.org/en/en_mod2-2.htm#anchor84892), headed *Networking CD-ROMs and DVDs*.

**1.2.2 Soundcard**

A soundcard is an electronic circuit board that is mounted inside the computer to control sound output to speakers or headphones and sound input from a microphone. Soundcards are essential for multimedia applications. An adequate soundcard is essential for multimedia. Modern multimedia computers are fitted with soundcards as standard, so the choice will have already been made for you.

You should familarise yourself with soundcard controls under the *Windows* operating system that enable you to adjust the output volume of your soundcard and the input sensitivity of your [microphone](http://www.ict4lt.org/en/en_mod1-2.htm#mic).

**1.2.3 Loudspeakers / Headphones**

Loudspeakers or headphones are essential for listening to sound recordings. When purchasing speakers it is worthwhile checking that they have their own inbuilt amplification system. The sound level of all speakers or headphones can be controlled under the *Windows* operating system, but good speakers have a volume control knob that also enables the user to adjust the volume manually. Headphones can be integrated with a microphone - the so-called **pilot's headset**that is used in language laboratories. Stereo speakers or headphones are advisable for most multimedia applications.



*Integrated headset consisting of headphones and microphone*

**1.2.4 Microphone**

The importance of selecting the right kind of microphone is often not appreciated by ICT technicians. For good quality sound recordings the language teacher needs a 600 Ohm low impedance microphone with a 3.5 mm jack plug, as used in many popular audiocassette recorders. Alternatively, microphones are available that plug into your computer's **USB port**.



*Microphone*

A **dynamic microphone** (also known as a **karaoke microphone**) is satisfactory but provides a softer signal than a **condenser microphone** (also known as a **powered microphone**).

Dynamic microphones will work with most soundcards, but condenser microphones work only with soundcards that can provide power to the microphone. Using the wrong kind of microphone is one of the commonest reasons for failing to get multimedia software to work properly.

The level of the input signal to the microphone can be controlled under the *Windows* operating system. A common mistake made by newcomers to multimedia applications is a failure to set the input signal control properly so that very faint sound - or no sound at all - is emitted when playing back recordings made by the user.

A microphone can be integrated with headphones - the so-called **pilot's headset**that is used in language laboratories: see [Section 1.2.3](http://www.ict4lt.org/en/en_mod1-2.htm#speakers) (above).

**1.2.5 Webcam**

A **webcam** is a type of video camera connected to a computer that enables it to transmit images and videos to the Internet. For example, webcams can be set to transmit a live picture every few minutes from a location to a website, displaying a live view of a landscape, cityscape or interior of a building. Many laptop computers have an integrated webcam - which appears as a small "eye" in the top of the frame of the display screen. Webcams are essential for **videoconferencing**: see [Section 14.1.3, Module 1.5](http://www.ict4lt.org/en/en_mod1-5.htm#videoconf), headed*Videoconferencing: a synchronous communications medium*.



*Webcam*

**1.3 Peripheral devices**

A *peripheral device* - or simply *peripheral* - is any piece of hardware that can be connected to a computer. In this section we will concern ourselves only with four important peripherals, namely:

* [1.3.1 Printer](http://www.ict4lt.org/en/en_mod1-2.htm#printer)
* [1.3.2 Modem](http://www.ict4lt.org/en/en_mod1-2.htm#modem)
* [1.3.3 Scanner](http://www.ict4lt.org/en/en_mod1-2.htm#scanner)
* [1.3.4 Interactive whiteboard (IWB)](http://www.ict4lt.org/en/en_mod1-2.htm#whiteboard)

**1.3.1 Printer**

Nowadays most people use *ink-jet*printers. These printers can produce output in any language or alphabet and also produce graphics in full colour. You may also find *laser*printers in your institution. These are normally used for producing high-quality text and graphics and they will output more pages per minute than ink-jet printers. Laser printers are better suited to outputting large documents in black and white.

Printers need *cartridges* that contain the ink, and these need to be renewed regularly. Cartridges for laser printers tend to last longer than those for ink-jet printers and are usually cheaper. Some printers can act as a printer and as a [scanner](http://www.ict4lt.org/en/en_mod1-2.htm#scanner) - and as a photocopier too!



**1.3.2 Modem**

**Modem** is an acronym standing for **modulator/demodulator**. This is a device which converts computer data to a signal that can be transmitted over a telephone line. It can also reconvert a signal coming into a computer via a telephone line so that it can be understood by the computer. Modems are used to connect computers with the Internet (see [Module 1.5](http://www.ict4lt.org/en/en_mod1-5.htm), *Introduction to the Internet*). They are essential for sending and receiving email and for "surfing the Web". Modems can sit outside the computer case (external modems) or they may be integrated into a circuit board (internal modems) inside the computer. The speed at which a modem can transmit and receive data is crucial. This is normally measured in **kilobits per second** (**Kbps)**or **megabits per second (Mbps)**.



*Modem*

A **broadband** **modem** is essential for browsing the Web, as websites often contain lots of pictures and sound and video, all of which need to be transmitted quickly in order to avoid unacceptable waiting times at the receiver's computer. Broadband modems are connected to the Internet via a fast **Asymmetric Digital Subscriber Line (ADSL)** line. If you teach in an educational institution then it is almost certain that it is connected to the Internet via an ADSL line or a **Leased Line**. If you are a home user, then you can take out a subscription for a broadband connection from an **Internet Service Provider (ISP)** such as [TalkTalk](http://sales.talktalk.co.uk/product/broadband), [PlusNet](http://www.plus.net/), [Sky](http://www.sky.com/shop/broadband-talk/) or [Virgin](http://shop.virginmedia.com/broadband/about-virgin-broadband.html). ADSL lines offers transmission speeds that typically start at 2Mbps for home users (which is adequate for browsing the Web), but more and more ISPs are now offering ADSL lines running at 8Mbps or higher. If you make use of interactive online computer games then you need a fast connection of 8Mbps or higher.

**1.3.3 Scanner**

A **scanner** is a device that copies hard copy information (printed page, graphic image, photograph etc) into digital data, translating the information into a form a computer can store as a file. Thus it is possible to make a digitised copy of a printed page, graphic image or photograph. Photographs are usually stored in a file format known as **JPEG** or **JPG** and they can then be printed on a colour printer, sent as an email attachment to a friend or colleague, or incorporated into a website. Graphic images, e.g. line drawings, maps etc, are usually stored in a file format known as **GIF**. The advantage of JPEG format over GIF format is that JPEG compresses the image and it therefore occupies far less storage space. All the images at the ICT4LT website are stored in JPEG or GIF format.

Scanners do not distinguish text from graphic images and photographs, so you cannot use a word-processor to edit directly a printed page that has been scanned. To edit text read by an optical scanner, you need **Optical Character Recognition (OCR )** software to translate the image into "real text", i.e. a format that can be read by a word-processor. Most optical scanners today come bundled with OCR software. OCR software does not work 100%, as broken characters and faded characters are liable to be misread, but surprisingly good results can be achieved - and it certainly beats typing! Useful scanning, photo-imaging and OCR software - including OCR software that recognises languages other than English - can be found at:

* [ABBY Finereader](http://www.abbyy.com/products/)
* [OmniPage](http://www.nuance.co.uk/for-individuals/by-product/omnipage/index.htm)

The most popular type of scanner is known as a **flatbed scanner**. This looks a bit like a photocopier and works in a similar way. You lay the picture or page containing the text to be scanned on a glass plate, start the scanning software and watch the digitised image appear on screen. The image can then be saved as a file on your hard disc. Some printers can act as a printer and as a scanner - and as a photocopier too!



*Flatbed scanner*

Some scanners are small hand-held devices that you slide across the paper containing the text or image to be copied. Hand-held scanners are fine for small pictures and photos, but they are difficult to use if you need to scan an entire page of text or larger images.

**1.3.4 Interactive whiteboard (IWB)**

An*interactive whiteboard* is a a kind of "intelligent" screen, used in conjunction with a *data projector* attached to your computer. You can "write" on the whiteboard with a special "pen" or with your finger. You can also tap the whiteboard screen in order to make something happen - i.e. instead of clicking with the mouse. Some teachers believe that they are just another techno-gimmick, while others are brimming over with enthusiasm for this new presentation medium. See [Section 7, Module 1.3](http://www.ict4lt.org/en/en_mod1-3.htm#ppwc), headed *Using PowerPoint*, and [Section 4, Module 1.4](http://www.ict4lt.org/en/en_mod1-4.htm#iwbs), headed *Whole-class teaching and interactive whiteboards*.



*Interactive whiteboard*

There are some fundamental issues that need to be addressed concerning the use of interactive whiteboards in the Modern Foreign Languages classroom. One of them is what an interactive whiteboard board can actually *do*. All that any interactive whiteboard can *do* is to carry a signal from the board to the computer, which is the equivalent of a mouse-click. This *controls* whatever is on the computer. The interactive whiteboards produced by Smart and Promethean both have pens, and both have drag-and-drop facilities in their own software, but a Smart board can also be controlled by your finger. This has led to great popularity in the primary schools market where pupils find it easier to manage when they are still learning to use a pen. Using your finger as a pen is not to be recommended, at least not for long periods as it gets very sore!

So, the fundamental difference comes down to the software that comes bundled with the board. Promethean boards, for example, use *ACTIVstudio*. This is a usueful package which combines tools (pen, highlighter, select tool, snapshot, hyperlink facility) with content - lots of images and backgrounds to drag and drop.

Both boards can run any other software that can be run on your computer: CD-ROMs, Internet, *Word* documents, *Flash*, EXE files etc, and the good news is that both companies are constantly developing their own software to make it easier for teachers.

One of the key advantages that we are coming across with boards is the ability to "annotate over" other applications. For example, if you are running a *PowerPoint* presentation or a CD-ROM, you can "freeze" the page and write comments across the top of it, so depth can be added and thought processes developed. This can all be saved and brought back at a later stage or accessed by pupils from the school network.

**Cable-less portable devices**

There are also cable-less portable devices that have been developed for on-the-road presentations and for multi-room presentations. These are used in combination with a standard data projector and wall screen. All that you need to do to set up the system is plug the device into your computer's USB port. There is no cable between the PC and the whiteboard or projection screen. See:[http://www.onfinity.com](http://www.onfinity.com/)

For further information on interactive whiteboards see [Section 7, Module 1.3](http://www.ict4lt.org/en/en_mod1-3.htm#ppwc), headed *Using PowerPoint,*and[Section 4, Module 1.4](http://www.ict4lt.org/en/en_mod1-4.htm#iwbs), headed *Whole-class teaching and interactive whiteboards*.

**2. Software**

*Software* is the word used to describe the programs that run on computers. For example, a *word-processor*is actually a *computer program* - or a suite of programs - a set of instructions that make the computer behave as a word-processor. More specifically, this kind of software is known as an *application*.

You normally purchase software on CD-ROMS or DVDs or download it from the Web - sometimes free of charge or sometimes subject to the payment of a one-off or annually renewable subscription fee.

A program that is purchased on a CD-ROM or DVD or downloaded from the Web will normally have to be installed on the computer's hard disc before it can be used. An *installation program* is therefore often included in the suite so that you do not have to know too much about the technicalities of computing in order to get started. This is also known as a *set-up program*.

**Contents of Section 2**

* [2.1 Operating systems](http://www.ict4lt.org/en/en_mod1-2.htm#windows)
* [2.2 Applications](http://www.ict4lt.org/en/en_mod1-2.htm#applications)

**2.1 Operating systems**

Software producers and retailers will probably assume you know enough about the basics of computing to be able to install computer programs yourself. This implies that you have a basic knowledge of the computer's *operating system*, a suite of programs that is supplied with every computer to facilitate what are generally known as *housekeeping tasks*, e.g. copying software from one disc to another, examining the contents of a disc or removing unwanted software from a disc.

Operating systems vary from computer to computer. Older PCs used a system known as *MS DOS* (Microsoft Disc Operating System), technically known as a *Character User Interface* or *CUI*. Apple Macs and modern PCs make use of a *Graphical User Interface* or *GUI*, an operating system which makes extensive use of graphic images, or *icons* to use the technical term (see image below).*Microsoft Windows* is currently the most widely used operating system on PCs.

The icons represent events that you wish to make happen, e.g. copying a program from a CD-ROM to the hard disc. Using a mouse, you cause the cursor to zip around the computer screen and point to an icon. Clicking a button on the mouse triggers whatever action that particular icon represents. GUIs make life easier, as you don't have to learn sets of unmemorable commands, which was the main drawback of MS DOS.



*Icons on Windows desktop*

It important to know which operating system your computer uses. The most recent *Windows* systems, in order of release dates, are *Windows* *2000*, *Windows* *XP*, *Windows* *Vista*, *Windows* *7*. If you are using a new PC it is most likely to run under *Windows* *XP* or higher. You should be familiar with the essential *Windows*tasks listed in our *Word* document, [ICT\_Can\_Do\_Lists](http://www.ict4lt.org/en/ICT_Can_Do_Lists.doc).

**2.2 Applications**

Packages such as word-processors, databases and spreadsheets - in fact any software package designed for a specific purpose - are known as *applications.*

**i. Generic applications**

**Generic applications** are covered in [Module 1.3](http://www.ict4lt.org/en/en_mod1-3.htm), *Using word-processing and presentation software in the Modern Foreign Languages classroom*. This term normally refers to general-purpose applications that are not designed for use in a specific subject area. Some generic applications, e.g. a word-processor (*Word*) or presentation software (*PowerPoint*), are widely used in CALL.

**ii. CALL applications**

There is an enormous variety of CALL applications:

* See [Module 1.4](http://www.ict4lt.org/en/en_mod1-4.htm) for a comprehensive introduction to CALL applications.
* **Multimedia CALL** is covered in [Module 2.2](http://www.ict4lt.org/en/en_mod2-2.htm).
* **CALL authoring programs** are covered in [Module 2.5](http://www.ict4lt.org/en/en_mod2-5.htm).
* **CALL on the Web** is covered in [Module 1.5](http://www.ict4lt.org/en/en_mod1-5.htm) and [Module 2.3](http://www.ict4lt.org/en/en_mod2-3.htm).

**3. Networks**

Computer networks are a way of distributing and sharing programs and information between different users connected to the network. There are different types of networks, which are described below. The Internet itself is a huge, open network. The advantage of a network is that only one copy of a program or only one copy of relevant data has to be stored on the **server**, i.e. the hardware/software that controls the network. It is also possible to set up a network without a server, a so-called **peer network**, where no computer is the "boss" but all users connected to the network can share programs and data. The author of this module has set up this kind of network in his family home, each computer being equipped with an Ethernet network card and connected via cable. Wireless networks that enable communication without cables are becoming increasingly common

**Contents of Section 3**

* [3.1 LANs, WANs](http://www.ict4lt.org/en/en_mod1-2.htm#lanswans)
* [3.2 The Internet](http://www.ict4lt.org/en/en_mod1-2.htm#internet)
* [3.3 World Wide Web (WWW)](http://www.ict4lt.org/en/en_mod1-2.htm#www)

**3.1 LANs, WANs**

**LANs**

A **LAN (Local Area Network)** is often confined to a single room or building, the computers or **workstations** on the network being connected by cable to a central *server*. If the cables can be run between buildings then the LAN can serve a whole school or university campus.

**WANs**

A **WAN (Wide Area Network)** can span any distance. Businesses with branches in several different towns or countries are often connected via a WAN. Communication between sites is usually provided by the local telephone service or a specialist communications company.

**3.2 The Internet**

The Internet is the biggest network of all. Anyone with a computer and a telephone connection can connect to the Internet. See [Module 1.5](http://www.ict4lt.org/en/en_mod1-5.htm), *Introduction to the Internet*.

**3.3 World Wide Web (WWW)**

The World Wide Web is one of the services provided on the Internet. See [Module 1.5](http://www.ict4lt.org/en/en_mod1-5.htm), *Introduction to the Internet*.

**Appendix: Viruses**

If you surf the Web, use email or use memory sticks sent to you by other people, you need to be protected against virus invasions. A virus is a nasty program devised by a clever programmer, usually with malicious intent. Viruses can be highly contagious, finding their way on to your computer's hard drive without your being aware of it and causing considerable damage to the software and data stored on it. Viruses can be contracted from files attached to email messages, e.g. *Microsoft Word* files, or from a memory stick. Be very wary of opening an email attachment of unknown origin, as this is the commonest way of spreading viruses. See Graham Davies's [Cautionary Tale](http://www.camsoftpartners.co.uk/bugs.htm), which includes references to *viruses,* *spam*, *adware* and *spyware*.

**Bibliography and references**

Davies G. (1985) *Talking BASIC: an introduction to BASIC programming for users of language*, Eastbourne: Cassell.

[FOLDOC](http://foldoc.org/)**:** Free OnLine Dictionary Of Computing. A searchable dictionary of ICT terms.

[Glossary of Internet Terms](http://www.matisse.net/files/glossary.html): A comprehensive list of Internet terminology compiled by Matisse Enzer.

[Google](http://www.google.co.uk/):Google is a great source if you are looking for definitions of unknown terms. Simply enter **define:** in the Google search box, followed by the term, e.g. **define:OCR**. See also [Section 4, Module 1.5](http://www.ict4lt.org/en/en_mod1-5.htm#anchorsearch), headed *Search engines: How to find materials on the Web*.

[Webopedia](http://www.webopedia.com/)**:** Unlovely name, lovely resource! A comprehensive, searchable dictionary of computing terms.

[Wikipedia](http://www.wikipedia.org/)**:**A collaboratively written general encyclopaedia that is constantly updated. It contains many useful entries on technical terminology: http://www.wikipedia.org. Here's a useful tip: If you find an article on Wikipedia in English and then click on one of the language options in the left-hand column of the page, you are linked immediately to an article on the same topic in that language.

**Feedback and blog**

If you wish to send us feedback on any aspect of the ICT4LT website, use our online [Feedback Form](http://www.camsoft.force9.co.uk/custard.htm) or visit the [ICT4LT blog](http://ictforlanguageteachers.blogspot.com/).

The Feedback Form and a link to the ICT4LT blog can be found at the bottom of every page at the ICT4LT site.

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[**[](http://www.ict4lt.org/index.htm)**](http://www.ict4lt.org/index.htm)**ICT4LT Module 1.3**

**Using word-processing and presentation software in the Modern Foreign Languages classroom**

**Contents**

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**Aims**

This module aims to demonstrate how the word-processor and presentation software can be used effectively to support language learning. [Sections 1-4](http://www.ict4lt.org/en/en_mod1-3.htm#anchor351026) offer practical advice and examples. [Section 5](http://www.ict4lt.org/en/en_mod1-3.htm#forchars)focuses on different ways of entering foreign characters into a word-processor. In [Section 6](http://www.ict4lt.org/en/en_mod1-3.htm#anchor27088) there is a brief discussion of the pros and cons of grammar and style checkers and the use of a thesaurus with advanced learners, and there are links to sites offering further ideas. [Section 7](http://www.ict4lt.org/en/en_mod1-3.htm#ppwc) is devoted to *Using* *PowerPoint*, and [Section 8](http://www.ict4lt.org/en/en_mod1-3.htm#anchor33015) describes how to enhance *Word* and *PowerPoint* documents with pictures and sound.

This Web page is designed to be read from the printed page. Use **File / Print** in your browser to produce a printed copy. After you have digested the contents of the printed copy, come back to the onscreen version to follow up the hyperlinks.

**Authors of this module**

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**1. Creating printed materials with a word-processor**

The commonest ICT tool for creating and manipulating text is the *word-processor*. A word-processor is an extremely useful piece of software, enabling teachers to produce professional-looking documents that can be printed and used as handouts or worksheets for learners. The worksheets can also become *electronic worksheets* (see [Section 3](http://www.ict4lt.org/en/en_mod1-3.htm#anchor342151) and [Section 4](http://www.ict4lt.org/en/en_mod1-3.htm#anchor44644)) and they can be enhanced with pictures and sound and exported into other applications such as *PowerPoint*: see [Section 8](http://www.ict4lt.org/en/en_mod1-3.htm#anchor33015).

**1.1 Essential word-processing skills**

These are the essential skills that you need to acquire:

* Opening a new document
* Saving a document
* Editing a previously saved document
* Basic keyboard skills
* Copying, cutting and pasting text
* Setting paper size and margins
* Setting typeface and font
* Using colour, italics and bold
* Setting up tables
* Setting and using tabs
* Setting up frames and borders
* Entering foreign characters - see [Section 5](http://www.ict4lt.org/en/en_mod1-3.htm#forchars)
* Inserting pictures into a document - see [Section 8](http://www.ict4lt.org/en/en_mod1-3.htm#anchor33015)
* Copying and pasting from another application, e.g. text from a Web browser - see [Section 2.1, Module 2.3](http://www.ict4lt.org/en/en_mod2-3.htm#saving), headed *Saving Web pages and selections from Web pages*.

You can do many more things with a word-processor: see the section on *Microsoft Word* in our [ICT\_Can\_Do\_Lists](http://www.ict4lt.org/en/ICT_Can_Do_Lists.doc) document.

The advantages that word-processing skills bring to the teacher of Modern Foreign Languages are enormous. Teachers spend hours making materials to use with their classes. A word-processor speeds up the process and enhances the quality of production that can be achieved. Add to this the instant availability of your materials, not just for yourself but any other member of staff, and the fact that you can differentiate the material easily to suit new classes, then suddenly you are looking at a way to save time and effort and to gain better and more adaptable resources. Furthermore, any materials you create with a word-processor can be copied into **email** messages, **discussion lists**, **blogs** and **wikis** and made available to a wider audience via the **Internet**: see [Section 12, Module 1.5](http://www.ict4lt.org/en/en_mod1-5.htm#anchordiscuss), headed *Discussion lists, blogs, wikis, social networking*, and [Section 14, Module 1.5](http://www.ict4lt.org/en/en_mod1-5.htm#compmedcomm), headed *Computer Medicated Communication (CMC)*.

**1.2 Examples of materials that can be created with a word-processor**

* ABC Cards, Prompt Cards, Flashcards and Turn and Learn cards - using colourful large fonts
* Wordsnakes - see [Section 3.1](http://www.ict4lt.org/en/en_mod1-3.htm#3.1)
* Vocab Exercises, e.g. allocating items to a table - see [Section 3.2](http://www.ict4lt.org/en/en_mod1-3.htm#3.2)
* Conjugating verbs - see [Section 4.2](http://www.ict4lt.org/en/en_mod1-3.htm#4.2)
* Reordering and unjumbling exercises - see [Section 4.3](http://www.ict4lt.org/en/en_mod1-3.htm#4.3)
* Expanding a plain text by inserting appropriate adjectives and adverbs - see [Section 4.4](http://www.ict4lt.org/en/en_mod1-3.htm#4.4)
* Gap-filling exercises, e.g. adjectives in German - see [Section 4.5](http://www.ict4lt.org/en/en_mod1-3.htm#4.5)
* Cloze procedure - see [Section 4.6](http://www.ict4lt.org/en/en_mod1-3.htm#cloze)
* Matching exercises - see [Section 4.7](http://www.ict4lt.org/en/en_mod1-3.htm#matching)
* Multiple-choice exercises - including exercises enhanced by pictures

See [Section 6.3](http://www.ict4lt.org/en/en_mod1-3.htm#6.3) for links to additional ideas and resources. See especially:

* [MFL Resources](http://www.mflresources.org.uk/): This website contains a number of downloadable resources created with *Microsoft Word*: http://www.mflresources.org.uk/
* [MFL Sunderland](http://www.sunderlandschools.org/mfl-sunderland/index.htm): Lots of useful downloadable resources and information here and links to other useful sites. Created and maintained by Clare Seccombe.
* [Teacher's Pet](http://www.teachers-pet.org/): A website created by Chris Lacey, which offers a free text tool, a *Microsoft Word* template which contains sets of macros that can make simple but very useful changes to texts in order to create word-processing exercises, e.g. removing spaces, removing vowels, word-jumbling, sentence jumbling, breaking sentences in half, etc. See the [Using Teacher's Pet tutorial by Joe Dale](http://www.cilt.org.uk/secondary/14-19/training_zone/using_teachers_pet.aspx) at the **CILT** website.

Many of the above exercises, especially those designed to be used as electronic worksheets, can also be created with the aid of **authoring programs**: see [Module 2.5](http://www.ict4lt.org/en/en_mod2-5.htm), *Introduction to CALL authoring programs*. CALL authoring programs often consist of a set of templates that offer a far less labour-intensive approach to creating exercises.

**2. Improving on the exercise book**

**Contents of Section 2**

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  + [2.1.1 Discussion topic](http://www.ict4lt.org/en/en_mod1-3.htm#2.1.1)
* [2.2 Building up a series of texts](http://www.ict4lt.org/en/en_mod1-3.htm#2.2)
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* [2.3 Productive tasks](http://www.ict4lt.org/en/en_mod1-3.htm#2.3)
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* [2.4 Incorporating corrections](http://www.ict4lt.org/en/en_mod1-3.htm#2.4)
  + [2.4.1 Discussion topic](http://www.ict4lt.org/en/en_mod1-3.htm#2.4.1)
* [2.5 Learning tasks](http://www.ict4lt.org/en/en_mod1-3.htm#2.5)

Exercise books, like all paper and pen activities, have one serious disadvantage: they are linear. New material can only be added after the last piece of work, even though it may have greater relevance to a text or exercise some pages back. To some extent minor errors can be corrected - messily - by erasing with correction fluid and over-writing, but inserting a whole phrase or sentence, even if there is space, makes the text not only untidy but difficult to read. If correction, insertion and deletion are employed on a constant basis, the end product becomes illegible and therefore unacceptable.

A word-processor, by contrast, allows all these and still produces perfect copy. Mistakes can be erased without a hint of correction; new words or phrases can be inserted without harming the original text; texts from various topics can be merged to produce longer, more involved dialogues or situations; simple sentences can be enhanced by more complex grammar; tenses can be changed.

In other words, written production via a word-processor can parallel language development: as new ideas and vocabulary are added to the store of knowledge, so can an original, simple text be expanded, altered and stylistically enhanced. And in doing so the student is given an implicit demonstration that language grows from the inside out - not in a linear, topic-based fashion.

As well as helping students develop writing skills, the word-processor can be an invaluable aid to the teacher for marking and giving feedback. We deal with this topic in [Section 3, Module 4.1](http://www.ict4lt.org/en/en_mod4-1.htm#mark), headed*Using a word-processor for marking and giving feedback*.

**2.1 Access to computers**

Access to a local area network (LAN) is recommended so that a whole class can be engaged simultaneously. Next best option would be access to a computer cluster (3-4 computers) with students being given a time limit for their writing and access being rotated round the class. The least preferred option would be access to a single computer in the classroom; even as part of a carousel, the time required for all students to gain sufficient access would be too long.

**2.1.1 Discussion topic**

How often would you have to gain access to the computer network room for writing with a word-processor to be a valid exercise?

**2.2 Building up a series of texts**

Students could build up from a series of original texts, each of which combines sets of related topics, e.g. one text could be titled "Me and my family" and cover such topics as the home, pets, siblings, personal descriptions, routine activities, leisure activities, chores, pocket money, holidays.

**2.2.1 Discussion topic**

What other topics usually studied by initial learners could be grouped together to make valid texts?

**2.3 Productive tasks**

Any productive task is best set towards the end of any module or topic, on the grounds that receptivity for new material comes first, productivity later. Asking students to produce a piece of writing that includes a large proportion of new material, vocabulary and structures, is a useful measure of how much a student has gained from the latest work.

**2.3.1 Discussion topic**

How would you ensure that students don't just tack new material on the end?

**2.4 Incorporating corrections**

Each student will need to save their work twice. The first time will be the uncorrected effort of the student; this is what gives the teacher the measure of the student's competence. The text is printed out and corrections and/or suggestions are made by the teacher. The student returns to the computer and uses the teacher's comments to improve the text. Once this has been done to the teacher's satisfaction, then the corrected text is saved under a different file name. This method will ensure that:

a. corrections and suggestions are acted upon,  
and  
b. the next time the student wishes to add or alter the text, they will be doing so from an accurate base.

**2.4.1 Discussion topic**

What kind of file naming system would suit here:

a. If each student had their own area to save to?  
or  
b. If each class had an area to save to?

**2.5 Learning tasks**

Over a period of learning, students at school level tend to cover similar topics whichever course book they use and whichever exams they are being prepared for. Students working on advanced level material cover topics totally different in both style and content. Students at university level beginning a new language may well cover both types of topic. Whatever phase you work in, draw up a long-term plan of writing tasks, in which you relate as many topics as possible.

Take any one of these tasks and plan the likely development of language.

For example, in writing about "Me and my family" simple adjectives of size and colour may well be learnt early on, but adjectives describing people's personal characteristics may not be learnt until some time later - maybe as long as two years later. Relative clauses may not be learnt until later still but would enhance statements made years previously.

1. "I have a brother. My brother is called Tom. He is 14 years old. He is tall. He has brown hair." *(Written in the first year of learning.)*
2. "I have a brother. He is called Tom. He is 14 years old. He's quite kind and pretty laid back. He's sporty and very active. He is tall and skinny. His hair is long and brown." *(Written after two years of learning.)*
3. "I have a brother called Tom, who is 17 years old. He's quite kind and generous, which is good! He's usually pretty laid back. He's very active and does lots of sport. He is tall and skinny. His hair is long and brown." *(Adapted after three years of learning.)*

**3. Electronic worksheets: reinforcement and recognition exercises**

This section focuses on practical examples of electronic worksheets containing simple reinforcement and recognitions exercises.

**Contents of Section 3**

* [3.1 Using the space bar: *Wordsnake* exercises](http://www.ict4lt.org/en/en_mod1-3.htm#3.1)
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* [3.2 Exercises using cut and paste](http://www.ict4lt.org/en/en_mod1-3.htm#3.2)
  + [3.2.1 Example: negatives and invisible negatives](http://www.ict4lt.org/en/en_mod1-3.htm#3.2.1)
  + [3.2.2 Discussion topics](http://www.ict4lt.org/en/en_mod1-3.htm#3.2.2)
  + [3.2.3 Learning tasks](http://www.ict4lt.org/en/en_mod1-3.htm#learntask323)

**3.1 Using the space bar: *Wordsnake* exercises**

The first step in vocabulary learning is recognition. *Wordsnake*exercises appear in many elementary textbooks as a preliminary exercise in recognition. Students have to break down the "snake" into its component words. The reasoning behind this is sound: if you are able to pick out words, you must have a graphic image of each one in the brain against which you are checking the shape, the spelling, the whole image of the word, or whatever, of the chains of letters in the "snake".

It sounds almost too simple to be credible; but try it out with learners who have just been introduced to new vocabulary. Initial learners who have yet to develop a feel for the target language orthography, will have little difficulty in spotting well known words, some difficulty in deciding the exact length of words only half known and will miss completely other combinations of letters which you would have believed were instantly recognisable as having been part of lessons over the previous few weeks!

Why use the computer? Because it allows students to experiment with shapes of words and spellings. Using the cursor keys and the space bar they can pan along the line of letters, stopping when they believe they have arrived at the end of a recognisable word and space it out from the line. If, after reflection, a mistake seems to have been made then it is easy enough to back-space to the original sequence of letters.

**A quick way of creating a *Wordsnake* exercise:**

* Type your text in *Word.*
* Select *Edit / Replace* from the Menu bar.
* In the *Find what* box enter a space.
* Leave the *Replace with* box empty.
* Click on *Replace all*.
* Done!

You can get rid of line breaks thus:

* In the *Find what* box enter *^p*.
* Leave the *Replace with* box empty.

You can strip out any punctuation marks in a similar way.

***Here are some examples of Wordsnakes:***

**glaceseauoeufpâtécrêpemielcitronthéchocolatframboisevanillefritesvin**

**eiswassereierpastetepfannkuchenhonigzitroneteeschokoladehimbeer**

You only have to try in a language not familiar to you to see the real impact of this exercise on a learner.

**kramainggilmadyangokognokobiasaapakowéarepmangansegalankaspésaiki**

(see [Crystal 1987: 40](http://www.ict4lt.org/en/en_mod1-3.htm#crystal))

Or in a language that is familiar but not well known:

**Llanfairpwllgwyngyllgogerychwyrndrobwllllantysiliogogogoch**



This is a *real* place name. Can you find out where it is, what it means and how to break it up? Search the Web! If you can't find the answer, just click here: [Cheat](http://www.ict4lt.org/en/en_mod1-3.htm#llanfair)

Phrases can also be treated in this way, especially useful in a language such as French, which has a high incidence of elision. In the following example not only spaces but apostrophes have to be inserted as well:

**Ilssappellentilyenacinqcayestjenaipasdamieillavuquestcequecestjenelaipas**

The [Teacher's Pet](http://www.ict4lt.org/en/en_mod1-3.htm#lacey) text tool by Chris Lacey, can also be used to generate *Wordsnake* exercises in *Microsoft Word*.

**3.1.1 Discussion topics**

* At what stage would a wordsnake exercise be a useful monitor of students' passive recognition of new vocabulary?
* At what stage in the language learning process can a wordsnake exercise be considered viable?

**3.1.2 Learning tasks**

* Create a suite of exercises to follow a wordsnake exercise. These could cover meanings, genders, additional elements such as different articles or adjectives, sentence building etc.
* How could you develop a chain of letters exercise further? What other facilities of the word-processor could you make use of? Create your own exercises.

**3.2 Exercises using cut and paste**

Once chains of letters have been completed, the exercise can develop in various ways. Here is one example:

Using the space bar, reveal the words in this chain. Then cut and paste them into the correct gender boxes beneath. Finally write six sentences with one of the words in each sentence to be used in the Lost Property Office.

Use *J'ai perdu mon / ma / mes...*

*Pelliculechapeaumanteauécouteurslunettesbraceletparapluiesacappareil*

|  |  |
| --- | --- |
| **le** | **la** |

Target language testing needs students to be able to make many different connections between items of vocabulary. The reason is quite simple: when using the target language in the question, the examiner has to avoid using the same word as in the text… otherwise it becomes an easy task of direct matching. Examiners get round this by using among others ploys: synonyms, circumlocutions, opposites and negatives, double negatives and invisible negatives and collectives.

**Note:** Only abbreviated examples are given: actual exercises would have more content.

**3.2.1 Example: negatives and invisible negatives**

i. Students have to cut and paste a series of statements from a table to one of two columns - positive statements and negative statements:

|  |  |  |  |
| --- | --- | --- | --- |
| I don't care | Worthless! | - | I don't dislike it |
| I'm quite happy with that | It's brill | - | I am ecstatic |
| It's not bad | Fabulous! | Rubbish! | I can't put up with it |
| Hardly worth it | I'm fed up | - | It's worthwhile! |

|  |  |
| --- | --- |
| **:-)** | **:-(** |

ii. Students cut items from a box and paste them under the correct shop heading:

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| Rindfleisch | Seife | Mehl | Socken | Zucker | Anzug | Pille | Pastillen |
| Watte | Keks | Schnitzel | Rezept | Weißwurst | Essig | Kotelett | Eis |
| Leber | Handschuhe | Gemüse | Kleid | Truthahn | Pflaster | - | - |

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Apotheke** | **Metzgerei** | **Konditorei** | **Kaufhaus** | **Lebensmittelgeschäft** |

iii. Students cut and paste weather statements into columns headed by *Beau temps* and *Mauvais temps*:

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| il pleuvait | il n'avait pas de nuages | il faisait une chaleur | il grèle | - |
| il faisait extrément froid | le soleil brillait de temps en temps | ciel couvert | - | - |
| il pleuvait à verse | agréable | orageux | risque de pluie | éclair |
| verglas | chutes de neige | - | vent fort | éclaircie |

|  |  |
| --- | --- |
| **Beau temps** | **Mauvais temps** |

**3.2.2 Discussion topics**

* What do you gain by moving exercises like these onto the computer? Consider this question from both the teachers' and the students' standpoint.
* Depending on the language/s you teach, you may be able to discover even more uses of facilities resident in your word-processor. Search through the *Menus* on the *Toolbar*. For example: Could*Format / Change Case* be used? Or *Search and Replace*? Or *Borders and Shading*?

**3.2.3 Learning tasks**

Create similar exercises to deal with:

i. synonyms  
ii. opposites   
iii. idiomatic expressions.

Work out a way in which to include such exercises in a topic that you already deliver. This could be as a class exercise, an independent / home exercise, part of a carousel or differentiation material (either for the top or bottom).

**4. Electronic worksheets: developing grammar patterns**

This section focuses on practical examples of electronic worksheets to assist language learners to develop concepts of basic grammar, e.g. verb forms, word order, use of adverbs and adjectives, and inflexions.

**Contents of Section 4**

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* [4.7 Matching exercises](http://www.ict4lt.org/en/en_mod1-3.htm#matching)

**4.1 An alternative to rote learning**

Anyone learning a new, unrelated language has to create a certain amount of new cognitive behaviours, e.g. the English speaker has no concept of gender other than that applied to the actual sex of humans or animals (with the faint exception of ships and motor cars, which are referred to as "she"). A French speaker, despite having a practised cognitive route for gender, has to create new routes to cope with German case endings, which are unknown in French. A German moving to English has to build ways of dealing with the multiple forms of each person in every verb tense. A Finn or a Hungarian has to face the new notion of free-standing prepositions.

When any human has a new experience, the brain first of all tries to make connections with information already stored; if this proves impossible because nothing is related, then what are called "activity-dependent brain changes" take place. Fresh neural pathways have to be set down in the brain, honed and polished by practice into existence and then re-visited as often as possible if the information stored is not to be lost. See [Rendall (2003)](http://www.ict4lt.org/en/en_mod1-3.htm#rendall03) and [Rendall (2006)](http://www.ict4lt.org/en/en_mod1-3.htm#rendall06).

Once upon a time much of this was done by rote learning; essential information was drilled into students on a regular basis, whether they understood its significance or not. Given the initial prompt, the well-trained brain would start on an inexorable outpouring of facts, figures, computations, verse, mnemonics etc. Foreign language teaching was not exempt and many a ex-British school student, who still in adult life is unable to communicate satisfactorily in French, can, when asked, repeat the formulas:

* Take an -er verb: take of the -er and add -e, -es, -e, -ons, -ez, -ent
* To form a past participle take off the -er and add -é

In the era of communicative language learning, such rituals all but vanished - and some teachers mourned their passing, feeling that at least they offered a first step on the way to knowledge and competence, even if the following steps were never accomplished.

It is possible to resurrect rote learning but not as the sterile chant of all those years ago but as the verbal pathway to an active procedure that the brain has to develop in order to cope with new grammatical concepts in foreign language learning. What makes this rote learning different is that it is both verbal and active - on the word-processor.

What cannot be done on paper, can be done on screen. As students listen, they can act. Told to remove an infinitive ending and add a personal ending, they can do this using the facilities of the word-processor. Told that pronouns come in front of the verb, students can delete the now superfluous noun and drag-and-drop the said pronoun in the proper place. Asked to create verb tables for irregular verbs, they can cut and paste from a list into ready-made boxes titled: infinitive, present, preterite, past participle.

The brain now has much more to absorb than rote learning ever offered: the sound and meaning of the words are the same but to this is added, the sequence of steps taken, the movement of individual words, the changes to be made. All these become part and parcel of the memory. Now when the prompt is given, it will not just be a verbal response but an action that produces a desired affect.

**4.1.1 Discussion topic**

The "verbal pathway" could come from the teacher or a tape or written instructions on screen or paper. Which method would suit what level of student best?

**4.2 Exercise using delete and insertion**

Start with a clear screen.

Ask the students to:

|  |  |
| --- | --- |
| i. Type in the verb regarder (or any other useful regular -er verb) | - |
| ii. Copy the verb into memory: double click on the verb to highlight it and then press CTRL + C | - |
| iii. Press ENTER twice | - |
| iv. Enter 1st person pronoun plus a space | je |
| v. Press CTRL + V (copies verb to screen) | je regarder |
| vi. Remove the -er | je regard |
| vii. Add -e | je regarde |
| viii. Press ENTER | - |

|  |  |
| --- | --- |
| i. Enter 2nd person pronoun plus a space | tu |
| ii. Press CTRL + V (copies verb to screen) | tu regarder |
| iii. Remove the -er | tu regard |
| iv. Add -es | tu regardes |
| v. Press ENTER | - |

|  |  |
| --- | --- |
| i. Enter 3rd person pronoun plus a space | il |
| ii. Press CTRL + V (copies verb to screen) | il regarder |
| iii. Remove the -er | il regard |
| iv. Add -e | il regarde |
| v. Press ENTER | - |

Continue until all six persons, singular and plural, are completed.

Ask students to enter another -er infinitive and repeat the whole exercise again. Then show a list of familiar regular -er verbs on an**interactive whiteboard** or wall screen using a standard data projector and ask students to complete any three of them. For further information on using interactive whiteboards see [Section 7](http://www.ict4lt.org/en/en_mod1-3.htm#ppwc) (below).

A verbal exercise could follow to see how well they are progressing; Can they already produce the *nous* form of *jouer* without looking at the screen? Similarly, the *tu* form of *dessiner*, the *ils* form of*patiner*.

If more practice is needed, ask for another three verbs to be completed. Talk them through the first one again, step by step.

If you wish to visually emphasise the singular/plural aspect, you can prepare the file in advance. Create a workspace with a table consisting of two columns and eight rows, so that the infinitive can be entered into top left-hand box, followed by the singular forms. The plural forms are entered in the right-hand column.

|  |  |
| --- | --- |
| **regarder** | |
| *Singular* | *Plural* |
| je regarde | nous regardons |
| tu regardes | vous regardez |
| on regarde | - |
| il regarde | ils regardent |
| elle regarde | elles regardent |

**4.2.1 Discussion topic**

At what stage would you include meaning(s) into this work?

**4.2.2 Learning task**

What other grammar points could be treated this way?

**4.3 Exercises using drag and drop**

**Word order in German**

Prepare a file with familiar sentences using Subject Verb Time Phrase (S V TP), e.g.

Mein Vater fährt jeden Tag mit dem Auto in die Stadt.  
Ich spiele samstags Fußball mit meinen Freunden im Park.  
Viele Wildblumen sterben jedes Jahr auf dem Lande aus.

Explain that German frequently mentions time phrases (when? phrases) first but that the main verb must still remain as second idea. So two things have to be swapped: Subject and Time Phrase.

Ask students to:

i. Highlight *jeden Tag* by holding down the left mouse key and dragging the cursor from the beginning to the end of the two words:  
Mein Vater fährt jeden Tag mit dem Auto in die Stadt.

ii. Release the left mouse key.

iii. Point the cursor back into any part of the highlighted jeden Tag and hold down the left mouse key.

iv. Drag jeden Tag to the front of the sentence:  
jeden Tag Mein Vater fährt mit dem Auto in die Stadt.

v. Repeat the highlight and drag-and-drop procedure with *Mein Vater*:  
jeden Tag fährt Mein Vater mit dem Auto in die Stadt.

vi. Adjust the capital letters:  
Jeden Tag fährt mein Vater mit dem Auto in die Stadt.

Depending on the level of ability, you may like to colour-highlight the verb to emphasise its position as second idea rather than second word.

Repeat with another one or two sentences, then let students work on their own. Try an oral assessment. Can they, having heard a S V TP sentence, orally repeat the same as TP V S?

The [Teacher's Pet](http://www.ict4lt.org/en/en_mod1-3.htm#lacey) text tool by Chris Lacey, can also be used to generate sentence unjumbling exercises (*Sentence Jumbles*) in *Microsoft Word*.

**Reordering the lines of a text: textsalad**

Another type of exercise might involve arranging the jumbled lines of a text, e.g. a set of instructions, into their correct order using drag and drop. An example follows. Such exercises are often called*textsalad* exercises and feature in suites of authoring programs such as *Fun with Texts*, in which the teacher enters a text in the correct order and the program jumbles it automatically and converts it into an interactive exercise for the learner: <http://www.camsoftpartners.co.uk/fwt.htm>

**Making a pot of tea**

* Wait until the water boils.
* Empty the water from the teapot.
* Put boiling water on top of the teabags in the teapot.
* Pour a little milk and sugar into each cup, as required.
* Wait a couple of minutes for the tea to brew.
* Pour a little water into the teapot to warm it up.
* Fill the kettle with water.
* Find a kettle, a teapot, cups and saucers, teaspoons, teabags, milk and sugar.
* Pour tea from the teapot into each cup.
* Put the required number of teabags into the teapot - one per person.

The [Teacher's Pet](http://www.ict4lt.org/en/en_mod1-3.htm#lacey) text tool by Chris Lacey, can also be used to generate line unjumbling exercises (*List Jumbles*) in *Microsoft Word*.

**4.3.1 Learning task**

Make a list of the grammatical points in the language/s you teach that would be best tackled by using the drag-out-drop facility to change the word order of a sentence or to put the jumbled words of a sentence into the correct order. Devise a minimum of instructions for students for at least two sample exercises.

**4.4 Exercise using copy and paste**

Create a plain text, i.e. no adjectives or adverbs, using familiar language. Restrict the length to about 2/3 of a screen for ease of working. Below the text create a table into which you enter adjectives and adverbs/adverbial phrases.

Students are asked to either copy and paste or cut and paste adjectives and adverbs into the text to make it more interesting. Depending on the language being learnt, reminders about agreements and positions of adjectives should be given.

When the exercise is completed, students read their versions aloud, so as to compare theirs with the other versions.

When I go out at the weekend, I make an effort to look my best. I go out Saturday evenings with friends. I begin my preparations at 4 o'clock, when I have a shower. I wash my hair and dry it with the drier. I then check my face. Good! No spots! I apply deodorant and perfume and lie on my bed relaxing for half an hour. I then dress. I might try three or four outfits before I decide what I am going to wear. The red dress? The blue trousers? With the white shoes? Or the brown boots? Sometimes I decide to wear what I first tried on! It takes at least two hours. I am ready when my friend comes to call at 7 p.m.

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| real | long | new | - | usually | slowly |
| genuine | quick | old | - | frequently | as quickly as possible |
| good | protracted | cotton | - | often | roundabout |
| proper | extensive | silk | - | nearly always | carefully |
| very | favourite | leather | - | without fail | fastidiously |
| comfortable | satin | jazzy | - | rapidly | luxuriously |
| - | - | - | - | stupidly | rarely |

**4.4.1 Discussion topic**

Why is an exercise like this more efficiently achieved on a computer screen than on a piece of paper?

**4.4.2 Learning tasks**

* What particular points in the languages that you teach could be well supported by exercises like this?
* How soon would you consider introducing this kind of activity (on a lesser scale) ?
* What other facilities offered by word-processors could be used in this way? Coloured text? Highlighted text? Colour highlighted text? Search and Replace? Insert pictures/graphics?

**4.5 Exercise using insertion to support grammatical inflections**

In a language such as German it is a straightforward task to emphasise the case endings. A text is created with the information words such as nouns and adjectives missing, though the grammatical ending is present: e.g. adjectives missing:

In einem ...en Haus wohnten ein ...er Mann und eine ...e Frau. Das ....e Haus war zu groß für zwei Leute. " Ach wenn wir nur ein ...es Kind hätten," sagte die ....e Frau. "Unmöglich!" antwortete der ....e Mann.

A list of adjectives appears in a table below. Students copy and paste adjectives into the text, removing only the **...** and leaving the endings.

|  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| klein | groß | schön | nett | niedlich | hübsch | süß | alt | jung | dick | dünn | häßlich |

It is also possible, of course, to leave in the adjectives and blank out the case endings, which have to be inserted by the learner.

**4.5.1 Discussion topics**

The deletion of the **…** is asking for trouble! Students unskilled in keyboard control may unintentionally wipe out the endings too. How could you get round this?

**4.5.2 Learning tasks**

* Extend this task into a useful exercise. Where would you place it in teaching? How would you make use of this facility and this kind of task?
* Think of the languages you teach. For what particular grammatical point would this kind of exercise come in handy?

**4.6 Cloze procedure**

**Cloze procedure**was invented by Wilson Taylor: Taylor W.L. (1953) "Cloze procedure: a new tool for measuring readability", *Journalism Quarterly* 30: 415-433. Cloze procedure was originally conceived as a tool for measuring the readibility of a text or a learner's reading comprehension level and derives from the gestalt psychology term "closure", whereby people tend to complete a familiar but incomplete pattern by "closing" the gaps. In Cloze tests or exercises every nth word (usually 5th to 7th) or a certain percentage of a text is blanked out and the learner has to fill in the blanks with a suitable word.

In the days before computers the words had to be blanked out by hand, but now the job can be done quickly and efficiently with the help of a word-processor or automatically with the aid of an authoring program: see [Module 2.5](http://www.ict4lt.org/en/en_mod2-5.htm), *Introduction to CALL authoring programs*. Cloze procedure, including so-called **total Cloze**, where the whole text is blanked out, figures in numerous CALL programs: see[Section 8.3, Module 1.4](http://www.ict4lt.org/en/en_mod1-4.htm#8.3), headed *Total text reconstruction: total Cloze*. Such programs generate the blanked out texts automatically and convert them into interactive exercises for the learner.

There is Cloze-exercise generator (for printable exercises) at the Goethe-Institut website - which will also generate other types of exercises:  
<http://www.goethe.de/lhr/prj/usg/deindex.htm>

The [Teacher's Pet](http://www.ict4lt.org/en/en_mod1-3.htm#lacey) text tool by Chris Lacey, can be used to generate Cloze exercises in Microsoft*Word*.

**4.7 Matching exercises**

A wide range of matching exercises can be created with a word-processsor. In the following example a table has been created in which the two halves of well-known proverbs have been jumbled up. The lerner's task is to drag the second half of each proverb in the second column to match the first half of each proverb in the first column. Similar exercises can be set up for matching synonyms or antonyms and matching words with pictures.

|  |  |
| --- | --- |
| All is fair | the harder they fall |
| The bigger they are | according to your cloth |
| Don't make a mountain | in love and war |
| Cut your coat | out of a molehill |

**5. Typing foreign characters**

These are the main ways in whichso-called "foreign characters", i.e. characters bearing accents or other diacritics, and special characters not normally found in the standard Roman alphabet, can be entered into a word-processor or other software tools for creating texts, e.g. *PowerPoint* and email programs such as *Outlook* or *Eudora*.

* [5.1 Using the dead keys facility in Microsoft Word](http://www.ict4lt.org/en/en_mod1-3.htm#5.1)
* [5.2 Insert / Symbol facility, Shortcut Keys & Character Map](http://www.ict4lt.org/en/en_mod1-3.htm#5.2)
* [5.3 Remapping the keyboard](http://www.ict4lt.org/en/en_mod1-3.htm#5.3)
* [5.4 FrKeys](http://www.ict4lt.org/en/en_mod1-3.htm#5.4)
* [5.5 Using the ALT key plus the Number Pad: ASCII and ANSI codes](http://www.ict4lt.org/en/en_mod1-3.htm#5.5)
* [5.6 Unicode](http://www.ict4lt.org/en/en_mod1-3.htm#5.6)
* [5.7 Fonts for less common languages and non-Roman scripts](http://www.ict4lt.org/en/en_mod1-3.htm#5.7)
* [5.8 Typing accented characters on an iPhone or iPad](http://www.ict4lt.org/en/en_mod1-3.htm#5.8)
* [5.9 Other utilities and useful links](http://www.ict4lt.org/en/en_mod1-3.htm#5.9)

**5.1 Using the dead keys facility in Microsoft Word**

If you are using a UK keyboard layout you can generate accented characters with special **dead keys**in *Microsoft Word*. You first press the dead key that represents the accent or diacritic you wish to use and then follow it with the character that requires that accent or diacritic. The dead keys have been chosen to be mnemonic. Note that some dead keys appear on the shifted key, so the SHIFT key must also be pressed at the same time as the CTRL key in order to generate the accented character. This method is often preferred by people using laptops that don't have a separate Number Pad.

* To produce б, й, н, у, ъ, э, Б, Й, Н, У, Ъ, Э press CTRL + ' (apostrophe), followed by the letter
* A quick way of typing á é í ó ú is to hold down ALT GR and then press the letter
* To produce а, и, м, т, щ, А, И, М, Т, Щ press CTRL + ` (grave accent), followed by the letter
* To produce з, З press CTRL + comma, followed by c or C
* To produce г, с, х, Г, С, Х press CTRL + SHIFT + ~ (tilde), followed by the letter
* To produce д, л, п, ц, ь, я, Д, Л, П, Ц, Ь press CTRL + SHIFT + : (colon), followed by the letter
* To produce е, Е press CTRL + SHIFT + @ ("at" key), followed by a or A
* To produce ж, Ж press CTRL + SHIFT + & (ampersand), followed by a or A
* To produce ш, Ш press CTRL + / (forward slash), followed by o or O
* To produce ї press ALT + CTRL + SHIFT + ? (question mark),
* To produce Ў press ALT + CTRL + SHIFT + ! (exclamation mark)
* To produce Я press CTRL + SHIFT + & (ampersand key), followed by s

**5.2 Insert / Symbol facility, Shortcut Keys & Character Map**

You can insert foreign characters and special symbols by using the **Symbol** command on the **Insert** menu on the Main Menu bar in *Microsoft Word*. Click on **Insert** on the **Main Menu** bar and choose**Symbol**. Choose the **Font**, e.g. Arial or Times New Roman. This will cause a chart to pop up showing the foreign characters and other special symbols that are available for that font. Click on the character or symbol you wish to use and then click on the **Insert** button on the pop-up chart. This will cause the character or symbol to appear at the point in your text where you are currently working. Close the pop-up chart when you have finished inserting special characters and symbols.

You can also assign characters to **shortcut keys**via the pop-up window that appears when you select **Insert / Symbol** from the *Word* Main Menu bar.Click on **Insert** on the Main Menu bar and choose **Symbol**. Choose the **Font**, e.g. Arial or Times New Roman. Click the symbol or character you want on the font chart showing which symbols and characters are available. Click the symbol or character you want. Click **Shortcut Key**. In the **Press new shortcut key** box, type the key combination you want to use, e.g. CTRL + a letter. But make sure that you don't overwrite existing shortcuts that are built into *Word*, e.g. CTRL + F for **Edit / Find** and CTRL + V for **Edit / Paste**. Click **Assign**. In the **Save changes in** box choose where you want to save the new shortcut, e.g. in the NORMAL.DOT file (which stores general information relating to Word) or the name of the document that you are currently working on. If you are using a computer that is shared with other people in a school or college it is inadvisable to save the new shortcuts to the NORMAL.DOT file as this will affect other people using the computer who type in different languages. Some ICT managers will not allow this in any case and may have blocked this facility

Alternatively, you can load up the **Character Map** at the beginning of a work session, minimize it and let it sit on the *Windows* taskbar until you need it. The **Character Map** is accessed via **Programs / Accessories / System Tools / Character Map** and will work in most *Windows* applications - check this with your ICT manager, as he/she may have moved it elsewhere!

**5.3 Remapping the keyboard**

The top row of the alphabet on English language keyboards begins with the letters QWERTY - which is why such keyboards are known as QUERTY keyboards. European French keyboards begin with the letters AZERTY, and German keyboards begin with QWERTZ. *Windows*allows you to change the keyboard layout to that used in a variety of different countries, so that characters with diacritics can be typed more easily, but this may be confusing as the whole keyboard layout changes and you find that symbols such as @ and # are also in a different place. If you wish to try remapping your keyboard you can do this via the **Control Panel** and **Regional and Language Options** facility in *Windows*. To change the keyboard languages and layout in *Windows XP*, click **Start**, then choose **Settings / Control Panel / Regional and Language Options**. Click the **Languages** tab, then the **Details** button, the **Settings** tab, and the **Add** button. Now choose your required language. Click the **OK** button to close the input window. If the added language is a permanent choice, click **Apply** to finish the process For an illustrated version of these instructions see [Keyboard Help: Adding International Keyboard](http://www.starr.net/is/type/intl-add.html).

It's usual for computers in Canadian educational institutions to be set up in this way for English and French, but they use the Canadian French layout (which is one of the options in *Windows*) rather than the European French layout. The Canadian layout is better if you intend to toggle between the two systems as it offers access to the diacritics using **dead keys** or other pre-set keys, but it is still a QWERTY keyboard and you don`t have to think about the A, Q, Z & W being in the wrong place.

You can also consider buying a foreign keyboard if you work most of the time in a specific foreign language.

**5.4 FrKeys**

The easiest way to enter foreign characters is to use a foreign characters utility program, such as [FrKeys](http://www.camsoftpartners.co.uk/frkeys.htm). Using FrKeys you do not need to remember convoluted combinations of keys. FrKeys places a small toolbar containing the foreign character keys at the top of any Windows application (see illustration below). Instead of typing the foreign characters you just click once with the left mouse button and the character appears at the point in your text where you are currently working. Character sets for the commonest European languages are supplied with FrKeys, and you can add extra character sets using a character creation facility within the program. Mathematical symbols can also be inserted in the same way as foreign characters.



*Screenshot: FrKeys*

**5.5 Using the ALT key plus the Number Pad: ASCII and ANSI codes**

A survey conducted in 1998 by David Wilson, and again in 2005 by Graham Davies, through the [Linguanet Forum](http://www.mailtalk.ac.uk/cgi-bin/webadmin?A0=linguanet-forum) showed that most people still preferred the old-fashioned way of typing foreign characters, i.e. by holding down the left ALT key on the computer keyboard, pressing a sequence of three digits (the ASCII code) or four digits (the ANSI code) on the Number Pad, and then releasing the ALT key. The advantage of this method is that it works in more or less any software application and on computers with non-standard keyboard configurations. The main problem with this method is that you either have to fix the codes in your head or have access to a chart showing the correspondence between the characters and the codes. If you are using a laptop that that does not have a number pad then this method is extremely laborious and you will find it more convenient to use a program such as [FrKeys](http://www.ict4lt.org/en/en_mod1-3.htm#5.4). See the [Glossary](http://www.ict4lt.org/en/en_glossary.htm) for explanations of the abbreviations ASCII and ANSI.

Posting charts of commonly used foreign characters in a very large font on the walls of the language centre is a solution adopted by some schools. The following **character table** contains a selection of commonly used characters and their ASCII codes. A more comprehensive table in *Word* format - including accented capital letters and digraphs in French - can be downloaded by clicking here:[ForChars.doc](http://www.ict4lt.org/en/ForChars.doc). The *Word* table displays both the ASCII and the ANSI codes for each character. See also [Keyboard Help: ALT Key Codes & Charts.](http://www.starr.net/is/type/altnum.htm)

**Character table: commonly used foreign characters and their ASCII codes**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **FRENCH**  à 133 â 131 ç 135 Ç 128 é 130 è 138 ê 136 ë 137 î 140 ï 139 ô 147 ù 151 û 150 | **GERMAN**  ä 132 Ä 142 ö 148 Ö 153 ü 129 Ü 154 ß 225 | **SPANISH**  á 160 é 130 í 161 ñ 164 Ñ 165 ó 162 ú 163 ¿ 168 ¡ 173 | **ITALIAN**  à 133 è 138 É 144 ì 141 ò 149 ù 151 | **NORDIC**  å 134 Å 143 æ 145 Æ 146 ä 132 Ä 142 ö 148 Ö 153 ø 0248 (ANSI) Ø 0216 (ANSI) |

**5.6 Unicode**

[Unicode](http://www.unicode.org/) is a character coding system designed to support the interchange, processing, and display of the written texts of the diverse languages of the modern world. Essentially, computers work with numbers and each character that you type on a computer has been assigned a number. Before Unicode was invented, there were hundreds of different encoding systems for assigning these numbers, which was somewhat chaotic, and not all languages were covered. This has changed with the advent of Unicode. Unicode covers all the characters for all the writing systems of the world, modern and ancient. It also includes technical symbols, punctuation, and many other characters used in writing text. Unicode is built into modern versions of Windows and operating systems used by other types of computers, thereby making a wider range of alphabets and syllabic systems available.

**5.7 Fonts for less common languages and for non-Roman scripts**

It is possible to buy font sets for less common languages. Try the [Linguist's Software](http://www.linguistsoftware.com/) website, which offers a wide range of fonts for languages from all over the world.

**5.8 Typing accented characters on an iPhone**

Additional punctuation marks and accented letters are accessible when the iPhone or iPad keyboard is displayed. If you hold your finger down on a letter instead of tapping it you will see a selection of alternative accented letters. Slide your finger along to the one that you want and then raise your finger quickly.

**5.9 Other utilities and useful links**

* [Keyboard Help, Typing International Accent Marks and Diacritics](http://www.starr.net/is/type/kbh.html): A wealth of useful advice on typing accented characters.
* David Wilson's Web page, [Foreign language word processing](http://www.specialeducationalneeds.com/accents/), contains a mine of useful information - including information for teachers working with Special Educational Needs children.
* [AllChars](http://allchars.zwolnet.com/): A free package that provides shortcuts for typing accented characters and other non-standard characters.
* [Lexibar](http://www.lexicool.com/lexibar_special_keyboard_characters.asp): A free package that enables you to set up a small toolbar for typing accented characters and other non-standard characters.
* [Type Accents](http://www.mophy.com/):A commercial package for typing accented characters and other non-standard characters. Free demo available.
* [Typeit](http://www.typeit.org/): Shortcuts to typing accented characters in many different languages.
* [NoTengoEnie](http://www.notengoenie.com/): Click on the character you wish to type and then paste it into your document.

**6. Other word-processing tools**

**Contents of Section 6**

* [6.1 Spellcheckers, grammar checkers and style checkers](http://www.ict4lt.org/en/en_mod1-3.htm#6.1)
* [6.2 Using an electronic thesaurus](http://www.ict4lt.org/en/en_mod1-3.htm#6.2)
* [6.3 Links and further ideas](http://www.ict4lt.org/en/en_mod1-3.htm#6.3)
* [6.4 Discussion topics](http://www.ict4lt.org/en/en_mod1-3.htm#discuss6)

**6.1 Spellcheckers, grammar checkers and style checkers**

**Spellcheckers**have been included as part of word-processing packagess for some time. A spellchecker is an electronic dictionary that scans the text entered by the user and highlights any word that it does not recognise. The author of the text is then given the option to correct, ignore or add any highlighted word to the dictionary. Spellcheckers can be set to accommodate different varieties of a language, e.g. British or American English, and many other languages.

You may also find that your word-processor includes a **grammar checker**, a **style checker** and a **thesaurus** (see [Section 6.2](http://www.ict4lt.org/en/en_mod1-3.htm#6.2), below). All these tools have to have to be treated with considerable caution, as they are designed to be used by native speakers and they therefore assume a reasonable level of competence in the target language. The suggestions that they offer may not be understood by a non-native speaker, and may not be good advice anyway.

There are two useful articles that discuss in detail the effectiveness of grammar checkers and style checkers. The first describes an experiment with students of English as a Foreign Language conducted by Yu Hong Wei at Thames Valley University. This article is available on the Web: "Do grammar checkers work?" ([Yu Hong Wei & Davies 1997](http://www.ict4lt.org/en/en_mod1-3.htm#yuhong)). The second describes an experiment conducted by [Jacobs & Rodgers (1999)](http://www.ict4lt.org/en/en_mod1-3.htm#jacobs) with university level students of French. Both articles come to similar conclusions: that grammar checkers *do* have some value for learners of foreign languages but students must be made aware of their shortcomings and to treat every piece of advice with caution - hence the title of the article by Jacobs and Rodgers: "Treacherous allies". See also [Tschichold (1999)](http://www.ict4lt.org/en/en_mod1-3.htm#tschich).

**Spelling and Grammar Checkers by Ultralingua**

Ultralingua's [Spelling and Grammar Checkers](http://www.ultralingua.com/products#spelling-grammar-tab) offer a range of useful spell-checking and grammar-checking facilities for English, French, Spanish and German, including:

* the conjugation of all forms of hundreds of verbs;
* grammatical analysis of a word, indicating its part of speech, gender, number, and its standard form;
* the analysis of the different homographs of a given word (for example, "fait" is a common masculine noun in French as well as the spelling for two different conjugations of the verb "faire";
* the plural form or forms of a word;
* the list of a word's homonyms - words which have a different spelling but the same (or similar) pronunciation, along with their grammatical analysis;
* a comprehnesive dictionary with definitions or synonyms of thousands of words.

As well as offering online and offline dictionaries, Ultralingua offers a the [WebLex](http://www.ultralingua.com/onlinedictionary/) facility that can convert a Web page into a "dictionary-enabled" page, so that the words on the page are clickable and can be looked up in a defining dictionary (English) or a bilingual dictionary. You type or paste the URL of the Web page into address box and choose the source and target language. The original Web page is then made available as a dictionary-enabled, clickable page. Some Web pages can't be dictionary-enabled, but it works most of the time. Includes verb conjugation tables too.

**VoyCabulary**

[VoyCabulary](http://www.voycabulary.com/) makes the words on any Web page into links so you can look them up in a dictionary or other word-reference-site of your choice, by simply clicking on the words. Anytime you find yourself reading a Web page with words you wish to look-up, try running the page through VoyCabulary and just click on the words.

* [Section 6, Module 3.5](http://www.ict4lt.org/en/en_mod3-5.htm#hlt_call), headed *Human Language Technologies and CALL*
* [Section 7, Module 3.5](http://www.ict4lt.org/en/en_mod3-5.htm#linguist), headed *Linguistics and CALL*.

**6.2 Using an electronic thesaurus**

A variety of activities can be created by using an electronic thesaurus that forms part of a word-processing package, e.g. in *Microsoft Word*. Take a look at the following text, which is an extract from[Davies (1996)](http://www.ict4lt.org/en/en_mod1-3.htm#davies96):

It is not uncommon for training to be given a low precedence. This is true both of the business and of the education sector. There is a customary myth that once someone has been on a training course they need never go on another one. We all know this is gibberish, but unfortunately this cuts little ice with the accountants, who are only too aware that the training budget is one of the easiest to cut. There is also a youthful belief that sending a language teacher on a general training course in the use of computers is ample. This is also baloney. Training must be an incomplete process, and language teachers need properly tailored courses.

Here we can learn a lot from the past. Lack of training sounded the death-knell of the language lab. I belong to the cohort that was trained in the early 1960s, when the reel-to-reel tape recorder and the film strip projector were the main technological aids that the language teacher used - if at all - and the language lab was the most modern form of technology the new generation might expect to use - which we got quite eager about. The 1960s and 1970s saw a rapid growth in language labs, boosted by the then chic audiolingual approach to language teaching, followed by a rapid deterioration. Why the growth and why the deterioration?

The original text has been modified by clicking on selected words, calling up *Word*'s thesaurus (Shift + F7) and replacing each of the selected words with one of the thesaurus's suggested synonyms. As any experienced writer knows, a thesaurus has to be used with caution: context is crucial, and a thesaurus is best used when combined with a dictionary and a **concordancer**: see [Module 2.4](http://www.ict4lt.org/en/en_mod2-4.htm), *Using concordance programs in the Modern Foreign Languages classroom*. A useful exercise for the advanced learner is to attempt to spot which words in the text have been replaced with synonyms and which synonyms are unacceptable. Using *Word*'s thesaurus, the learner can then attempt to find more acceptable synonyms and get back to the original text - or as close to it as possible.

**6. 3 Links and further ideas**

1. Claire Bradin: University of Pittsburgh, USA: [Word-processing-based activities for a language class](http://edvista.com/claire/wp.html)
2. [MFL Sunderland](http://www.sunderlandschools.org/mfl-sunderland/): Lots of useful downloadable resources and information here and links to other useful sites. Created and maintained by Clare Seccombe.
3. [MFL Resources](http://www.mflresources.org.uk/): This website contains a number of downloadable resources created with *Microsoft Word*.

1. [Teacher's Pet](http://www.teachers-pet.org/" \t "_blank):A website created by **Chris Lacey.** This site offers a free text tool, a *Microsoft Word* template which contains sets of macros that can make simple but very useful changes to texts in order to create word-processing exercises, e.g. removing spaces, removing vowels, word-jumbling, sentence jumbling, breaking sentences in half, etc. See the [Using Teacher's Pet tutorial by Joe Dale](http://www.cilt.org.uk/secondary/14-19/training_zone/using_teachers_pet.aspx) at the **CILT** website.
2. Vance Stevens: *Language learning techniques implemented through word-processing: grammar-based exercise templates for becoming proficient with word-processing*. Available at:<http://www.vancestevens.com/wordproc.htm>
3. [Hardisty & Windeatt (1989)](http://www.ict4lt.org/en/en_mod1-3.htm#hardisty): An old printed publication, but the ideas are still good.

**6.4 Discussion topics**

1. Have you used a grammar and style checker? If so, in what ways have you found it (a) useful, (b) unsatisfactory?
2. Have you used a thesaurus? If so, in what ways have you found it (a) useful, (b) unsatisfactory?
3. Which of the ideas suggested at the websites listed in Section 6.3 do you find most appealing - and why?
4. Have you used a word-processor in the languages classroom in any other interesting ways? Tell us about it!

**7. Using PowerPoint**

*PowerPoint* is a popular **presentation software** application and is widely used by language teachers. Presentation software was designed originally with business and academic presentations in mind as an alternative to the overhead projector, for example to present lists of keywords and bullet points to accompany a promotional presentation or a lecture. Modern versions of *PowerPoint* can do much more than this. In the modern languages classroom, *PowerPoint* can be used effectively to present a variety of aspects of a new language, e.g. dialogues, grammar, vocabulary, and as a stimulus for group exercises and activities, with enhancements such as animated text on screen, pictures and audio and.video clips. See [Section 8](http://www.ict4lt.org/en/en_mod1-3.htm#anchor33015) (below) and thistutorial on [Embedding YouTube Video into PowerPoint 2007](http://www.youtube.com/watch?v=hChq5drjQl4) .

Learning how to use *PowerPoint* is not very difficult. The skills you need are very similar to those needed for word-processing: see [Section 1.2](http://www.ict4lt.org/en/en_mod1-3.htm#1.2). Materials that you have already created with a word-processor can be copied and pasted into *PowerPoint*. If you are new to *PowerPoint* have a look at the [PowerPoint Tutorials](http://www.internet4classrooms.com/on-line_powerpoint.htm) at the **Internet4Classrooms** website. See our "can do" list for *PowerPoint*to check your progress: [ICT\_Can\_Do\_Lists](http://www.ict4lt.org/en/ICT_Can_Do_Lists.doc).

If you are putting together a new *PowerPoint* presentation, start with *Word*. Using the **Outline** facility in *Word*(which is accessible view the **View** menu) type all your main headings and subheadings and then send them to *PowerPoint*. The Outline facility will help you get the content and structure right, and then you can add in all the glitzy presentation features afterwards. The **Internet4Classrooms**tutorial explains how to do it: [Sending a Word Outline to PowerPoint](http://www.internet4classrooms.com/powerpoint_outline.htm).

Bear in mind that there is a danger of over-using or misusing *PowerPoint*. Use Google to search the Web for the phase "Death by *PowerPoint*" and you will find numerous references to *PowerPoint*presentations that are as exciting as counting sheep. Too many lessons delivered with *PowerPoint* are one-way presentations that lack interaction and look more like a corporate board meeting, complete with endless slides full of bullet points. "Click and talk" has replaced "chalk and talk".

See this amusing video on YouTube by Don McMillan, which illustrates some common mistakes in *PowerPoint* presentations: [Life After Death by PowerPoint](http://www.youtube.com/watch?v=lpvgfmEU2Ck)

*PowerPoint* can be particularly effective when used for whole-class teaching, especiallywith an **interactive whiteboard (IWB)**. See: [Section 4, Module 1.4](http://www.ict4lt.org/en/en_mod1-4.htm#iwbs), headed *Whole-class teaching and interactive whiteboards*, where you will find a list of resources suitable for use on an interactive whiteboard or a computer linked to a standard projection screen.

**Two more ideas:**

Graham Davies writes:

* **Introducing an exotic language:** In my training sessions for teachers I use a *PowerPoint* presentation including pictures and sound to introduce a language that the trainees are unlikely to have learned before, e.g. Hungarian. This puts them in the position of a complete beginner, which helps them to judge the effectiveness of such a presentation. Most people can't even recognise what language it is when I begin the session by playing the sound files without any text on screen. Then I use a clickable map of the country - with sound files - to introduce place names, and clickable text on screen - again with sound files - to present dialogues spoken by native speakers. The meaningless gabble of sounds that the trainees hear and the strange clusters of letters on screen remind them of what it's like to be an 11-year-old beginning a new language. This presentation works well with a laptop connected to a data projector or with a fixed interactive whiteboard. The feedback I usually receive is that, although the teachers find the presentation stimulating, they have reservations about how much of the material presented actually sinks in. It's an important observation: we live in an age that is obsessed with presentation, and young people have come to expect it, but learning a language is 90% practice following 10% presentation. Good presentation helps, but you learn a language mainly by "doing it".
* **Using moving text and colour to introduce points of grammar in French and German:** Here are a couple of ideas that date back to the early 1980s: (a) the French *CLEF* package and (b)*Camsoft German*. The*CLEF* package has lots of animated sequences, illustrating points of French grammar. Lessons 10 and 11 on agreement and position of adjectives include sequences in which an adjective drifts across to a noun, slotting into the correct position either in front of it or behind it. A feminine and/or plural ending is then added - if necessary - in a different colour. *Camsoft German* included sequences showing inverted word order in sentences beginning with a time phrase, and subordinate clause word order. Both sequences made use of animation, showing the verb wandering to different parts of the sentence. It made inverted and subordinate clause word order look easy - which it is once you understand the rules. There were also programs that illustrated the position of prefixes of separable verbs. The *Camsoft German* sequences were originally programmed in BASIC, but they would be quite easy to replicate using modern presentation tools such as*PowerPoint*. *CLEF* is still available from [Camsoft](http://www.camsoftpartners.co.uk/clef.htm) in a revamped Windows version. The idea of illustrating the rules of word order in German has recently been revived in the [German Grammar Visuals CD-ROM](http://www.goethe.de/ins/gb/lon/lhr/stu/ks3/en2376792.htm), produced by the Goethe-Institut London in collaboration with Oxford University Press.

It should be emphasised that it is more important to develop good presentation techniques for whole-class teaching with a computer rather than using techno-gimmicks. Besides *PowerPoint*, there are many software packages that can be used in both one-to-one mode and in whole-class teaching. For example, multimedia simulations such as *Who is Oscar Lake?* ( [Section 3.4.9, Module 2.2](http://www.ict4lt.org/en/en_mod2-2.htm#simul)). and text manipulation packages such as *Fun with Texts* ([Section 8, Module 1.4](http://www.ict4lt.org/en/en_mod1-4.htm#textmanip)) lend themselves to exploitation for whole-class teaching.

**8. Enhancing Word and PowerPoint documents with pictures and sound**

**Contents of Section 8**

* [8.1 Enhancing Word documents with pictures and sound](http://www.ict4lt.org/en/en_mod1-3.htm#8.1)
* [8.2 Enhancing PowerPoint documents with pictures and sound](http://www.ict4lt.org/en/en_mod1-3.htm#8.2)
* [8.3 Discussion topics](http://www.ict4lt.org/en/en_mod1-3.htm#8.3)

Adding pictures and sound to *Word* and *PowerPoint* documents can make them much more attractive. Sound, in particular, is a useful addition to a *Word* document or a *PowerPoint* presentation used in language teaching.

First, you have to collect together your pictures and sound clips. Pictures can be gathered from a variety of sources, e.g. from the Web, from a CD-ROM, or from your own collection of photographs. There are a number of **clipart libraries** on the Web. See Graham Davies's [Favourite Websites](http://www.camsoftpartners.co.uk/websites.htm#clipart) page under the heading **Clipart and image libraries**.

CD-ROMs containing copyright-free images can also be bought at a modest cost in most PC stores. But scanning in your own pictures, using a **flatbed scanner**, is a lot more fun: see [Section 1.3.3, Module 1.2](http://www.ict4lt.org/en/en_mod1-2.htm#scanner). The pictures can then be edited with a picture editing package such as [LView Pro](http://www.lview.com/) or [Corel's Paintshop Pro](http://www.corel.com/corel/).

Audio clips can also be found on the Web: see Graham Davies's [Favourite Websites](http://www.camsoftpartners.co.uk/websites.htm#audio) page under the heading [Audio Clips](http://www.camsoftpartners.co.uk/websites.htm#audio).

You can also make and edit your own audio recordings. This is not the daunting task that most language teachers imagine it to be. Most PCs come equipped with the necessary software to do it, e.g.**Windows Sound Recorder**, which is usually found in the **Windows Accessories** folder on your computer. A better (free) package for making and editing sound recordings is **Audacity**: see Section[2.2.3.3, Module 2.2](http://www.ict4lt.org/en/en_mod2-2.htm#sounded), headed *Sound recording and editing software*.

Note that there may be copyright restrictions on images and sound clips that you find on the Web. See our [General guidelines on copyright](http://www.ict4lt.org/en/en_copyright.htm).

**8.1 Enhancing Word documents with pictures and sound**

It is assumed that you know the basics of creating a *Microsoft Word* document. The following procedure is common to most recent versions of *Microsoft Word*.

Start a new document and type in some text.

First, insert a picture into the document:

* On the **Main Menu** bar, click on **Insert**
* Select **Picture**
* Select **From File**
* Browse to the directory containing your picture files
* Select the required picture file, e.g. **picture.jpg**
* Click on the **Insert** button
* The picture will appear and it can now be positioned in the Word document

On the **Main Menu** bar, click on **Insert**

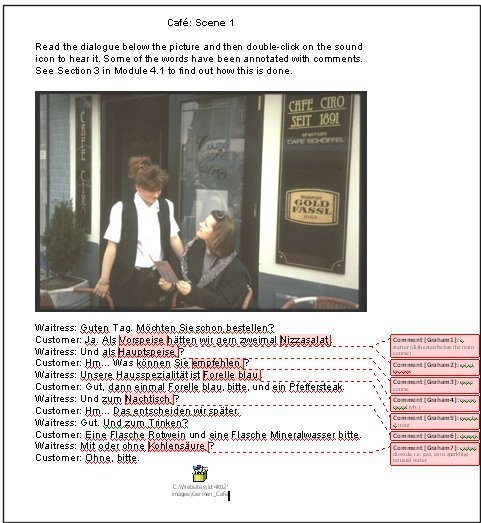
* Select **Object**
* Select **Create from File**
* Browse to the directory containing your sound files
* Select the required sound file, e.g. **hello.wav**
* Ff the file is for your personal use or for others who have access to the original sound clip in the source file insert the sound clip as a linked object by clicking the **Link to file** checkbox. But inserting the sound clip as a linked object may prevent your recipients from being able to listen to it, so think twice about clicking this checkbox.
* Select the **Display as icon** checkbox if you want to insert an icon that represents the contents of the item. If you don't like *Word*'s default icon, click the **Change Icon** button to find and select a more suitable option.
* Click on the **OK** button

A sound clip icon will appear and it can now be positioned in the *Word* document

Save the document in the usual way – but remember it will be quite large now as it contains a picture and a sound file. Re-open the document, and you will find that the picture appears automatically. Double-clicking on the sound clip icon will cause the sound file to be played.

A demonstration downloadable *Word* document containing a picture, the text of a dialogue (with selected annotated words) and a sound file can be downloaded by clicking here: [Cafe.doc](http://www.ict4lt.org/en/Cafe.doc)

If you are wondering how we created the comment notes relating to the vocab in this document, see [Section 3, Module 4.1](http://www.ict4lt.org/en/en_mod4-1.htm#mark), headed *Using a word-processor for marking and giving feedback*. This describes how it is done and how to use comment notes in correcting students' work that has been submitted in *Word* format.



*Screenshot: Electronic Worksheet*

*Word* offers considerable possibilities for producing handouts and electronic worksheets along the lines of the above document. The text, sound file and picture in the above document are both taken from the TELL Consortium *German Encounters* CD-ROM.

**8.2 Enhancing PowerPoint documents with pictures and sound**

Enhancing a *PowerPoint*presentation with pictures and sound is also fairly straightforward. The method is similar to that described for *Microsoft Word* ([Section 8.1](http://www.ict4lt.org/en/en_mod1-3.htm#8.1), above). It is assumed that you know the basics of creating a *PowerPoint* document. The following procedure is common to most recent versions of *PowerPoint*.

Start a new *PowerPoint* presentation and create a single slide. Type in some text.

First, insert a picture onto the slide:

* On the **Main Menu**bar, click on **Insert**
* Select **Picture**
* Select **From File**
* Browse to the directory containing your picture files
* Select the required picture file, e.g. **picture.jpg**
* Click on the **Insert** button

The picture will appear on the slide and it can now positioned anywhere on the slide

Now insert a sound file onto the slide:

* On the **Main Menu** bar, click on **Insert**
* Select **Movies and Sounds**
* Select **Sound from File**
* Browse to the directory containing your sound files
* Select the required sound file, e.g. **hello.wav**
* Click on the **OK** button

A speaker icon will appear and it can now be positioned anywhere on the slide.

Save the document in the usual way. Re-open the document and run the slide show. You will find that the picture appears automatically. Clicking on the speaker icon will cause the sound file to be played.

**8.3 Discussion topics**

1. How would you use *Word* documents enhanced with pictures and sounds?
2. How would you use *PowerPoint* documents enhanced with pictures and sounds? Check out the following website at the USF College of Arts and Sciences for a few ideas. See especially the section on Animated Grammar: <http://webgerman.com/german/>

**Llanfair PG**

This is how you break up the long Welsh place name in [Section 3.1](http://www.ict4lt.org/en/en_mod1-3.htm#3.1):

Llan-fair-pwll-gwyn-gyll-go-ger-y-chwyrn-drobwll-llan-tysiliog-ogo-goch

meaning...

The church of St Mary, in the valley of the white hazel (trees), near the rapid whirlpool, near the red cave of the church of St Tysilio

llan = church or (here) Saint  
fair = Mary (mutation of Mair: Saint's name)   
pwll = valley, hollow   
gwyn = white   
gyll = hazel (mutation of cyll)   
go = about, (almost) at   
ger = nearby   
y = the (often omitted)   
chwyrn = rapid   
drobwll = whirlpool (mutation of trobwll)   
llan = church or (here) Saint   
tysilio(g) = of Tysilio (Saint's name)   
ogof = cave (f is dropped at the end)   
goch = red (mutation of coch)

Note: Mutations of the initial letters occur in all Celtic languages, subject to a set of rules which are too lengthy to explain here.

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**Feedback**

If you wish to send us feedback on any aspect of the ICT4LT website, use our online [Feedback Form](http://www.camsoft.force9.co.uk/custard.htm) or visit the [ICT4LT blog](http://ictforlanguageteachers.blogspot.com/).

The Feedback Form and a link to the ICT4LT blog can be found at the bottom of every page at the ICT4LT site.

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[**[](http://www.ict4lt.org/index.htm)**](http://www.ict4lt.org/index.htm)**ICT4LT Module 1.4**

**Introduction to Computer Assisted Language Learning (CALL)**

**Contents**

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**Aims**

This module aims to familiarise the student with the basics of Computer Assisted Language Learning (CALL), beginning with a descrption of what CALL is all about, its historical development and an overview of different types of programs. Different approaches to using CALL software in the languages classroom are explored, from whole-class teaching to distance learning. [Section 8](http://www.ict4lt.org/en/en_mod1-4.htm#textmanip), by Sue Hewer, focuses on **text manipulation**, a specific use of CALL that has proved popular with language teachers since it first appeared in the early 1980s. Multimedia CALL is only referred to occasionally in this module as it merits special treatment and is covered in detail in [Module 2.2](http://www.ict4lt.org/en/en_mod2-2.htm), *Introduction to multimedia CALL*.

This Web page is designed to be read from the printed page. Use **File / Print** in your browser to produce a printed copy. After you have digested the contents of the printed copy, come back to the onscreen version to follow up the hyperlinks.

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  + [Section 2. History of CALL](http://www.ict4lt.org/en/en_mod1-4.htm#historyofcall)
  + [Section 3. CALL typology, phases of CALL, CALL software evaluation](http://www.ict4lt.org/en/en_mod1-4.htm#typology)
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  + [Section 8. Text manipulation](http://www.ict4lt.org/en/en_mod1-4.htm#textmanip)

**1. What is CALL?**

**Contents of Section 1**

* [1.1 Introduction](http://www.ict4lt.org/en/en_mod1-4.htm#introsection1)
* [1.2 Interactivity](http://www.ict4lt.org/en/en_mod1-4.htm#interactivity)

**1.1 Introduction**

The acronym **CALL** **(Computer Assisted Language Learning)**appears to have been coined at the beginning of the 1980s. The first occurrence we have found is in [(Davies & Steel 1981)](http://www.ict4lt.org/en/en_mod1-4.htm#daviessteel1981). By 1982 it was in widespread use in the UK, featuring in the title of [Issue No. 1](http://www.ict4lt.org/en/Callboard01.pdf) (July 1982) of the newsletter [CALLBOARD](http://www.ict4lt.org/en/en_mod1-4.htm#callboard) and in [Davies & Higgins (1982)](http://www.ict4lt.org/en/en_mod1-4.htm#davieshiggins1982). In the USA the acronym **CALI (Computer Assisted Language Instruction)** was initally preferred, appearing in the name of [CALICO](http://www.ict4lt.org/en/en_mod1-4.htm#calico) (founded in 1982), the oldest professional association devoted to the promotion of the use of computers in language learning and teaching. TESOL favoured CALL, setting up its [CALL Interest Section (CALL-IS)](http://www.ict4lt.org/en/en_mod1-4.htm#callis) in 1983 [(Kenner 1996)](http://www.ict4lt.org/en/en_mod1-4.htm#kenner). The term CALI then appears to have fallen out of favour because of its association with programmed learning, i.e. a teacher-centred rather than a learner-centred approach that drew heavily on behaviourism, and CALL is now the dominant term. CALICO now uses the term CALL in preference top CALI.

An alternative term to CALL emerged in the 1980s, namely **Technology Enhanced Language Learning (TELL)**, which was felt to provide a more accurate description of the activities which fall broadly within the range of CALL. [Brown (1988:6)](http://www.ict4lt.org/en/en_mod1-4.htm#brown) writes:

Learning a foreign language can enrich the education of every pupil socially and intellectually and be vocationally relevant. The new technology should form an integral part of a modern language department's overall teaching strategy. By these means, to coin a communicative-sounding acronym, TELL (Technology Enhanced Language Learning) can help produce telling results in language performance both in school and in the wider world. It therefore has a place in every modern language department.

During the 1990s TELL was adopted by the **TELL Consortium** (now defunct), University of Hull, and it figured in the name of the journal of **CALL-Austria**, *TELL&CALL* (now defunct). See also[Bush & Terry (1997)](http://www.ict4lt.org/en/en_mod1-4.htm#bushterry).

Throughout the 1980s CALL moved away from its initial leanings towards behaviourism and drill-and-practice, widening its scope to embrace the communicative approach and a range of new technologies. CALL now includes highly interactive and communicative support for listening, speaking, reading and writing. [Levy (1997:1)](http://www.ict4lt.org/en/en_mod1-4.htm#levy97) provides the following succinct definition of CALL:

Computer Assisted Language Learning (CALL) may be defined as "the search for and study of applications of the computer in language teaching and learning".

This is a catch-all definition, which is endorsed by and figures in the names of the growing number of for CALL throughout the world: see our [Resource Centre](http://www.ict4lt.org/en/en_resource.htm) under the heading [Professional associations](http://www.ict4lt.org/en/en_resource.htm#profassocs). It is, however, useful to break down CALL into various subdivisions, and this is reflected in the structure of the ICT4LT website. See [Levy & Hubbard (2005)](http://www.ict4lt.org/en/en_mod1-4.htm#levyhubbard), who raise the question *Why call CALL “CALL”?*

See also:

* The [Wikipedia article on CALL](http://en.wikipedia.org/wiki/Computer_assisted_language_learning), which is broken down into sections describing different manifestations of CALL.
* [Scoop.it!](http://www.scoop.it/)is a useful curation tool that enables you to set up Web pages that gather together links on a specific topic and follow other people's links on the same or related topics. Scoop.it provides a facility for you to "curate" information on your topics by trawling the Web and finding links that you may wish to add to your topic pages. The links are laid out attractively like the page of a magazine. Two of the topics covered are [Computer Assisted Language Learning](http://www.scoop.it/t/computer-assisted-language-learning) and [Virtual World Language Learning](http://www.scoop.it/t/virtual-world-language-learning).

CALL encompasses many different types of software applications. The applications tend to fall into two distinct types:

**(i) Generic software applications**

Generic software applications are designed for general use but they are extremely useful in language teaching when used in activities which seek to apply aspects of the functionality of the software to language learning situations. For example, the use of a word-processor to encourage drafting, critical reflection and editing is an excellent use of generic software to further a number of language learning objectives. Generic software applications include:

* **Word-processors:**See [Module 1.3](http://www.ict4lt.org/en/en_mod1-3.htm), *Using word-processing and presentation software in the Modern Foreign Languages classroom*.
* **Presentation software**: See [Section 7, Module 1.3](http://www.ict4lt.org/en/en_mod1-3.htm#ppwc), headed *Using PowerPoint*.
* **Computer Mediated Communication (CMC) applications**: see [Section 14, Module 1.5](http://www.ict4lt.org/en/en_mod1-5.htm#compmedcomm).
* **Web browsers and Web 2.0 applications**: see [Module 1.5](http://www.ict4lt.org/en/en_mod1-5.htm) and [Module 2.3](http://www.ict4lt.org/en/en_mod2-3.htm), both of which focus on using the Web in language learning and teaching.

The term **Generic CALL** describes **authoring packages** designed to cover all aspects of CALL program authoring and interaction, from simple gap-filling and multiple-choice exercises to exercises incorporating interactive multimedia, e.g. the **MALTED** authoring package as described by Paul Bangs in [Module 2.5](http://www.ict4lt.org/en/en_mod2-5.htm), *Introduction to CALL authoring programs*.

(ii)**CALL software applications**

CALL software applications are designed to promote explicit or implied language learning objectives and are usually based on the software authors' beliefs about the ways in which students learn languages. They offer support in the acquisition of knowledge about language and in the application of that knowledge both in discrete and in mixed skill activities. They usually include a substantial degree of **interactivity**: see [Section 2](http://www.ict4lt.org/en/en_mod1-4.htm#interactivity) (below).

CALL software can be **content-specific**in that the teacher cannot change the linguistic content or the format of the activities which seek to teach that content. Commercial **multimedia software**supplied on CD-ROM is usually content-specific because it is normally impossible to make any changes to it: see [Module 2.2](http://www.ict4lt.org/en/en_mod2-2.htm), *Introduction to mutimedia CALL*.

CALL software applications can also be **content-free** in that the teacher can provide the content which the software then uses as data for the pre-programmed activities: see [Module 2.5](http://www.ict4lt.org/en/en_mod2-5.htm), *Introduction to CALL authoring programs*.

Many people expect far too much of CALL, perceiving it as a replacement for the teacher. The following description of an imaginary scenario was written as an illustration of how some business training managers perceived CALL in the early 1990s:

A business trainee is sitting at a computer following a language course. Step-by-step, the computer presents the essential vocabulary and structures. These are accompanied, where appropriate, by still and animated graphic images, photographs and video recordings. As new words and phrases are introduced, authentic male and female voices pronounce them and the learner repeats them. The learner's voice is recorded by the computer and played back. Any errors in pronunciation are indicated graphically on screen. Offending syllables are highlighted and additional practice is offered on sounds which the learner finds difficult. At the end of each presentation sequence, the computer tests the learner's grasp of the new vocabulary and structures, marking and recording those words and phrases which have been imperfectly recalled and offering feedback on points of grammar that the learner appears to have misunderstood. The learner has access at all times to an online dictionary, a reference grammar and verb conjugation tables. At the end of the work session the learner's progress is recorded by the computer, which enables the thread to be picked up at the next session. In addition, the learner's progress records - along with those of all the other trainees following the same course - can be accessed at any time by the training manager. [Davies (1992:113)](http://www.ict4lt.org/en/en_mod1-4.htm#davies92)

To some people this is utopia, to others it is a nightmare. An integrated system of this level of sophistication still does not exist, many years after the above text was written. There are, however, many programs that will do independently what is described above, and these are briefly described in [Section 3](http://www.ict4lt.org/en/en_mod1-4.htm#typology), below. Thankfully, human beings still have a role to play in language teaching and learning, although some administrators would like to dispense with them in order to save money: see the section headed "Beware of the administrator" in [Davies (1997:29-30)](http://www.ict4lt.org/en/en_mod1-4.htm#lessons). Technology has to be treated as an*aid* and not as a panacea ([Davies 1997:29](http://www.ict4lt.org/en/en_mod1-4.htm#lessons)). It is no accident that we talk about Computer *Assisted* Language Learning.

**1.2 Interactivity**

The term **interactivity** in the context of CALL has traditionally been associated with human-computer interaction - the stimulus / response / feedback paradigm - involving the use of a range of stimuli (text, images, audio or video), learner responses using a range of input devices (keyboard, mouse, touch screen or speech) and various types of feedback (text, images, audio or video). More recently the term interactivity has been "trivialised to simple menu selection, clickable objects or linear sequencing" [(Sims 1996:1)](http://www.ict4lt.org/en/en_mod1-4.htm#sims) and even to "passive" types of interactivity, such as interacting with a digital TV set by pressing the red button on a remote control device and pressing the number keys. And now we use the term **interactive** to describe the **interactive whiteboard**, where most of the interactivity is engendered by the teacher using the whiteboard as a stimulus in whole-class teaching: see [Section 4](http://www.ict4lt.org/en/en_mod1-4.htm#iwbs), headed *Whole-class teaching and interactive whiteboards*, and [Section 7, Module 1.3](http://www.ict4lt.org/en/en_mod1-3.htm#ppwc), headed*Using PowerPoint*. The whiteboard itself is *not* interactive; it's the software that it uses - and this may include traditional software embodying the stimulus / response / feedback paradigm mentioned above - or the way in which the teacher uses the whiteboard, e.g. getting the students to come out to the front of the class and make menu choices or using whiteboard presentations as a stimulus for oral and role-play activities.

In many respects it appears that interactivity is a "forgotten art" [(Sims 1996)](http://www.ict4lt.org/en/en_mod1-4.htm#sims), having been reduced to multiple-choice and point-and-click activities with little or no feedback apart from a bland "right" or "wrong" response. See:

* [Section 7.2, Module 1.1](http://www.ict4lt.org/en/en_mod1-1.htm#7.2), headed *Feedback*.
* [Section 8, Module 2.5](http://www.ict4lt.org/en/en_mod2-5.htm#feedback), *How to factor feedback into your authoring*

We appear to have moved away from full-blown interactivity in ICT and language learning, especially the so-called **ICALL (Intelligent Computer Assisted Language Learning)** types of activities in which the following kind of interaction could be found - an authentic example of **semi-intelligent matching** from a package called CLEF (first published in the late 1970s):

**Task:**The learner has to fill in the blank with the correct form of one of the following verbs: *chanter*, *parler*, *rйpondre*.

1. Computer stimulus: Paul et Marie ----- les chansons folkloriques.
2. Learner types "chantons".
3. Computer responds: Attention - la terminaison n'est pas correcte.
4. Learner makes a typing error, entering "chntent".
5. Computer responds: Regardez le radical du verbe. Il n'est pas correcte.
6. At this point the computer also opens up the learner's response to reveal the exact point where a letter has been omitted, thus   
   "ch-ntent", and invites the student to insert the correct letter with the command: Corrigez la rйponse".
7. Learner enters the letter "a" and the response is accepted by the computer as correct.

The learner can also, at any point in the above routine, hit a key that takes him/her to a help page where information about *-er* and *-re* verbs can be found. CLEF is still around in a Windows version:<http://www.camsoftpartners.co.uk/clef.htm>

Camsoft's **GapKit**and **Fun with Texts** programs also include basic **partial matching** routines. For example, Gapkit can be tailored to accept a range of alternative correct answers and is able to spot which one the learner is aiming at and then home in on possible spelling mistakes. In GapKit and in the **Clozewrite** activity in Fun with Texts, the computer automatically shows the shape of the anticipated answer if the learner makes a mistake on the first attempt and highlights the error or errors. Thus, if the anticipated correct answer is "der Sessel" and the learner answers "das Sessal", the computer will indicate that the answer is partially right and show the shape "d-- Sess-l", inviting the learner to supply the correct letters. Both programs can be tailored by the teacher to be tolerant or intolerant of mistakes made regarding upper case and lower case letters.

ICALL is beginning to make a comeback. See:

* [Section 6, Module 3.5](http://www.ict4lt.org/en/en_mod3-5.htm#hlt_call), headed *Human Languages Technologies (HLT) and CALL*
* [Section 7, Module 3.5](http://www.ict4lt.org/en/en_mod3-5.htm#linguist), headed *Linguistics and CALL*

**2. History of CALL**

Using computers in language learning is, contrary to popular opinion, not a new phenomenon. It dates back to the early 1960s, although it was confined in those days mainly to universities with prestigious computer science departments. By the early 1980s, however, CALL was in evidence in a large number of schools in the UK and the rest of Europe - and, of course, in the USA and Canada.

A potted history of the early years of CALL can be found in [Levy (1997:13-46)](http://www.ict4lt.org/en/en_mod1-4.htm#levy97). [Sanders (1995)](http://www.ict4lt.org/en/en_mod1-4.htm#sanders) contains a collection of anecdotal articles written by pioneers in CALL covering the period 1965-1995.[Davies (1997 - updated 2009)](http://www.ict4lt.org/en/en_mod1-4.htm#lessons) covers the period 1976-1996, reflecting on his personal experiences, and he reminds us that there are many lessons that we can learn from the past that might help us avoid mistakes in the future.The updates in Davies's article highlight some of the major and often unexpected changes that have taken place in the meantime. Two more articles, [Davies (2003)](http://www.ict4lt.org/en/en_mod1-4.htm#daviesnesta) and [Davies (2005 - regularly revised)](http://www.ict4lt.org/en/en_mod1-4.htm#daviesucall), take another a look at the history of CALL and attempt to predict where it is heading. See also [Davies (2000 - regularly revised)](http://www.ict4lt.org/en/en_mod1-4.htm#davies2000), on the History of EUROCALL, [Davies (2010)](http://www.ict4lt.org/en/en_mod1-4.htm#davies2010), [Jung (2005)](http://www.ict4lt.org/en/en_mod1-4.htm#jung2005) and [Butler-Pascoe (2011)](http://www.ict4lt.org/en/en_mod1-4.htm#butlerpascoe).

Philippe Delcloque's [History of CALL (2000)](http://www.ict4lt.org/en/en_mod1-4.htm#delcloque) began as a poster exhibition that was produced to mark the beginning of the new millennium. The exhibition was set up at the CALICO 2000 and EUROCALL 2000 conferences, where it attracted great deal of interest. It was also set up as a website (now closed) and is currently available in downloadable PDF format from the ICT4LT website:<http://www.ict4lt.org/en/History_of_CALL.pdf>. Updates to cover the period from 2000 to the present day are being integrated into the ICT4LT site in appropriate places - see below. The ICT4LT site as a whole is regularly updated. New terms are regularly added to the [Glossary](http://www.ict4lt.org/en/en_glossary.htm), which also serves as an index to the ICT4LT site, and references to new books and articles are regularly added to the**Bibliography** section of the [Resource Centre](http://www.ict4lt.org/en/en_resource.htm). Topics that were not covered in Philippe Delcloque's *History of CALL* include:

* **Blogs, wikis, social networking:** See [Section 12, Module 1.5](http://www.ict4lt.org/en/en_mod1-5.htm#anchordiscuss), headed *Discussion lists, blogs, wikis, social networking*. The**ICT4LT blog** is at: [http://ictforlanguageteachers.blogspot.com](http://ictforlanguageteachers.blogspot.com/). The personal wiki of **Graham Davies**, Editor of the ICT4LT site, is at: [http://grahamdavies.wikispaces.com](http://grahamdavies.wikispaces.com/)
* **Podcasting:**See [Section 3.5.2, Module 2.3](http://www.ict4lt.org/en/en_mod2-3.htm#podcast) for further information on podcasting.
* **Web 2.0:** Contrary to what many people think, Web 2.0 is not a new version of the World Wide Web. Essentially, Web 2.0 is an attempt to redefine what the Web is all about and how it is used, for example new Web-Based communities using **wikis**, **blogs**, **podcasts** and **social networking** websites that promote collaboration and sharing between users - in other words, a more*democratic* approach to the use of the Web. See [Section 2.1, Module 1.5](http://www.ict4lt.org/en/en_mod1-5.htm#WEB2), headed *What is Web 2.0?*
* **Distance Learning, Virtual Learning Environments**: See [Section 8, Module 1.5](http://www.ict4lt.org/en/en_mod1-5.htm#vlesetc), headed *Distance learning and the Web: VLEs, MLEs etc*.
* **Virtual Worlds:**A huge and fascinating growth area. [Section 14.2.1, Module 1.5](http://www.ict4lt.org/en/en_mod1-5.htm#secondlife) on **Second Life** is the fastest-growing section of the ICT4LT site.
* **Interactive whiteboards:** See:
  + [Section 4](http://www.ict4lt.org/en/en_mod1-4.htm#iwbs) (below), headed *Whole-class teaching and interactive whiteboards*.
  + [Section 7, Module 1.3](http://www.ict4lt.org/en/en_mod1-3.htm#ppwc), headed *Using PowerPoint*.

See also [Hubbard (2009)](http://www.ict4lt.org/en/en_mod1-4.htm#hubbard09), a comprehensive compilation of articles by CALL experts from all over the world.

**3. CALL typology, phases of CALL, CALL software evaluation**

**Contents of Section 3**

* [3.1 Davies & Higgins (1985)](http://www.ict4lt.org/en/en_mod1-4.htm#daviesandhiggins)
* [3.2 Jones & Fortescue (1987)](http://www.ict4lt.org/en/en_mod1-4.htm#jonesand)
* [3.3 Hardisty & Windeatt (1989)](http://www.ict4lt.org/en/en_mod1-4.htm#hardisty33)
* [3.4 Warschauer (1996), Warschauer & Healey (1998)](http://www.ict4lt.org/en/en_mod1-4.htm#warschauer)
* [3.5 Levy (1997)](http://www.ict4lt.org/en/en_mod1-4.htm#levyhist)
* [3.6 Bax (2003)](http://www.ict4lt.org/en/en_mod1-4.htm#baxsystem)
* [3.7 Davies: Plus ça change...?](http://www.ict4lt.org/en/en_mod1-4.htm#plus)
* [3.8 Evaluating CALL software](http://www.ict4lt.org/en/en_mod1-4.htm#eval)
* [3.9 Discussion topics](http://www.ict4lt.org/en/en_mod1-4.htm#behavauth)

When CALL began to reach a wider audience in the 1980s, a number of efforts were made to classify CALL programs and to identify the changing phases of CALL. Sections 3.1 to 3.6 outline six different attempts to classify CALL programs, phases of CALL and approaches to CALL. Section 3.7 (written by Graham Davies) discusses what has changed and what may have been lost since the early days of CALL. Section 3.8 outlines what you should look for in evaluating CALL software. Section 3.9 raises two discussion topics.

**3.1 Davies & Higgins (1985)**

[Davies & Higgins (1985](http://www.ict4lt.org/en/en_mod1-4.htm#davieshiggins1985)) identified the following types of CALL programs:

* Gap-filling exercises: **GapKit** (Camsoft), **Gapmaster** (Wida)
* Multiple-choice exercises: **Choicemaster** (Wida)
* Free-format exercises: **CLEF** (Camsoft), **Testmaster** (Wida)
* Tutorial programs: **CLEF** (Camsoft)
* Re-ordering: **Word Sequencing** (ESM and Camsoft), **Textsalad** (Camsoft)
* Simulations: **Granville** (Cambridge University Press), the **Montevidisco** interactive videodisc ([Schneider & Bennion 1984](http://www.ict4lt.org/en/en_mod1-4.htm#schneider))
* Text mazes (also known as action mazes): **Mazes** (NCCALL, adapted from [Berer & Rinvolucri 1981](http://www.ict4lt.org/en/en_mod1-4.htm#mazes))
* Adventures: **French on the Run** (Gabriel Jacobs, Silversoft)
* Games: **Vocab** (Wida)
* Cloze: **Clozewrite** (Camsoft), **Clozemaster** (Wida)
* Text manipulation: **Fun with Texts** (Camsoft), **Storyboard** (Wida)
* Exploratory programs: **S-Ending** (v. [Higgins & Johns 1984:71ff.](http://www.ict4lt.org/en/en_mod1-4.htm#higginsjohns))
* Writing - word-processing

**3.2 Jones & Fortescue (1987)**

This is the list of types of CALL programs identified by [Jones & Fortescue (1987](http://www.ict4lt.org/en/en_mod1-4.htm#jonesf)):

* Grammar: **Matchmaster**, **Choicemaster**, **Testmaster** (Wida)
* Vocabulary: **Vocab** (Wida)
* Reading skills: **Storyboard** (Wida)
* Authoring programs: **The Authoring Suite** (Wida)
* Writing - word-processing
* Oral skills - using simulations and adventures as a stimulus: **London Adventure** (Cambridge University Press) & **Yellow River Kingdom**
* Listening skills: **Getting the Message** interactive videodisc (Glyn Jones, Eurocentres)
* Information source: **Wordstore** (Wida)
* Discovery and exploration: **Loan** (v. [Higgins & Johns 1984:73f.](http://www.ict4lt.org/en/en_mod1-4.htm#higginsjohns))

**3.3 Hardisty & Windeatt (1989)**

[Hardisty & Windeatt (1989](http://www.ict4lt.org/en/en_mod1-4.htm#hardisty)) drew up this simpler classification of four basic types of CALL programs:

* **School** programs: exercises involving gap-filling, multiple-choice, sequencing, matching, total text reconstruction.
* **Office** programs: word-processing, database, DTP, communications, spreadsheets.
* **Library** programs: concordancers - and they would probably have included the Web if it had been around at the time.
* **Home** programs: adventures and simulations.

**3.4 Warschauer (1996), Warschauer & Healey (1998)**

[Warschauer (1996)](http://www.ict4lt.org/en/en_mod1-4.htm#warschauertext) and [Warschauer & Healey (1998)](http://www.ict4lt.org/en/en_mod1-4.htm#warhealey) took a different approach, identifying **three** **phases of CALL**, classified according to their underlying pedagogical and methodological approaches:

1. **Behaviouristic CALL:** In this phase, which was conceived in the 1950s and implemented in the 1960s and 1970s, the computer played the role of **tutor**, serving mainly as a vehicle for delivering instructional materials to the learner. Drill-and-practice programs were a prominent feature of this phase.
2. **Communicative CALL:** In this phase, which became prominent in the 1970s and 1980s, the computer continued to be used as a vehicle for practising language skills, but in a non-drill format and with a greater degree of student choice, control and interaction. This phase included:
   1. Using the computer to stimulate discussion, writing and critical thinking, e.g. using **simulations** such as *Sim City*. See [Section 3.4.2, Module 2.1](http://www.ict4lt.org/en/en_mod2-1.htm#sec3.4.2) on task-based learning in small groups, and also the following works:
      * [Jones C. (1986)](http://www.ict4lt.org/en/en_mod1-4.htm#jones86)
      * [Jones G. (1986)](http://www.ict4lt.org/en/en_mod1-4.htm#jonesg86)
      * [Piper (1986)](http://www.ict4lt.org/en/en_mod1-4.htm#pipe)
      * [Davies (1988)](http://www.ict4lt.org/en/en_mod1-4.htm#davies88)
      * [Evans (1996)](http://www.ict4lt.org/en/en_mod1-4.htm#evans)
   2. Using the computer as a **tool or workhorse**, e.g. using word-processors, spellcheckers and grammar checkers. See [Module 1.3](http://www.ict4lt.org/en/en_mod1-3.htm), *Using word-processing and presentation software in the Modern Foreign Languages Classroom*.
   3. Using **concordancers**. See [Module 2.4](http://www.ict4lt.org/en/en_mod2-4.htm), *Using concordance programs in the Modern Foreign Languages classroom*.
3. **Integrative CALL**: This phase was marked by the introduction of two important innovations:
   1. **Multimedia**: Multimedia CALL began to make an impact in the late 1980s and was well established by the mid-1990s. The introduction of multimedia CALL meant that reading, writing, speaking and listening could be combined in a single activity, with the learner exercising a high degree of control over the path that he/she follows through the learning materials. See [Module 2.2](http://www.ict4lt.org/en/en_mod2-2.htm), *Introduction to multimedia CALL*.
   2. **The Internet.** The earliest public manifestation of the Internet was in the 1970s, but it did not make a significant impact on CALL until the arrival of the **World Wide Web** in 1993. The Internet, especially the Web (which is a subset of the Internet), brought numerous advantages, building on multimedia technology and in addition enabling both asynchronous and synchronous communication between learners and teachers. A range of new tasks became possible, e.g. Web searches, Web concordancing, and collaborative writing. See [Module 1.5](http://www.ict4lt.org/en/en_mod1-5.htm), *Introduction to the Internet*, and [Module 2.3](http://www.ict4lt.org/en/en_mod2-3.htm), *Exploiting World Wide Web resources online and offline*.

As pointed out by [Bax (2003:15)](http://www.ict4lt.org/en/en_mod1-4.htm#bax), Warschauer later changed the names and dates of these phases: (i) **Structural CALL** replaces **Behaviouristic CALL** and moves forward to the 1970s-1980s, (ii)**Communicative CALL** moves forward to the 1980-1990s, and (iii) **Integrative CALL** moves forward to the 21st century: [Warschauer (2000)](http://www.ict4lt.org/en/en_mod1-4.htm#warschauer2000).

On the whole, Warschauer's later interpretation of these three phases is in line with the way in which the author (Graham Davies) of this section sees the history of CALL. The term **behaviouristic** is a reasonable description of CALL in the late 1970s, early 1980s, and the **communicative** **approach**, spurred on by the Council of Europe's work on the [Common European Framework of Reference for Languages](http://www.ict4lt.org/en/en_mod1-4.htm#cef), with its emphasis on functions, notions and communicative competence, had already become the norm for many language teachers by the early 1980s. In 1996 Warschauer claimed that we were well into the **integrative** **phase**. Certainly, the range of different types of multimedia CALL software that was available by the mid-1990s was impressive, and the Web had begun to make a significant impact.

**3.5 Levy (1997)**

[Levy (1997:118ff.)](http://www.ict4lt.org/en/en_mod1-4.htm#levy97) analysed the results of a comprehensive CALL Survey which he carried out among authors of CALL materials in order to determine what kinds of conceptual frameworks lay behind their work. The CALL Survey was concluded in early 1991, which followed the boom period in CALL in the 1980s and pre-dated the advent of the Web in 1993. There was strong support among Levy's respondents for the **communicative approach** to language teaching and task-based learning, but a substantial number also favoured **formal grammar instruction**. On the whole, however, most respondents declared their approach to be **eclectic**. As for the role of the computer in CALL, most respondents favoured a non-directive role, with very few supporting the idea of the computer replacing the teacher. There was a significant lack of references to innovative pedagogical approaches:

Data Driven Learning was the only new approach to language teaching that was cited by survey respondents as a direct result of the attributes of the computer. In other words, this approach has been conceived with the computer in mind. ([Levy 1997:123](http://www.ict4lt.org/en/en_mod1-4.htm#levy97))

**Data Driven Learning (DDL)**is an approach to language learning, pioneered by the late Tim Johns, University of Birmingham, whereby the learner gains insights into the language that he/she is learning by using **concordance programs** to locate authentic examples of language in use. In DDL the learning process is no longer based solely on the teacher's initiative, his/her choice of topics and materials and the explicit teaching of rules, but on the learner's own discovery of rules, principles and patterns of usage in the foreign language. In other words, learning is driven by authentic language data. See [Module 2.4](http://www.ict4lt.org/en/en_mod2-4.htm) for more information on DDL and using concordance programs in the Modern Foreign Languages classroom..

Levy could also have mentioned **total Cloze** text reconstruction programs such as *Storyboard*, *Fun with Texts*, *Eclipse*, *Rhubarb* (and many other variants), which offered activities that could not be carried out without using a computer. See [Section 8.3](http://www.ict4lt.org/en/en_mod1-4.htm#8.3), headed *Total text reconstruction: total Cloze*.

**3.6 Bax (2003)**

[Bax (2003)](http://www.ict4lt.org/en/en_mod1-4.htm#bax) offered a new critical examination and reassessment of the history of CALL, defining and describing three **approaches** to CALL as opposed to the three **phases** of CALL identified by Warschauer (1996), Warschauer & Healey (1998) and their modified version as described by Warschauer in a later article (Warschauer 2000): see [Section 3.4](http://www.ict4lt.org/en/en_mod1-4.htm#warschauer) above. Bax saw the history of CALL in terms of (i) **Restricted** **CALL**, (ii) **Open** **CALL** and (iii) **Integrated** **CALL**, arguing that this allows a more detailed analysis of institutions and classrooms than earlier analyses. It is suggested that in 2003 we were using the second approach, **Open CALL**, but that the aim should be to attain a state of **normalisation** in which the technology is invisible and truly **integrated** into teachers' everyday practice.

**i. Restricted CALL**

I call the first approach 'Restricted CALL'. In terms of its historical period and its main features it differs little from Warschauer & Healey's 'Behaviourist CALL' […], but the term 'Restricted' is more satisfactory since it allows us to refer not only to a supposed underlying theory of learning but also to the actual software and activity types in use at the time, to the teacher's role, to the feedback offered to students and to other dimensions - all were relatively 'restricted', but not all were 'behaviourist'. The term is more comprehensive, more flexible and therefore more satisfactory as a descriptor. [(Bax 2003:20)](http://www.ict4lt.org/en/en_mod1-4.htm#bax)

**ii. Open CALL**

According to Bax, this variety of CALL is more open in terms of feedback given to students, software types and the role of the teacher. It includes simulations and games. Bax claims that in 2003 "we could argue that in general terms we are in an Open phase of CALL, but that each institution and classroom may also exhibit certain Restricted and even Integrated features." ([Bax 2003:23](http://www.ict4lt.org/en/en_mod1-4.htm#bax))

**iii. Integrated CALL**

At present (i.e. in 2003) Integrated CALL has not yet been achieved:

The key point about Integrated CALL - which sharply distinguishes it from Warschauer & Healey's formulation - is that it does not yet exist to any significant degree, but represents instead an aim towards which we should be working. [(Bax 2003:22)](http://www.ict4lt.org/en/en_mod1-4.htm#bax)

Integrated CALL implies **normalisation**:

This concept is relevant to any kind of technological innovation and refers to the stage when the technology becomes invisible, embedded in everyday practice and hence 'normalised'. To take some commonplace examples, a wristwatch, a pen, shoes, writing - these are all technologies which have become normalised to the extent that we hardly even recognise them as technologies.[(Bax 2003:24)](http://www.ict4lt.org/en/en_mod1-4.htm#bax)

In 2003 Bax claimed that there was still an element of fear and awe and exaggerated expectations surrounding ICT, and that this had to be overcome in order to achieve a state of normalisation.

See also [Bax & Chambers (2006)](http://www.ict4lt.org/en/en_mod1-4.htm#baxchambers) and [Bax (2011)](http://www.ict4lt.org/en/en_mod1-4.htm#bax2011), in which the topic of normalisation is revisited.

**3.7 Davies: Plus ça change...?**

What is interesting about the early program examples and types listed above the is that many of them are still available in updated versions and are as popular with the new generation of language teachers as they were with the old: "*Plus ça change, plus c'est la même chose*" [(Davies 1997:27)](http://www.ict4lt.org/en/en_mod1-4.htm#expo). Text manipulation in particular is alive and well and features prominently in this module ([Section 8](http://www.ict4lt.org/en/en_mod1-4.htm#textmanip) below).

It is also interesting to note that **generic applications**, e.g. word-processors (v. [Module 1.3](http://www.ict4lt.org/en/en_mod1-3.htm)), were perceived as useful way back in 1985 [(Davies & Higgins 1985:44)](http://www.ict4lt.org/en/en_mod1-4.htm#davieshiggins1985), and that as early as 1989 [Hardisty & Windeatt (1989)](http://www.ict4lt.org/en/en_mod1-4.htm#hardisty) were aware of the importance of communications technology (v. [Module 1.5](http://www.ict4lt.org/en/en_mod1-5.htm)) and using concordance programs in the languages classroom (v. [Module 2.4](http://www.ict4lt.org/en/en_mod2-4.htm)).

**Action mazes** (also known as **text mazes**) seem to have lost their appeal for some reason or other. This is a pity, as mazes are useful reading exercises and they can be especially stimulating for group work. Using modern authoring tools, writing a maze is a piece of cake. A package known as **Quandary** can be used for designing mazes. For more information on mazes see the Quandary website and the entry under **Maze** in the [ICT4LT Glossary](http://www.ict4lt.org/en/en_glossary.htm). See also [Berer & Rinvolucri (1981)](http://www.ict4lt.org/en/en_mod1-4.htm#mazes) for some good, printed examples of mazes. The Quandary website is at:<http://www.halfbakedsoftware.com/quandary.php>

* [Section 1.2, Module 2.2](http://www.ict4lt.org/en/en_mod2-2.htm#1.2), headed *A brief history of multimedia*
* [Section 3.4.9, Module 2.2](http://www.ict4lt.org/en/en_mod2-2.htm#simul), headed*A simulation on CD-ROM*
* [Section 5.10, Module 3.2](http://www.ict4lt.org/en/en_mod3-2.htm#branch), headed *Branching dialogues*

As CALL has moved on it appears that certain skills have been lost, e.g. the analysis of **free-format text input** that characterised the [CLEF](http://www.camsoftpartners.co.uk/clef.htm) package: [Holmes & Kidd (1981)](http://www.ict4lt.org/en/en_mod1-4.htm#holmeskidd) and [Holmes (1984:27ff.)](http://www.ict4lt.org/en/en_mod1-4.htm#holmes). While presentation features such as full-colour graphics, sound and video have improved in leaps and bounds there has been an increasing tendency to neglect features such as **discrete error analysis**,**feedback** and **branching**. The trend today seems to be towards a point-and-click-let's-move-on-quick approach. [Levy (1997:xi)](http://www.ict4lt.org/en/en_mod1-4.htm#levy97) sums it up:

I believe the CALL community needs to build upon what has gone before, rather than be led purely by the capabilities of the latest technological innovation. With the almost monthly appearance of new hardware and software there can be a tendency for those interested in CALL materials development simply to pick up the latest machine or technological option and get to work on a project. If the technology has not been widely distributed, it is rather too easy to impress. Moreover, past work and valuable experience can be ignored or overlooked. It is usual, when commencing research in other fields, to review and extend the work of others, but with CALL the approach can sometimes be a little more cavalier. Over the last three decades, a substantial number of CALL programs have been created. The concepts and principles underpinning the best of these programs do not necessarily become obsolete when the computer that is used to run them is retired. In fact, the valuable knowledge and experience that has accumulated through this work needs to be absorbed and used to inform new projects in the future.

On the other hand, many new exciting developments have taken place:

* **Blogs, wikis, social networking:** See [Section 12, Module 1.5](http://www.ict4lt.org/en/en_mod1-5.htm#anchordiscuss), headed *Discussion lists, blogs, wikis, social networking*.
* **Podcasting:**See [Section 3.5.2, Module 2.3](http://www.ict4lt.org/en/en_mod2-3.htm#podcast) for further information on podcasting.
* **Web 2.0 applications:** See [Section 2.1, Module 1.5](http://www.ict4lt.org/en/en_mod1-5.htm#WEB2), headed *What is Web 2.0?*
* **Distance Learning**: See [Section, Module 1.5](http://www.ict4lt.org/en/en_mod1-5.htm#vlesetc), headed *Distance learning and the Web: VLEs, MLEs etc*.
* **Virtual Worlds:**A huge and fascinating growth area. [Section 14.2.1, Module 1.5](http://www.ict4lt.org/en/en_mod1-5.htm#secondlife) on **Second Life** is the fastest-growing section of the ICT4LT site.
* **Interactive whiteboards:** See: [Section 4](http://www.ict4lt.org/en/en_mod1-4.htm#iwbs) (below), headed *Whole-class teaching and interactive whiteboards*.

The time appears to be ripe for a new interpretation of the technological phases of CALL. It might look like this:

1. **Dumb CALL (1970s to 1980s):** The term **dumb** is used because at this time computers did not offer sound or video. The earliest microcomputers did not even offer text in different colours; they could only display white text on a black background - or white on green and various other combinations. The ability to produce primitive images, however, was a feature of most computers that were available in the mid-1980s. There were various ways of overcoming the problem of the lack of sound and video, e.g. linking a **tape recorder** or a **videodisc player** to a computer, but such solutions were often expensive and difficult to implement. Because of the technological restrictions in this period, most computer programs fell into the drill-and-practice category and could be described as behaviourist, but more imaginative programs such as the *Granville* simulation, consisting of text and primitive images, began to make their appearance in the mid-1980s, and multimedia simulations for computers linked with interactive videodisc players also appeared, e.g. *Montevidisco*([Schneider & Bennion 1984](http://www.ict4lt.org/en/en_mod1-4.htm#schneider)) and EXPODISC [(Davies 1991)](http://www.ict4lt.org/en/en_mod1-4.htm#expo): see [Section 5.10, Module 3.2](http://www.ict4lt.org/en/en_mod3-2.htm#branch), headed *Branching dialogues*.
2. **Multimedia CALL (1990s to present day):** The multimedia computers that appeared in the early 1990s were a major breakthrough. They offered **soundcards**, which meant that sound could be played and recorded without having to link the computer to other devices. The quality of images that could be produced on a computer screen improved, and eventually high-quality photographs could be displayed. Some packages that first appeared on videodisc became available on CD-ROM, and new simulations such as *Who is Oscar Lake?* appeared. Video quality was very poor to begin with, but it has improved immeasurably over the years with the advent of computers equipped with more powerful graphics cards and DVD drives. In spite of these technological improvements, however, a substantial number of CALL programs remained stuck in the drill-and-practice rut, but it was not all bad news: see [Section 3, Module 2.2](http://www.ict4lt.org/en/en_mod2-2.htm#anchor20887), headed *Multimedia: possibilities and contraints*.
3. **Web CALL: (1993 to present day):**The public launch of the Web in 1993 changed everything, but it got off to a slow start. Early websites consisted mainly of text and still images, and it can be argued that they did not offer much more than the early dumb computers offered offline, apart from the fact that websites could be accessed at a distance. Traffic was mainly one-way, from the Web to the user, and it was often slow due to the fact that **broadband** Internet access was not widely available and Web users had to use **dial-up modems**. CALL took a step backwards for a while, waiting for the quality of images, sound and video to catch up with what was available offline on CD-ROM and DVD. As a result, behaviourist CALL re-emerged, resulting in a plethora of drill-and-practice and point-and-click exercises on the Web. The advent of **Web 2.0** brought about major changes, however. Traffic became two-way, sound and video quality improved, and sharing and socialising via the Web has now become the norm for many people in advanced nations.

As for the pedagogy and methodology, I tend to agree with Bax (see [Section 3.6](http://www.ict4lt.org/en/en_mod1-4.htm#baxsystem), above). Most people (i.e. in the second decade of the millennium) are probably using **Open CALL**, but "each institution and classroom may also exhibit certain **Restricted** and even **Integrated** features." ([Bax 2003:23](http://www.ict4lt.org/en/en_mod1-4.htm#bax)): The one thing that has become evident in the history of new technologies is that pedagogy and methodology are slow to catch up with each major breakthrough. Putting old wine in new bottles is not recommended, but everyone seems to do it.

To what extent a state of normalisation has been achieved is still a matter of debate. Judging by the explosion of **Web 2.0 applications**, **discussion lists**, **blogs**, **wikis** and **social networks** that has taken place in recent years, using computers (especially for communication) is the norm for a very large section of the public in most advanced nations, but many language teachers still remain sceptical: See:

* [Section 2.2, Module 1.5,](http://www.ict4lt.org/en/en_mod1-5.htm#WEB2) headed *What is Web 2.0?*
* [Section 12, Module 1.5](http://www.ict4lt.org/en/en_mod1-5.htm#anchordiscuss), headed *Discussion lists, blogs, wikis, social networking*

**3.8 Evaluating CALL software**

This section addresses the key issues that need to be considered when evaluating CALL software. See also:

* [Section 6, Module 1.5](http://www.ict4lt.org/en/en_mod1-5.htm#anchorevaluate), headed *Evaluating websites*
* [Section 3.3, Module 2.2](http://www.ict4lt.org/en/en_mod2-2.htm#evalmm), headed *Evaluating multimedia software*
* The ICT4LT [CALL Software and Website Evaluation Forms](http://www.ict4lt.org/en/evalform.doc)

Evaluating CALL software is not a straightforward job. It's quite different from evaluating a book. A good deal of the contents of a CALL software package or a website will not be immediately visible and will only appear if the user follows a particular route. In addition, there are factors such as screen design, user-friendliness, nature of the interaction, etc to take into account. . Allow *at least an hour* to examine a CALL software package or a website. You may need a lot longer for multimedia packages. See:

* [Section 3, Module 3.2](http://www.ict4lt.org/en/en_mod3-2.htm#general), headed *General program design principles*
* [Section 3.3, Module 2.2](http://www.ict4lt.org/en/en_mod2-2.htm#evalmm), headed *Evaluating multimedia software*.

As you can see from the range of different types of CALL programs listed above, it is difficult to apply one set of evaluation criteria to CALL software, and then there is the issue of how you intend to use the package in your teaching programme, e.g.

* Do you intend to use the software for whole-class teaching? See [Section 4](http://www.ict4lt.org/en/en_mod1-4.htm#iwbs), headed *Whole-class teaching and interactive whiteboards*.
* Do you intend to use the software in a self-access centre? See [Module 3.1](http://www.ict4lt.org/en/en_mod3-1.htm), *Managing a multimedia language centre*.
* How do you intend to *integrate* the software into your teaching? See [Module 2.1](http://www.ict4lt.org/en/en_mod2-1.htm), *Integrating ICT into language teaching*.

The key issue, as Chris Jones pointed out as long ago as 1986, is: "It's not so much the program: more what you do with it" ([Jones C. 1986](http://www.ict4lt.org/en/en_mod1-4.htm#jones86)). We pick up this theme again in [Module 2.1](http://www.ict4lt.org/en/en_mod2-1.htm), *Integrating ICT into language teaching*.

When examining a new software package it may be useful to ask yourself the following questions:

* Is the level of language that the program offers clearly indicated?
* Is the user interface easy to understand? For example, are there ambiguous icons that cause confusion?
* Is it easy to navigate through the program? Is it clear which point the learner has reached?
* What kind of feedback is the learner offered if he/she gets something wrong? Is the feedback intrinsic (implicit) or extrinsic (explicit)? See:
  + [Section 1.2](http://www.ict4lt.org/en/en_mod1-4.htm#interactivity) (above), headed *Interactivity*
  + [Section 7.2, Module 1.1](http://www.ict4lt.org/en/en_mod1-1.htm#7.2), headed *Feedback*
  + [Section 8, Module 2.5](http://www.ict4lt.org/en/en_mod2-5.htm#feedback), headed *How to factor feedback into your authoring*
* If the learner gets something right without understanding why, can he/she seek an explanation?
* Can the learner seek help, e.g. on grammar, vocabulary, pronunciation, cultural content?
* Does the program branch to remedial routines?
* Can the learner easily quit something that is beyond his/her ability?
* Does the learner have to *mentally process* the language that he/she sees and hears? Or does the program offer a range of point-and-click activities that can be worked through with the minimum of understanding?
* If the program includes pictures, are they (a) relevant, (b) an aid to understanding?
* If the program includes sound recordings, are they of adequate quality? Are they (a) relevant, (b) an aid to understanding? Is there a good mix of male and female voices and regional variations?
* Can the learner record his/her own voice? Can the learner hear the playback clearly? Does the program make use of Automatic Speech Recognition (ASR)? Is ASR effective? For further information on ASR see:
  + [Section 3.4.7, Module 2.2](http://www.ict4lt.org/en/en_mod2-2.htm#speech), headed *CD-ROMs incorporating Automatic Speech Recognition (ASR)*
  + [Section 4, Module 3.5](http://www.ict4lt.org/en/en_mod3-5.htm#speechtech), headed *Speech technologies*
* If the program includes video sequences, are they of adequate quality? Are they (a) relevant, (b) an aid to understanding?
* Does the program include scoring? Does the scoring system make sense? Does it encourage the learner?

Finally, what you feel about a CALL software package is often a question of personal taste. All too often teachers dismiss a CALL package as "rubbish" without considering, for example, *who* the intended users are and *how* they are likely to use it. Try to put yourself in the position of the user. Just because you happen to dislike adventure games, don't assume that they won't appeal to a disenchanted 13-year-old male learner of French. If you don't believe in presenting grammar exercises on a computer, then don't assume that they won't appeal to the sixth-form swot. It's a question of horses for courses.

**3.9 Discussion topics**

**Behaviourism and authenticity:** Both these terms are almost guaranteed to inflame discussions among language teachers. **Behaviourism** is unquestionably a dirty word in many language teachers' minds, whereas **authentic** materials have became a sine qua non in almost all language courses, both traditional and ICT-based. Consider the following. What do you think?

Graham Davies writes (unpublished email communication, 2005):

I don't mind materials being behaviouristic and artificial, especially in the early stages of language learning - no more than I minded circuit training in the gym as a way of toning up my muscles for playing rugby when I was a younger man, and no more than I minded practising putting on an aqualung in four metres of water at our local swimming pool while training as a scuba diver, and no more than I minded practising linked stem turns as a novice skiier, and no more than I now mind going to our local golf driving range regularly to whack 100 balls using my whole range of clubs from the pitching wedge to the driver. Behaviourism can be effective, as long it's not the *main* way of acquiring experience in a new skill. In other words, a virtual language lab is OK for practice in same way as using a golf range is OK for practice, but playing the game of golf is much more enjoyable and ultimately the best way of becoming a good golfer - and visiting a country and using the language is the best way of becoming a good linguist. As Phil Turk put it on page 3 of his article titled "Re-educating anglophones and other irreverences" in the Summer 2005 edition of *Language World*, the newsletter of the Association for Language Learning (ALL): ([http://www.all-languages.org.uk](http://www.all-languages.org.uk/)): "Ah, authentic! Why, oh why is it that footballers and other sportspersons do press-ups and other exercises to train their muscles and reactions, but which are not part of the game, ditto classical musicians with their scales and arpeggios, yet everything language students practise has to be 'authentic'? Can't we just flex our brains and whatever else to get *avoir* or whatever right, out of context for a few moments?"

**The computer: magister or pedagogue?** [Higgins (1985)](http://www.ict4lt.org/en/en_mod1-4.htm#magister) makes a distinction between the role of the teacher as a **magister** or a **pedagogue**. He extends this distinction to different approaches to using computers in language learning and teaching:

Two possible models of what a teacher is might be called *magister* and *pedagogue*. The magister wears a gown to show that he is qualified. He is paid a salary every month. He carries a stick, real or metaphorical, with which to beat the children who give wrong answers. He makes assessments, right or wrong, good worker or lazy student. Most important of all, he chooses the order in which things happen, what is to be learned and what kind of activity the learners will carry out. However kind or humanistic he is, these are still his functions.

The pedagogue is the Greek slave. Originally just the slave who escorted the children to school, he is used by the patrician family to walk a few paces behind the young master. When the young master snaps his fingers, he comes forward to give information, answer questions, or perhaps, if that is what the young master wants, to conduct an argument or give a test. He may be expert, but his expertise only emerges on demand: he is a walking library. He doesn't earn very much, and knows that, once he fails to satisfy, he will starve.

How do you perceive the computer - as a magister or a pedagogue?

**4. Whole-class teaching and interactive whiteboards**

**Contents of Section 4**

* [4.1 Whole-class teaching with computers: a little bit of history](http://www.ict4lt.org/en/en_mod1-4.htm#wholeclass)
* [4.2 Enter the interactive whiteboard (IWB](http://www.ict4lt.org/en/en_mod1-4.htm#enteriwb))
* [4.3 Interactive whiteboard software](http://www.ict4lt.org/en/en_mod1-4.htm#iwbsoftware)
* [4.4 What are the main advantages of interactive whiteboards?](http://www.ict4lt.org/en/en_mod1-4.htm#iwbadv)
* [4.5 How effective are interactive whiteboards?](http://www.ict4lt.org/en/en_mod1-4.htm#iwbeffective)
* [4.6 Downloadable resources at the ICT4LT website](http://www.ict4lt.org/en/en_mod1-4.htm#ict4ltresources)
* [4.7 Interactive whiteboard resources on the Web](http://www.ict4lt.org/en/en_mod1-4.htm#webresources)
* [4.8 Commercial software packages](http://www.ict4lt.org/en/en_mod1-4.htm#iwbpackages)
* [4.9 Health and Safety issues](http://www.ict4lt.org/en/en_mod1-4.htm#healthsafety)
* [4.10 Companies that produce interactive whiteboards](http://www.ict4lt.org/en/en_mod1-4.htm#iwbcompanies)
* [4.11 Further reading](http://www.ict4lt.org/en/en_mod1-4.htm#reading)

See also [Section 7, Module 1.3](http://www.ict4lt.org/en/en_mod1-3.htm#ppwc), headed *Using PowerPoint*.

**4.1 Whole-class teaching with computers: a little bit of history**

When computers were first introduced into schools in the 1980s it was usual for a teacher to bring a single computer into the classroom and teach the whole class, using a stand-alone computer, for example a BBC Micro in the UK, connected to a large TV screen. The teacher or a student would operate the keyboard, and the class would be asked to respond to what appeared on screen. The teacher might use the computer, for example, as a stimulus for eliciting oral responses from the class. This approach worked very well with a variety of programs, e.g. text manipulation programs, simulations, and programs such as *Quelle Tête* in which the aim was to build up a person's face on screen by keying in descriptions of the person's nose, eyes, hair, etc. The *All-in-One Language Fun*multimedia CD-ROM contains a face-building activity that would work well in a whole-class teaching situation: see [Section 3.4.2, Module 2.2](http://www.ict4lt.org/en/en_mod2-2.htm#young), headed *CD-ROMs for young learners*.

Sue Hewer writes:

I used the full-class approach with a class who were reluctant speakers of the target language. I used the screen as a focus and, with the help of various games devised largely by Barry Jones (Homerton College, Cambridge), students' confidence grew and they proved to be much more willing to "have a go" than if there was no focus for their eyes and the eyes of the rest of the class. I also used the full screen with the *CopyWrite* component of Graham Davies's *Fun with Texts*software (see [Section 8](http://www.ict4lt.org/en/en_mod1-4.htm#textmanip), below) to promote discussion about language, in addition to an ancient piece of software, produced by the ITMA group, called *Clues*, which enabled you to mark up the same text in lots of different ways, including colour coding and various forms of gapping. This, too, made a discussion about grammar quite palatable. It was possible to obtain printouts of some of the markups (no colour printers then!) which were then used in small-group follow-up activities at different levels.

Here are two more ideas that date back to the early 1980s: (a) the French *CLEF* package and (b) *Camsoft German*. The*CLEF* package has lots of animated sequences, illustrating points of French grammar. Lessons 10 and 11 on agreement and position of adjectives include sequences in which an adjective drifts across to a noun, slotting into the correct position either in front of it or behind it. A feminine and/or plural ending is then added - if necessary - in a different colour. *Camsoft German* included sequences showing inverted word order in sentences beginning with a time phrase, and subordinate clause word order. Both sequences made use of animation, showing the verb wandering to different parts of the sentence. It made inverted and subordinate clause word order look easy - which it is once you understand the rules. There were also programs that illustrated the position of prefixes of separable verbs. The *Camsoft German* sequences were originally programmed in BASIC, but they would be quite easy to replicate using modern presentation tools such as *PowerPoint*. *CLEF* is still available from [Camsoft](http://www.camsoftpartners.co.uk/clef.htm) in a revamped Windows version. The idea of illustrating the rules of word order in German has recently been revived in the [German Grammar Visuals CD-ROM](http://www.goethe.de/ins/gb/lon/lhr/stu/ks3/en2376792.htm), produced by the Goethe-Institut London in collaboration with Oxford University Press.

Whole-class teaching went out of favour as computers became cheaper, and it is not unusual nowadays to find a school equipped with several networked **computer lab**s, each one set up for a specific purpose. There is no doubt that the availability of this kind of computer lab has its advantages, but it can also lead to the "battery chicken" approach to language learning, which sounded the death-knell for the language laboratory ([Davies 1997:28-29](http://www.ict4lt.org/en/en_mod1-4.htm#lessons)), and this has caused many teachers to become sceptical about the use of computer technology in this way. In addition, many teachers find it difficult to get regular access to a computer lab. The advent of lower-priced, high-quality projection equipment and the **interactive whiteboard**(see [Section 4.2](http://www.ict4lt.org/en/en_mod1-4.htm#enteriwb)) has brought about a revival in whole-class teaching with a computer.

Computer labs still, however, have still continued to play an important role, as indicated by Heather Rendall in [Section 5](http://www.ict4lt.org/en/en_mod1-4.htm#anchor32045) (below), headed *Teaching in the computer network room*. Computer lab work is very effective in offering the intensive one-to-one practice that language learners need, as claimed by two of the contributors to [Module 3.1](http://www.ict4lt.org/en/en_mod3-1.htm), *Managing a multimedia language centre*:

* Richard Hamilton claims that, as a result of regular use of ICT in the Language Centre's computer lab at Cox Green School: "Our A\*-C GCSE results went up by 15% in three years." ([Case Study 1: Section 1.3, Module 3.1](http://www.ict4lt.org/en/en_mod3-1.htm#anchor210679))
* Helen Myers, Assistant Head at The Ashcombe School, writes: "We prefer to spend the money on increasing the pupil-computer ratio - which makes the technology more genuinely interactive for pupils - rather than on facilities for whole-class/teacher interaction." ([Case Study 5: Section 5.1.4, Module 3.1](http://www.ict4lt.org/en/en_mod3-1.htm#5.1.4))

See also [Davies et al. (2011)](http://www.ict4lt.org/en/en_mod1-4.htm#daviesbangs), *Setting up effective digital language laboratories and multimedia ICT suites for Modern Foreign Languages*, London: CILT.

**4.2 Enter the interactive whiteboard (IWB)**

There has been a good deal of discussion in recent years about the pros and cons of **interactive whiteboards (IWBs)**. Some teachers believe that they are just another techno-gimmick, "an overhead projector on steroids", while others are brimming over with enthusiasm for this new presentation medium. The following sections take a look at interactive whiteboards and the software that you can use with them. There are also links to selected resources that are available free of charge or from companies spacialising in IWB software. A selection of publications on IWBs can be found in [Section 4.11](http://www.ict4lt.org/en/en_mod1-4.htm#reading), headed *Further reading*.

**4.3 Interactive whiteboard software**

A common misconception is that you have to buy special IWB software to go with an IWB. This is not so. *Any* software can be used on an IWB - or on a stand-alone computer linked to a data projector, with the image projected on a standard wall screen: CD-ROMs, Internet, *Word* documents, *Flash*, EXE files etc. It's *what* you do with the software and *how* you interact with the class that makes the difference. We've known this for years, dating right back to the days of the BBC Micro and the large TV set, which were used for whole-class teaching in the 1980s, when Chris Jones wrote an article with a title that says it all: "It's not so much the program: more what you do with it" ([Jones C. 1986](http://www.ict4lt.org/en/en_mod1-4.htm#jones86)). We pick up this theme again in [Module 2.1](http://www.ict4lt.org/en/en_mod2-1.htm), *Integrating ICT into language teaching*. It can indeed be argued that *interactive* is a misnomer as applied to an IWB, insofar as it's not the board that is interactive, but the way in which the teacher uses it: see [Section 1.2](http://www.ict4lt.org/en/en_mod1-4.htm#interactivity) (above), headed *Interactivity*. Many teachers who are using IWBs are simply underutilising the technology. Above all, you do need to adapt your presentation style. A skilled operator can work magic with an IWB, but an untrained teacher might just as well stick to a computer, data projector and wall screen - or just chalk and talk.

You do not necessarily have to pay a fortune for a special licence for software you intend to use for whole-class teaching. There are many packages for which you only have to buy a single-user licence, providing that the software is installed only on one computer at a time. Unless the terms of use of the software state specifically that a special IWB licence or whole-class teaching licence is required, then you do not have to buy one.

There are many software packages around that lend themselves to whole-class activities using an IWB without any special preparation, e.g. text manipulation packages such as *Fun with Texts*( [Section 8](http://www.ict4lt.org/en/en_mod1-4.htm#textmanip), below) and multimedia simulations such as *Who is Oscar Lake?* ([Section 3.4.9, Module 2.2](http://www.ict4lt.org/en/en_mod2-2.htm#simul)).

If you wish to produce your own materials for use on an IWB, you can do a lot with**electronic worksheets**created with a word-processor or with presentations created with *PowerPoint*: see [Module 1.3](http://www.ict4lt.org/en/en_mod1-3.htm), *Using word-processing and presentation software in the Modern Foreign Languages classroom*. Bear in mind that you may require a fair amount of preparation time if you want to produce something that is a real advance on what you can do with other media.

**4.4 What are the main advantages of interactive whiteboards?**

There are some fundamental issues that need to be addressed concerning the use of IWBs. One of them is what an IWB can *do*. All any IWB can actually *do* is to carry a signal from the board to the computer, which is the equivalent of a mouse-click. This controls whatever is on the computer. The IWBs produced by **Smart** and **Promethean** both have pens, and both have drag-and-drop facilities in their own software, but a Smart IWB can also be controlled by your finger. This has led to great popularity in the primary schools market where pupils find it easier to use their finger when they are still learning to use a pen to write on paper.

You may, however, find a **laptop and data projector** are more flexible than an IWB, as they can easily be moved around to different locations. An IWB screen imposes certain restrictions. The screen is usually fixed in one place and has to be of limited size, and you have to be able to reach to the top of the screen in order to initiate certain functions, so it has to be hung in a fairly low position. In a long room the screen may look small from the back row. The maximum group size for comfortable viewing is around 30 people. A laptop connected to a data projector is the better option for larger audiences, as the wall screen can be much bigger.

One of the key advantages that we are coming across with IWBs is the ability to **annotate over** other applications. For example, if you are running a *PowerPoint* presentation or a CD-ROM, you can**freeze** the page and write comments across the top of it. This can all be saved and brought back at a later stage or accessed by pupils from the school network.

See this [Teachers TV video: Improving your Presentations](http://www.teachersmedia.co.uk/videos/improving-your-presentations). Year 1 primary school teacher Lise Bosher is challenged to improve her presentation skills using ICT. Presenting to pupils is something teachers do on a day to day basis, yet many are still nervous about incorporating ICT into their presentations. Lise meets Joe Dale, a middle school French teacher, who is already using ICT technology to enhance his own presentations. After observing one of his classes, Lise returns to her own classroom to put the presentation technology she has learned into action.

**4.5 How effective are interactive whiteboards?**

See this summary (in *Word* format) of a discussion that took place in the MFL Resources forum in response to a question posed by Graham Davies in 2008: [ICT Effectiveness](http://www.ict4lt.org/en/ICT_Effectiveness.doc). The question was **How effective is the use of ICT in language learning and teaching? -** focusing on the effectiveness of ICT in general , but most teachers responded as if the abbreviation ICT were synonymous with IWB, indicating the extent to which the IWB has penetrated education, especially in the UK. On the whole, most of the respondents were positive about IWBs

[Gray et al. (2005)](http://www.ict4lt.org/en/en_mod1-4.htm#gray) are generally positive about the ways in which IWBs can enhance whole-class teaching and engage learners, but they also point out that lessons can easily turn into "show and tell" sessions with the learners playing a passive role. This is a common criticism of the way in which teachers use IWBs. There is a discernible tendency for this new technology to produce a more frontal style of teaching, and consequently fewer opportunities for genuine learner interaction.

Ideally, one should aim at a balance between lively IWB presentations in the classroom, with plenty of learner participation, and opportunities for individual practice in a computer lab. So far, however, there is little conclusive evidence that IWBs per se make a significant difference to language learning. Most of the positive evidence is anecdotal, pointing to students' motivation, enthusiasm and engagement, which may be a very good thing - at least until the novelty wears off. In an article titled [Whiteboards under the microscope](http://www.guardian.co.uk/education/2006/jun/20/elearning.technology) (*The Guardian*, 20 June 2006) Julie Nightingale, writes:

Millions of pounds have been spent on providing schools with interactive whiteboards in the belief that they could act as powerful aids to raising attainment, yet the boards are having no discernible impact on children's test scores.

Scott Thornbury takes a much harder negative line. See the **ICT4LT blog** under the topic heading [IWBs are useless. Discuss](http://ictforlanguageteachers.blogspot.com/2009/05/iwbs-are-useless-discuss-quoting-scott.html) (May 2009).

The arguments for and against IWBs appear to hinge mainly on how effective they are as teaching aids. To a large extent the effectiveness of an IWB - and this is true of ICT in general - depends on how an individual uses it. So how does one measure effectiveness? Test scores are not necessarily a good indicator. Motivation and learner engagement may be more important factors. But whatever criteria are used, it is important to give serious consideration to the amount of money and training that are required if you intend to buy an IWB - and if you intend to invest heavily in ICT in general. The report produced by [Moss et. al (2007)](http://www.ict4lt.org/en/en_mod1-4.htm#moss2007) appears to indicate that, with regard to IWB effectiveness, the jury is still out.

For a positive view, see Heather McLean's article [How to give lessons a real talking point](http://www.guardian.co.uk/education/2006/jun/20/elearning.technology7) (*The Guardia*n, 20 June 2006).

**4.6 Downloadable resources at the ICT4LT website**

These two *PowerPoint* presentations are ideal for use on an interactive whiteboard:

* **Direct and Indirect Pronouns in French:** Donated by Alison Kennard, Surrey Institute of Art & Design, University College:  
  [FrenchPronouns.ppt](http://www.ict4lt.org/en/FrenchPronouns.ppt)
* **Perfect Tense in French**: Donated by Irene Allen, Altrincham Girls Grammar School, Manchester: [FrenchAllen.ppt](http://www.ict4lt.org/en/FrenchAllen.ppt)

**4.7 Interactive whiteboard resources on the Web**

Many of these resources are also suitable for presentation on a computer linked to a standard projection screen.

* [А Tantфt](http://www.atantot.co.uk/): A website created by Esther Mercier that provides online resources for use on an interactive whiteboard. Resources include videos, starter and plenary activities, games, useful links and much more.
* [Boarding and Surfing](http://www.ngfl-cymru.org.uk/vtc/ngfl/ict/boarding_and_surfing/index.html):Making the most of the interactive whiteboard in Modern Foreign Languages teaching. The Cardiff LEA Whiteboard Development Group has produced this useful Web page.
* [Deutsch im Netz (German on the Web)](http://webgerman.com/german/) at the University of South Florida.
* [GCSE Vocab Presentations](http://www.camsoftpartners.co.uk/GCSE_PPVoc.htm):These presentations give blanket coverage of the vocabulary needed for Foundation and Higher level GCSE French as defined in the AQA syllabus. The presentations consist of some 1700 vocabulary items each linked to the appropriate soundfile recorded by a native speaker.
* [The Interactive Whiteboard Revolution](http://iwbrevolution.ning.com/): A Ning community in which the uses of IWBs across the curriculum are discussed by practising teachers.
* [Interactive Whiteboards - Training for Learning](http://www.trainingforlearning.co.uk/links/modern_languages.htm):Ideas and materials for using interactive whiteboards in the Modern Foreign Languages Classroom.
* [iTILT (interactive Technologies In Language Teaching)](http://www.itilt.eu/): A European project which aims to promote best practice in communicative language teaching using interactive whiteboards.
* [MFL Resources](http://www.mflresources.org.uk/) contains a number of downloadable *PowerPoint* presentations.
* [MFL Sunderland](http://www.sunderlandschools.org/mfl-sunderland/index.htm):Lots of useful downloadable resources and information here and links to other useful sites. Created and maintained by a group of teachers of Modern Foreign Languages in Sunderland schools.
* [EU Project on the use of Interactive Whiteboards in Vocational Education](http://www.koenraad.info/content/eu-project-iwbs-vocational-education)
* [Triptico](http://www.triptico.co.uk/): A useful free resource, created by David Riley. *Triptico* contains over 20 different interactive resources, all of which are easy to edit, adapt, save and share.

**4.8 Commercial software packages**

* [EdpaX](http://www.edpax.com/): These sets of CD-ROMs are available in French, German and Spanish and cover deliver the full primary school curriculum. Each lesson is sound-enabled, providing pronunciation assistance for both pupils and teachers.
* [Gamesbox](http://www.usablesoftwarecompany.com/)by the Usable Software Company. *Gamesbox* is designed for the one teacher, one classroom situation. The program contains a large number of 5-10 minute activities suitable for pairwork or as a whole class activity using a single computer and a projector or a computer linked to an interactive whiteboard. The program includes noughts and crosses, picture noughts and crosses, number games, arithmetical games, category games, "Who am I?", colour quiz, verb dice, clock dice (see screenshot above), several games boards, scoreboards, and different "blockbuster" games.
* [GCSE Vocab Presentations](http://www.camsoftpartners.co.uk/GCSE_PPVoc.htm):Richard Hamilton (Cox Green School) has produced sets of *PowerPoint* GCSE Vocab Presentations in French, Spanish and German, giving blanket coverage of the vocabulary needed for Foundation and Higher level GCSE as defined in the AQA syllabus. The presentations consist of some 1700 vocabulary items each linked to the appropriate soundfile recorded by a native speaker.
* [German Grammar Visuals CD-ROM](http://www.goethe.de/ins/gb/lon/lhr/stu/ks3/en2376792.htm), produced by the Goethe-Institut London in collaboration with Oxford University Press.
* [Linguascope](http://www.linguascope.com/): Stephane Derфne's website for learners of English, French, German, Italian and Spanish. An impressive set of materials - some previews (free) and many other materials available by subscription.
* [Melvin](http://www.iclanguage.co.uk/melvin.html) by IC Language. A package of teaching games and activities for introducing and revising any of the official EU languages. Comes complete with over 1000 colour images that cover all the GCSE topics for Modern Foreign Languages.
* [TaskMagic](http://www.mdlsoft.co.uk/) by mdlsoft. A suite of authoring tools for creating interactive lesson content. It is a really quick and easy way for teachers to create a whole range of presentation and practice activities in just a few minutes.

**4.9 Health and Safety issues**

There are important Health and Safety guidelines on the safe use of data projectors in the classroom. Data projectors can expose the eye to potentially damaging exposure levels. Users, especially students, should try to keep their backs to the beam as much as possible. The use of a stick or laser pointer to avoid the need for the presenter to enter the beam is recommended. Projectors should be located out of the sight line from the screen to the audience. This ensures that, when presenters look at the audience, they do not also have to stare at the projector lamp. Ceiling-mounted projectors, rather than table- or trolley-mounted projectors, are recommended. In order to minimise the lamp power needed to project a visible presentation, room blinds should be used to reduce ambient light levels. See the article titled [Whiteboard projector safety fears](http://news.bbc.co.uk/1/hi/education/6253410.stm) at the BBC Website, 29 June 2007.

But now **short-throw projectors** are also available. These projectors have been designed to produce big screen presentations from a very short distance so that the presenter can avoid standing between the beam and the screen. Thus the presenter has more space available for moving around when giving presentations and the screen display is not disrupted by the presenter's shadow which is often the case when regular projectors are used.

**4.10 Companies that produce interactive whiteboards**

* [eBeam Projection](http://www.e-beam.com/)
* [Mimio](http://www.mimio.dymo.com/)
* [ONfinity](http://www.onfinity.com/)
* [Promethean](http://www.prometheanworld.com/)
* [Smart Technologies](http://www.smarttech.com/gb): see this [YouTube video](http://www.youtube.com/watch?v=DjdNPMZJbLs&)  in which a **Smartboard** is demonstrated.

**4.11 Further reading**

* [Gray et al. (2005](http://www.ict4lt.org/en/en_mod1-4.htm#gray))
* [Moss et al. (2007)](http://www.ict4lt.org/en/en_mod1-4.htm#moss2007)
* [Peachey (2009)](http://www.ict4lt.org/en/en_mod1-4.htm#peachey2009)
* [Schmid (2006)](http://www.ict4lt.org/en/en_mod1-4.htm#schmid2006)
* [Schmid (2009)](http://www.ict4lt.org/en/en_mod1-4.htm#schmid2009)
* [Thomas & Schmid (2010)](http://www.ict4lt.org/en/en_mod1-4.htm#thomasschmid2010)
* [Walker (2003)](http://www.ict4lt.org/en/en_mod1-4.htm#walker03)

See also

* Graham Stanley's Scoop.it page: [IWBs & Language Teaching](http://www.scoop.it/t/iwbs-language-teaching/)
* Ton Koenraad (2008): [Interactive whiteboards in educational practice: the research literature reviewed](http://www.elearningeuropa.info/files/media/media24055.pdf)
* Ton Koenraad's Blog: [EU Project on IWBs in vocational education](http://smartboardrevolution.ning.com/profiles/blogs/eu-project-on-iwbs-in-vocational-education)
* [iTILT (interactive Technologies in Language Teaching)](http://itilt.eu/): EU Project on Helping language teachers make the most of interactive whiteboards

**5. Teaching in the computer network room**

**A personal account and informal research study by Heather Rendall**

This section consists of a personal account and research study by Heather Rendall, who begins by describing her early experiences of teaching in a **computer network room** (nowadays usually referred to as a**computer lab**) in the 1980s. An informal three-year research study, beginning in 1996, is also described here. The 1996-1999 study attempted to replicate her early experiences in the 1980s and to provide concrete evidence of the effectiveness of CALL, demonstrating that simple programs can have a lasting effect when integrated on a regular basis with classroom teaching. For further reading see:

1. [Rendall (1988)](http://www.ict4lt.org/en/en_mod1-4.htm#rendall1)
2. [Rendall (1998)](http://www.ict4lt.org/en/en_mod1-4.htm#rendall2)
3. [Rendall (1999)](http://www.ict4lt.org/en/en_mod1-4.htm#rendall3)
4. [Rendall (2006)](http://www.ict4lt.org/en/en_mod1-4.htm#rendall2006)
5. [Davies, Bangs, Frisby & Walton (2005 - regularly updated)](http://www.ict4lt.org/en/en_mod1-4.htm#daviesbangs)

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**5.1 Early experiences using CALL software**

It is strange to look back to the early 1980s and realise that there was, in some schools for those who wanted it, greater access to computers then than now. My department’s share of the computer room timetable was six 35-minute lessons a week. As no one else wanted to avail themselves of the room, each of my six classes in Years 7-9 in both French and German were able to have a lesson a week. To have the same access today in a similar 8 form entry school, when ICT is more fully integrated into the curriculum, would require 3 (years) x 8 (forms) x 35 minutes = 14 hours booked to Modern Languages alone. If similar provision were given to the 14-16 year old cohort then the equation would look like this:

5 (years) x 8 (form entry) = 40 x 35 minutes = 23.33 hours a week

Nearly a whole week’s booking of one computer network room! It is not surprising then that, with notable exceptions, whole-class teaching and learning in the computer network room is a methodology which has not taken off in the secondary sector! Which is a pity. Because what we learnt though trial and error in those early days, with the simple (by today’s standards, simplistic) programs that we had to hand, was not just that here was a motivational tool of the first order, but also a medium that could offer, perhaps uniquely, assistance in language learning.

The scepticism with which IT (as it was then called) was met by some language teachers was both voluble and predictable. Firstly they expected it to consist of programmed learning exercises, and therefore, being grammar based, would be boring, and secondly they would frequently ask in disparaging tones, "Ah but where’s the oral input?" As an advisory teacher doing demonstrations in unknown schools with unknown students, this could have been off-putting. Fortunately the programs demonstrated for themselves not only possible oral/aural angles, but also the fact that, though the exercises might be of a type, their content was never the same. But most of all it was possible to predict in advance the students’ own reactions. The programs’ motivational value was such that you could assure staff that: (a) within 30 minutes even their most demotivated 14-year-old would be too absorbed to notice the bell, (b) that someone would comment that they hadn’t known that they knew so much, and (c) that they would within a short space of time not be competing against each other but against their own previous efforts - the zeal to improve on one’s own performance would be ignited.

I relied mainly on three types of authoring program, leavened occasionally with a commercial dedicated "fun" program. Each unit of work in our textbook comprised learning new vocabulary and structures, practising the same and finally using them both in context, so we reflected each stage with a complementary program:

1. A vocabulary learner: Kosmos’s **French Mistress** and **German Master**
2. A sentence jumbler: **Word Sequencing**
3. A text manipulation package: [Fun with Texts](http://www.ict4lt.org/en/en_mod1-4.htm#fwt)

For each unit of work I created files containing the core and extension vocabulary with at least one complete text for *Fun with Texts* to end with. With these three programs we could parallel every development within the classroom and keep pace with learning - though in the end I think it may have been more the other way round.

**5.2 Research study results**

Unable to capture any data while in school, I set up a small research project in 1996 aiming to replicate as far as possible the CALL sessions of the 1980s. For the next three years I worked with a half class of 12 students in a small rural secondary school for approximately 30 minutes a week, observing and recording their progress. I have been allowed to set tasks and assessments across the whole year in order to compare performances.

Within the first year it was clear that CALL was having a positive effect. In those areas where a grammar point was totally lacking in English - such as gender and adjective agreement - students’ performances could be seen to move rapidly from total confusion to a system for resolving each task faultlessly.

**5.2.1 Example: Word Sequencing**

**Word Sequencing: a program used with 11-year-olds in their first term of learning French.**

The data used in this program consists of pairs of nouns with adjectives which the program jumbles like this:

1. vert règle Une et crayon un verte
2. un bleue et bleu stylo trousse Une
3. crayons bic Des et rouges un rouge

Each pair of noun plus adjective has to be resorted in turn. To start with, when the skills required to know what to do and in what order, are still being developed, it takes a long time with much oral support before the right pairing is made. In September 1996 a similar set of data that just paired nouns and articles (*Un compas et une calculette*) had taken on average 2 minutes 7 seconds per pair. The more difficult task with adjectives was introduced in November 1996 and had an average completion rate of 1 minute 13 seconds - already a clear improvement on the easier file. By the end of November 1996 the average time for completing pairing had dropped to 26 seconds, which is about as fast as a solution can be reached.

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **Phrase to be sorted** | **7.11.96 1st** | **7.11.96 2nd** | **14.11.96 1st** | **14.11.96 2nd** | **21.11.96 1st** | **21.11.96** **2nd** |
| Un crayon rouge et des ciseaux rouges | 2m08 | 32 secs | 1m51 | - | 14 secs | 31 secs |
| Un sac bleu et une calculette bleue | - | 59 secs | 48 secs | 1m11 | - | 24 secs |
| Une règle verte et un crayon vert | 2m18 | 42 secs | 24 secs | - | 19 secs | 17 secs |
| Des crayons rouges et un bic rouge | - | 1m04 | 38 secs | 37 secs | 1m56 (!) | 23 secs |
| ! a local distraction caused a delay | - | - | - | - | - | - |

**5.2.2 Additional explanation of results (1)**

1. Differences in timings can be accentuated by chance groupings of words. It can happen that a single move of one word renders the rest accurate: see 2nd attempt 7.11.96 and 1st attempt 21.11.96 - results which could not be achieved if all the words had to be manipulated into place.
2. The program randomly presents the separate phrases/sentences entered by the teacher (although it was later adapted to run either in sequence or randomly) If a student does not cover all 12 in a10 minute exercise, then some of the pairs will not be seen - hence the blank entries.

What is also noteworthy is that by this time the number of immediate correct solutions had risen as well i.e. the student made no superfluous moves: each word was placed correctly in turn. The work done on one of the computers was recorded on video, allowing each move to be analysed. The rate of improvement looked like this

|  |  |
| --- | --- |
|  | **Number completed with the minimum of moves** |
| **7.11.96** |  |
| 1st attempt | none out of 1 pairing completed |
| 2nd attempt | 3 out of 7 completed |
| 3rd attempt | 1 out of 1 completed |
|  |  |
| **14.11.96** |  |
| 1st attempt | 3 out of 6 pairings completed |
| 2nd attempt | 1 out of 6 completed |
| 3rd attempt | 4 out of 5 completed |
|  |  |
| **21.11.96** |  |
| 1st attempt | not recorded |
| 2nd attempt | 3 out of 6 completed |
| 3rd attempt | 8 out of 9 completed |

**5.2.3 Additional information of results (2)**

1. The high number of pairings completed during the 2nd attempt on 7.11.96 is the result of the amount of oral support given: pairs are called out by the teacher (me) and if students are lucky enough to have that pair on screen then they receive a lot of help. If it is not on screen, then they have to retain the sound of it, until such times as it does appear. As students grew more skilled, they required less oral / aural support. By 21.11.96 no oral/aural support was given.
2. A time limit of about ten minutes is given. The benefit of this kind of exercise is not slogging through one whole exercise of 12 pairs, but completing a small number of phrases in a short time and then beginning again and repeating those pairs that have just been encountered. Although occasional backsliding was observed, it only ever led to a greater improvement the next time round.
3. What is remarkable is the increase in pairs completed which rises from seven with teacher aid to nine without any aid and, of those nine, eight were completed without a single unnecessary move.

**5.2.4 Learning Tasks**

* Evaluate the number of possible strategies used to resolve a similar set of jumbled words. What knowledge is needed to be able to sort out jumbles like these?
* Using the language/s you teach, where and at what stage would a program like this be useful to your students?

**5.3 Conclusions**

It became clear by 1999 that this research group outperformed all other students in the same cohort in free writing tasks with regard to the position and agreement of adjectives. Adjective agreements were not perfect but 70% of the research group used them in the correct position and the only student out of the whole year group to use adjectives freely and with 96% accuracy came from the CALL research group.

There were obviously some drawbacks in the course of the research study: I had to miss the odd week’s lesson because of commitments elsewhere. One student was absent for two terms, and another left the school. But most importantly, it was difficult to keep up with the amount of vocabulary and its range. The number of topics and breadth of vocabulary that these students had been introduced to, and supposedly had to learn, was astonishing. Occasionally there was not even enough time to establish passive recognition, before they had to move onto another totally unrelated subject.

It was, however, very easy to determine when they were not gaining mastery of the topic. Their results on *Word Sequencing* and the other programs just did not improve in the usual manner. Despite the help offered by CALL, it was occasionally clear that the language and the structures were remaining beyond them. This highlighted the fact that CALL is not a panacea; it is a learning support, an accelerator perhaps but if the introduction to the work is not sound, if the level of language is too far removed from their existing standard, if the choice of vocabulary or structures is too confusing, then any benefit CALL might bring is reduced. It was useful to report back to their teacher that, for example, in the Youth Hostel dialogues, they seemed unable to differentiate between *C’est pour combien de nuits?* and *C’est combien pour une nuit?* and that in Lost Property, they were completely unable to handle the pronouns which had suddenly appeared with the briefest of explanations:

* *Où l’avez-vous perdu?*
* *Je l’ai perdu au cinéma.*
* *Il les a laissés hier dans le café*.

This is the briefest overview of work that spanned three years, but hopefully it has given enough data to whet the appetite and to suggest that CALL integrated on a regular basis with classroom lessons can support and enhance language learning to lasting effect.

**5.4 Discussion topics**

* How often does CALL have to be integrated into classroom teaching in order to be effective?
* The vocabulary learning programs, Kosmos’s **French Mistress** and **German Master**, have one unique feature: they check each letter entry. If the student enters the wrong letter, nothing appears on screen. The computer only allows correct entries. Why is this a valuable technique in learning or reinforcement?
* The Kosmos programs also have a TAB key which enters the next letter if you are stuck. I always encouraged students during the first attempt at a new file to enter what they knew they knew and to TAB in what they weren’t sure of. This would result in a high TAB key result, which is shown at the end of the exercise. Why is this a very useful ploy?

**5.5 Learning Task**

The final exercise in any unit would be a text manipulation exercise using [Fun with Texts](http://www.ict4lt.org/en/en_mod1-4.htm#fwt). It took very little time to discover that students preferred to tackle each **Fun with Texts** file in the same order of activities:

1. **Textsalad**
2. **Prediction**
3. **CopyWrite Hard**

Only very occasionally have I met a student or a group who asked to be able to do **CopyWrite Easy** first!

If you do not know the **Fun with Texts** program, download the demo copy from the Camsoft website: <http://www.camsoftpartners.co.uk/fwt.htm>. See also Sue Hewer's contribution to this module:[Section 8](http://www.ict4lt.org/en/en_mod1-4.htm#textmanip)(below), headed*Text manipulation.*

Why do you think students preferred the order of text manipulation activities described above?

**6. Self-access learning: by Ros Walker**

**Contents of Section 6**

* [6.1 Equipping and managing a self-access centre](http://www.ict4lt.org/en/en_mod1-4.htm#6.1)
  + [6.1.1 Hardware](http://www.ict4lt.org/en/en_mod1-4.htm#6.1.1)
  + [6.1.2 Software](http://www.ict4lt.org/en/en_mod1-4.htm#6.1.2)
* [6.2 Encouraging appropriate usage of self-access facilities](http://www.ict4lt.org/en/en_mod1-4.htm#6.2)

This section aims to provide an introduction to self-access learning. Further information, including five case studies of schools and higher education institutions that make successful use of self-access centres, is provided in [Module 3.1](http://www.ict4lt.org/en/en_mod3-1.htm), *Managing a multimedia language centre*.

Most of the discussion up to this point has focused on ways in which a teacher can use ICT with a whole class or with smaller groups within a class. ICT in language learning can also have an important role to play in the work that a student completes independently. This type of independent study is often seen in the context of **self-access**.

Self-access is often thought of in terms of a**study or resource centre**. It would be more accurate to think of self-access as an **approach** to teaching and learning. A self-access centre supplies the resources to support an institution that advocates self-access methodology, encouraging independent learning.

There are many activities which can be extremely time-consuming to complete in class and which, to a certain extent, can be better achieved on an individual basis. For example, learning and revising vocabulary, intensive listening practice, practice of grammar structures. Using CALL packages to help students make the most of their own study time has been shown to enhance the productivity of study time alone.

In some instances self-access may have been mistrusted and seen as an attempt to replace teacher contact time and save money: see [Davies (1997)](http://www.ict4lt.org/en/en_mod1-4.htm#lessons). Those centres which have adopted self-access seriously have come to realise that far from saving money, a properly-run self-access centre requires a significant injection of time, money and expertise in order to function effectively. The true value of a self-access centre lies in the benefits gained by students who use these facilities.

What are the advantages of using CALL in a self-access context?

* Students have unlimited time to spend working with the available resources.
* Students can tackle any work that particularly interests them.
* Students can work at their own pace.
* Students are able to revise work at frequent intervals.
* Class time can be focused on activities that cannot be carried out independently, such as introducing students to a new topic, conversation practice etc.

There are, of course, some disadvantages, but these can be overcome:

* Students need to be motivated to study on a regular basis.
* If problems arise with the hardware or software, who is available to help?
* Resources need to be used effectively.

**6.1 Equipping and managing a self-access centre**

The key questions to be asked when equipping and managing a self-access centre are detailed below. See also [Module 3.1](http://www.ict4lt.org/en/en_mod3-1.htm), *Managing a multimedia language centre*, for more detailed information and selected case studies

**6.1.1 Hardware**

* How many computer workstations do you intend to st up?
* Where will the computers be located? How will they be set out - e.g. n rows, in "islands" or in a "horseshoe" shape?
* Will you require / allow Internet access?
* Do you intend to run your software on stand-alone computers or will it be networked?

**Note:** Networking computers for running software that contains large amounts of sound or video can lead to a significant decrease in the quality and frequent crashes. See the [Appendix, Module 2.2](http://www.ict4lt.org/en/en_mod2-2.htm#anchor84892),*Networking CD-ROMs and DVDs*.

**6.1.2 Software**

* Which languages do you teach in your institution? At which levels?
* Which software is already available for these languages and levels? What is the quality of this software?
* When considering new software purchases, shop around to find the best value for money.
* Do you wish to make software available for the self-study of languages other than the commonly taught European languages?

**Note:** Suppliers usually offer single- or multiple-user licences. All your software will have to be licensed to run on a specified number of computers in your institution or you must install metering software to monitor and regulate the number of computers that can use it concurrently. You must buy the appropriate licence for your network or you risk prosecution under copyright law. See our [General guidelines on copyright](http://www.ict4lt.org/en/en_copyright.htm).

**6.2 Encouraging appropriate usage of self-access facilities**

* Let students and staff know where the facilities are, what is available and when they can be used. Don't just do this at the start of the year when they are bombarded with information. Try to do it constantly: "If you would like to know more about this, try using x in the self-access centre".
* Organise hands-on induction sessions, where staff and students get a chance to try out a range of the resources available. This should whet their appetite for more.
* Encourage students to timetable themselves a regular study session using self-access materials.
* Make a **language advisor** available to help students plan their studying and use resources effectively. Remember that some students are nervous about using computers. See [Mozzon-McPherson & Vismans (2001)](http://www.ict4lt.org/en/en_mod1-4.htm#mozzon) on the role of the language advisor.
* Try and adopt a departmental approach to the use of self-access:
  + Get all the staff involved in familiarising themselves with the materials.
  + Organise a departmental self-access INSET day.
  + Examine your scheme of work / syllabus. How can you fully integrate CALL into your syllabus?
  + Do you have ready-made materials you can use or would it be useful to buy an authoring package and create some of your own? This is not as complicated as it sounds! See [Module 2.5](http://www.ict4lt.org/en/en_mod2-5.htm),*Introduction to CALL authoring programs*.

See also:

* [AILA, Scientific Commission on Learner Autonomy in Language Learning](http://lc.ust.hk/~ailasc/)
* [Little (2001)](http://www.ict4lt.org/en/en_mod1-4.htm#little), [Littlemore (2001)](http://www.ict4lt.org/en/en_mod1-4.htm#littlemore) and [Schwienhorst (2007)](http://www.ict4lt.org/en/en_mod1-4.htm#schwienhorst) on learner autonomy.

**7. Distance learning: by Sue Hewer**

This topic is also covered in:

* [Section 8, Module 1.5](http://www.ict4lt.org/en/en_mod1-5.htm#vlesetc) under the heading *Distance learning and the Web: VLEs, MLEs etc*
* [Section 3.1, Module 2.3](http://www.ict4lt.org/en/en_mod2-3.htm#interact) under the heading *Web-based CALL*

**Contents of Section 7**

* [7.1 Some definitions](http://www.ict4lt.org/en/en_mod1-4.htm#7.1)
* [7.2 Added value provided by ICT](http://www.ict4lt.org/en/en_mod1-4.htm#7.2)
* [7.3 Course management and administration](http://www.ict4lt.org/en/en_mod1-4.htm#7.3)
* [7.4 Delivery of content](http://www.ict4lt.org/en/en_mod1-4.htm#7.4)
* [7.5 Target language communication](http://www.ict4lt.org/en/en_mod1-4.htm#7.5)
* [7.6 Email](http://www.ict4lt.org/en/en_mod1-4.htm#7.6)
* [7.7 Discussion lists](http://www.ict4lt.org/en/en_mod1-4.htm#7.7)
* [7.8 Chat rooms](http://www.ict4lt.org/en/en_mod1-4.htm#chatrooms)
* [7.9 MUDs, MOOs and MUVEs (virtual worlds)](http://www.ict4lt.org/en/en_mod1-4.htm#mudsmoos)
* [7.10 Tandem learning (buddy learning)](http://www.ict4lt.org/en/en_mod1-4.htm#tandem)
* [7.11 Online oral interaction](http://www.ict4lt.org/en/en_mod1-4.htm#7.11)
* [7.12 Community building](http://www.ict4lt.org/en/en_mod1-4.htm#7.12)

**7.1 Some definitions**

Clear definitions are hard to come by and confusion can sometimes result. The term **distance learning** is taken to mean, principally, individual learners working by themselves, at a place and time of their choosing and, to some extent, at a pace and in an order also chosen by themselves. This term encompasses aspects of **open learning** in that it includes degrees of openness in terms of place, time, pace and content of learning. It also takes in aspects of **resource-based learning** in that, as the student's knowledge of the target language develops, he/she is often required to work with a range of resources presented in different media, particularly for practice in reading and listening skills. The essential characteristic of this kind of learning is that it involves a substantial element of **self-study**, often supported by tutors who can be contacted by telephone or email. The term **distance learning** implies that the students are linked to a centre, from which they are at a distance, for example The Open University in the UK - see the OU's Web page on [What is distance learning?](http://www8.open.ac.uk/study/explained/what-is-distance-learning) Study materials include printed course books and audio materials that cover survival language for the traveller as well as the communication skills needed in a range of settings, at home, work or leisure. The OU makes use of both online tuition and face-to-face tuition. See:

* [Faculty of Education and Language Studies](http://www8.open.ac.uk/education-and-languages/main/), The Open University.
* [Languages - OpenLearn](http://www.open.edu/openlearn/languages), The Open University - includes sample materials.
* [LORO (Languages Open Resources Online)](http://loro.open.ac.uk/): Free downloadable resources for language teaching and learning at The Open University. Includes the OU's own resources and materials submitted by other language teachers.

The Open University has also made some of its language learning materials available via [iTunes](http://www.apple.com/itunes/) and is reporting a huge uptake. See [Section 5, Module 2.3](http://www.ict4lt.org/en/en_mod2-3.htm#mall) on *Mobile Assisted Language Learning (MALL)*.

If we follow through the definition of distance learning given above, students of languages who use less formally organised courses, e.g. the free online language learning courses at the [BBC Languages](http://www.bbc.co.uk/languages/)website, can also be considered distance learners.

Many distance learning courses take a **multiple-media approac**h in that materials are produced in the medium most appropriate to their purpose, resulting in learning packs containing a mixture of printed materials, recorded audio and video materials, and CD-ROMs or DVDs. TV and radio programmes and websites are also produced to supplement the learning packs. In the case of The Open University, students are also supported by face-to-face tutorials at local colleges and at residential summer schools.

**E-learning (electronic learning)** has become a buzzword in recent years. To some people, e-learning describes *any* application of ICT in learning and teaching, from producing a word-processed handout to a full-blown course on the Web. The whole of the ICT4LT website is, therefore, in this sense all about e-learning in the context of teaching and learning foreign languages. Other people perceive e-learning in a more limited way, i.e. **online learning** in the sense of **distance learning** on the Internet. Because of a lack of agreement on what e-learning is all about, it probably makes sense to use the term **online learning** when talking about **distance learning** on the Internet and to use **CALL** **(Computer Assisted Language Learning)** as a catch-all term for the use of computers in language learning and teaching. See the [Glossary](http://www.ict4lt.org/en/en_glossary.htm) entry on **E-learning**, which will link you to other relevant terms.

**Virtual Learning Environment (VLE):** A VLE is a Web-based package designed to help teachers create online courses, together with facilities for teacher-learner communication and peer-to-peer communication. VLEs can be used to deliver learning materials within an institution or within a local education authority. They may even address a wider constituency and may be used on a worldwide basis. VLEs have certain advantages in terms of ease of delivery and management of learning materials. They may, however, be restrictive in that the underlying pedagogy attempts to address a very wide range of subjects, and thus does not necessarily fit in with established practice in language learning and teaching. See [Section 8, Module 1.5](http://www.ict4lt.org/en/en_mod1-5.htm#vlesetc) under the heading *Distance learning and the Web: VLEs, MLEs etc*.

**Blended learning**has also come into vogue, describing a blend of distance learning online combined with face-to face tutorials. See [Section 4, Module 2.3](http://www.ict4lt.org/en/en_mod2-3.htm#hybrid), headed *Hybrid systems and blended learning*.

**Computer Aided Assessment (CAA)** is another area worthy of consideration in distance learning, which we discuss in [Module 4.1](http://www.ict4lt.org/en/en_mod4-1.htm).

**7.2 Added value provided by ICT**

So, what kinds of added value can ICT bring to distance language learning courses in the short and medium term? The different kinds of value that can be added by ICT are considered in the following sections within the current context in which distance language learning is usually an alternative to face-to-face. However, it is important to bear in mind that the improvements in the ability of ICT to facilitate the creation of rich and productive language learning environments for use at a distance now affect course design, and consequently the dichotomy between distance learners and face-to-face learners may well diminish, with some activities taking place online rather than in a classroom because the learning that results is of a higher quality. These changes are already taking place not only within further and higher education, but also at secondary level, where ICT has a role to play in the maintenance of lesser taught languages as well as providing opportunities for good linguists to acquire second, third and fourth languages on their own initiative. Students in the early years of secondary education (11-14) in some schools can already be described as distance learners when their homework invites them to visit a website, gather up information and present it by email to other members of their group in time for the next week's lesson.

**7.3 Course management and administration**

Where distance language learning courses are managed centrally, as is the case with The Open University, course mailings are substantial both in terms of numbers and quantity. For example, in addition to the pack of materials, students receive timetables which include dates for the completion of assignments and sample assessment questions and answers. Course websites have now taken over much of the mailing related to course management and administration, saving on staff time and the costs of mailing. Student queries are increasingly sent by email and responded to in the same way, making the handling of queries easier than, for example, by telephone, where no record is available for university staff or students. It also makes it easier for staff to plan the time they devote to coping with queries. Communication between students and their tutors by email is increasing as more students and staff get online. The advantage to both by being able to read and reply to messages at a time of their own choosing is likely to result in more reflective and higher quality questions and responses than if the same requests were made by phone, and a much quicker turn around than if the same requests were made by traditional mail. These value-added factors might seem to be very trivial. However, what both students and tutors have little of is *time*. Anything which can help them to make the most of the time that they have available to them must result in a qualitative improvement in their contribution to the course. As all of the documents concerned with course management and administration are already word-processed, the costs involved in putting them up on a website is minimal and substantial savings can be made in printing, envelope filling and mailing.

In 2002 The Open University introduced **Lyceum** into language teaching online. It was an audio-graphic conferencing system developed and used exclusively in-house. Lyceum provided students and tutors with voice conferencing and synchronous visual workspace tools that operated over the Web. This enabled students to hear each other and talk to each other simultaneously, but not to see each other. Participants could access different "rooms" within the system, screen-grab material from any digital source, and share a variety of visual tools such as whiteboards, a so-called concept map suitable for brainstorming exercises, a word-processor and textual documents. There was also a chat facility. See:

* [Hampel (2003)](http://www.ict4lt.org/en/en_mod1-4.htm#hampel03)
* [Hampel & Hauck (2003)](http://www.ict4lt.org/en/en_mod1-4.htm#hampelhauck03)
* [Hampel & Hauck (2004)](http://www.ict4lt.org/en/en_mod1-4.htm#hampelhauck04)
* [Hampel & Stickler (2005)](http://www.ict4lt.org/en/en_mod1-4.htm#hampelstickler)
* [Hauck & Haezewindt (1999)](http://www.ict4lt.org/en/en_mod1-4.htm#hauckhaezewindt)
* [Hewer & Shield (2001)](http://www.ict4lt.org/en/en_mod1-4.htm#hewershield2001)
* [Kötter (2001)](http://www.ict4lt.org/en/en_mod1-4.htm#koetter2001)

More recently, The Open University has adopted the **Moodle** virtual learning environment: see [Section 8, Module 1.5](http://www.ict4lt.org/en/en_mod1-5.htm#vlesetc) under the heading *Distance learning and the Web: VLEs, MLEs etc*. Moodle has its own [Moodle for Language Teaching Community](http://moodle.org/course/view.php?id=31) - log in as a guest or register to join the community. Listen to the **Callspot** podcast in which OU lecturers Regine Hampel and Uschi Stickler are interviewed on the topic [Distance Language Teaching Online](http://callspot.libsyn.com/).

Many other university courses are currently using the Web to put up information relating to matters concerned with course management and administration, for both campus-based and distance learning students. This trend is likely to continue and expand as Web programming becomes more flexible and security of information more reliable.

**7.4 Delivery of content**

**CD-ROMs** are ideally suited to the delivery of content, particularly where students are invited to interact with the materials presented. CD-ROMs can store text, images and audio and video resources and can also be used to store certain types of interactive programs that are currently difficult to provide via the Web, e.g. programs that enable the learner to respond orally to a stimulus, record his/her own voice and play it back: see [Module 2.2](http://www.ict4lt.org/en/en_mod2-2.htm), *Introduction to multimedia CALL*. CD-ROMs provide a very cost-effective way of delivering content. However, the cost of producing multimedia CD-ROMs is very high, given that a team approach is required involving graphic designers, audio and video technicians and animation specialists, as well as curriculum specialists and programmers: See[Module 3.2](http://www.ict4lt.org/en/en_mod3-2.htm), *CALL software design and implementation*. The delivery of course content on CD-ROM is therefore probably an option that is currently only open to large institutions that can effect economies of scale. On the other hand, it is less expensive in design and production terms to use CD-ROMs simply for storage of texts, images and audio and video files without interactive exercises. Texts can be stored in such a way that they can easily printed out by students if they prefer to read from paper rather than the screen - which is less of a strain on the eyes.

**The Web** is clearly a candidate for the delivery of pre-written and recorded content. Many courses in a wide range of disciplines already make use of the Web to present course materials to students. Such courses may provide students with lecture notes, images and graphs, audio and video files, and links to relevant websites and to additional reading materials.

Campus-based students are unlikely to have to pay for their online charges, but home-based students may have to add these costs to their course fees. Currently the time taken to download Web pages containing mainly text is very short, even via a 56Kbps **dial-up modem**. However, materials containing images or audio or video files can take several minutes to download via a dial-up modem. With the increasing availability of **broadband** to home users - a typical broadband connection being at least ten times faster than a dial-up modem connection - the problem of long download times is being overcome.

The delivery of up-to-date content for the Web is discussed elsewhere at this website. See:

* [Section 8, Module 1.5](http://www.ict4lt.org/en/en_mod1-5.htm#vlesetc) under the heading *Distance learning and the Web: VLEs, MLEs, etc*
* [Section 3.1, Module 2.3](http://www.ict4lt.org/en/en_mod2-3.htm#interact) under the heading *Web-based CALL*

The provision of up-to-date content for distance learners, especially on large courses, is not a trivial task. The accessibility and content of the websites has to be checked regularly and any significant changes communicated rapidly to students, especially if content is related to course exercises or assessment tasks, when changes will have to be reported to students daily.

**7.5 Target language communication**

The most obvious disadvantage of learning a language at a distance is the lack of opportunities to interact in the target language with other students, with tutors and with native speakers. Even if some contact sessions are available to you, the time or place or both are not always convenient. As far as traditional media are concerned, letters impose a level of formality which is not necessarily consistent with the course content nor the needs of the learner. The telephone is an alternative but, as all language learners know, it is a particularly stressful medium, especially for beginners, because the usual clues provided by body language and eye contact are absent. Conference calls which are managed by a tutor can go some way to meeting the interactional needs of isolated students. However, as with face-to-face meetings, they happen at a specific time at which you have to be sure to have access to a telephone, which is preferably not a mobile phone (cellphone) as costs can then be high.

ICT, however, can improve dramatically the opportunities for students to interact with other students, their tutor and native speakers. Such opportunities can be provided as integral course components, as optional extras, or as informal additions suggested by tutors but in no way controlled by them nor monitor. See:

* [Section 12, Module 1.5](http://www.ict4lt.org/en/en_mod1-5.htm#anchordiscuss), headed *Discussion lists, blogs, wikis, social networking*.
* [Section 14, Module 1.5](http://www.ict4lt.org/en/en_mod1-5.htm#compmedcomm), headed *Computer Mediated Communication (CMC)*

**7.6 Email**

The most obvious way for students to interact is by email: see [Section 14, Module 1.5](http://www.ict4lt.org/en/en_mod1-5.htm#compmedcomm), headed *Computer Mediated Communication (CMC)*. Because email can be one-to-one or one-to-many, it is possible to set up small groups using group addresses either to enable them to complete a collaborative task, or to discuss a particular topic in advance of an assignment. Tutors can include their own email address within the group address and monitor student input, sending out "round robins" to alert students to mistakes made frequently by several group members and sending out emails to individual students to correct specific errors. If, in the case of the task, the tutor has a pre-defined role in the task, they can intervene within that role, and move things on or change direction as required. Given the conversational nature of much of the dialogue produced in email messages, such online work is likely to bring about improvements in students' knowledge and use of language not only in terms of their written work, but also in terms of their oral fluency. This kind of group interaction adds value by enabling students to participate in their own time, to reflect on the output of others and on their own input, and to learn from their own mistakes, the mistakes of others and, indeed from the contributions of others. Incoming messages can be read offline and responses prepared in the same way, thereby incurring limited connect charges. It would be impossible to achieve this kind of productive language learning environment using traditional mail.

**7.7 Discussion lists**

Where large numbers of students are involved at quite an advanced level in a course which encourages students to express their opinions and to defend them in the target language, it might be worthwhile setting up a discussion list as described in [Section 12, Module 1.5](http://www.ict4lt.org/en/en_mod1-5.htm#anchordiscuss), headed *Discussion lists, blogs, wikis, social networking*. Whilst it is always desirable to have a moderator for public lists, it is essential if the list is to be used as a tool for teaching and learning. In this case, the moderator should be active in both stimulating debate, and in providing discrete error correction. Lists are not always as popular with students as course designers hope and even the most independent of learners needs encouragement and feedback from time to time. Contributions to lists can be read, and responses composed, offline, making it a fairly cost-effective way of promoting group participation.

**7.8 Chat rooms**

Informal contact with native speakers can also be obtained via target language **chat rooms**, using a facility known as**text chat**. Some caution is needed in alerting students to the use of chat rooms. While it is possible to create private chat rooms for use at a specific time and for a specific purpose, which exist only for a session in which there is some activity in them, most chat rooms are public facilities and can attract less than desirable contributions since there is no moderation because of the real-time nature of the facility. A degree of caution is therefore advised when joining a chat room. However, in the case of more reliable sites, benefits can be gained from this means of interaction, which is not available in any comparable form without the use of ICT. See [Section 14.2, Module 1.5](http://www.ict4lt.org/en/en_mod1-5.htm#14.2), headed *Chat rooms, MUDs, MOOs and MUVEs.*

**7.9 MUDs, MOOs and MUVEs (virtual worlds)**

We introduce MUDs, MOOs and MUVEs in [Section 14.2, Module 1.5](http://www.ict4lt.org/en/en_mod1-5.htm#14.2), headed *Chat rooms, MUDs, MOOs and MUVEs*. These are so-called **virtual worlds** in which the participants adopt different characters and interact with one another. They began as games but are now used increasingly for educational purposes. A substantial and rapidly expanding section at the ICT4LT site is devoted to the virtual world of **Second Life**: [Section 14.2.1, Module 1.5](http://www.ict4lt.org/en/en_mod1-5.htm#secondlife), headed *Second Life*.

**7.10 Tandem learning (buddy learning)**

Arising from pioneering work undertaken at the Language Centre at the University of Sheffield, which involved English-speaking students and overseas students pairing up face-to-face on campus to help each other to improve specific aspects of their learning of each other's language, an Internet of what has become known as **tandem learning** or **buddy learning** is being practised and researched in a number of European universities. The results are very encouraging and open the way for an expansion of this method of learning into the secondary schools sector. For further information see [Section 14.9, Module 1.5](http://www.ict4lt.org/en/en_mod1-5.htm#14.9), headed *Tandem learning (buddy learning)*.

**7.11 Online oral interaction**

Perhaps the most exciting prospect for distance language learners to be provided by ICT is the ability to actually talk to other participants online. Thanks to improvements in speed and methods of transmission of sound via the Internet, such interactions are now a reality. See Section [14.1.2, Module 1.5](http://www.ict4lt.org/en/en_mod1-5.htm#audioconf), headed *Audioconferencing: a synchronous communications medium*. The virtual world of**Second Lif**e also provides opportunities for talking to people online: See Section [14.2.1, Module 1.5](http://www.ict4lt.org/en/en_mod1-5.htm#secondlife), headed *Second Life*.

See also the reference above ([Section 7.3](http://www.ict4lt.org/en/en_mod1-4.htm#7.3)) to [Lyceum](http://www.ict4lt.org/en/en_mod1-4.htm#lyceum), an audio-graphics conferencing system developed by The Open University. The interactive oral work, interactive whiteboard and email within the task-based learning approach that Lyceum provided was motivating for students and, in their opinion, contributed to the development of their oral fluency, the growth of their vocabulary and an increase in their knowledge of structures and their ability to manipulate them. The email phase of the tasks provided the opportunity for students to gather together the necessary vocabulary and structures for the oral interaction and to rehearse their arguments without the pressure of having to respond in "real time". The whiteboard provided a focus of attention. The foreground could be manipulated during the online session and the results saved to the server. It was also possible, for research purposes, to record all the oral interaction during pre-programmed sessions. Because of the 24-hour availability of access to the server, students could arrange to meet informally without their tutor, at times convenient to themselves.

Commercially produced packages that provide a multi-tool environment with the potential for online oral interaction are now commonplace. This is a very important area to keep an eye on, as its potential for multi-skill, task-based language learning is enormous and can create the kind of opportunities for distance language learners that will enable them to work at that aspect of language learning which is always cited by learners as the most important, namely being able to interact at an appropriate level in the target language.

Another avenue worth exploring is **videoconferencing**, which we deal with in more detail in [Section 14.1.3, Module 1.5](http://www.ict4lt.org/en/en_mod1-5.htm#videoconf), headed*Videoconferencing: a synchronous communications medium*.

**7.12 Community building**

It is not perhaps an accident that one of the most recent sets of courses offered by The Open University is in foreign languages. In most other subject areas the major aims of courses are to distribute knowledge, to give students the opportunity to combine new knowledge with existing knowledge and then to demonstrate their ability to apply their recently acquired knowledge in new contexts. This model of learning does not quite work for languages since knowledge of the language is only half of the picture. Communication or use of language is the other half. For most people it is not only communication, but oral rather than written communication is the skill that they most prize. In order to develop oral skills, you need someone with whom to do so. You are more likely to have the confidence to do so if you feel at ease with the people that you are endeavouring to communicate with. It is important to feel part of a community of people with shared interests. Online activities seem to generate a sense of community among group members very quickly and in a lasting way, especially if the activities are task-based and members depend on each other to complete sub-tasks by given dates so that they can move ahead.

As indicated earlier (see [Section 7.3](http://www.ict4lt.org/en/en_mod1-4.htm#7.3)), The Open University, not surprisingly, has been active in researching various components of possible online language learning environments. Student responses to working within such environments indicate the value they place on the affective aspect of being able to communicate directly with other students. They report increased motivation as a result of a decrease in their sense of isolation. Tutors report that a sense of community builds up within half an hour of the start of the first tutorial and that it appears to hold despite differences in levels of competence. There is evidence from email exchanges that personal interests creep into messages as well as the work-related content.

There is a growing body of research into collaborative language learning undertaken online, with particular emphasis on community building. You will find relevant papers at Vance Stevens's [Writing for Webheads](http://prosites-vstevens.homestead.com/files/efi/webheads.htm) site.

See also the substantial [Section 14, Module 1.5](http://www.ict4lt.org/en/en_mod1-5.htm#compmedcomm), headed *Computer Mediated Communication (CMC)*.

**8. Text manipulation: by Sue Hewer**

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  + [8.2.3 Gap-filling activities on a computer](http://www.ict4lt.org/en/en_mod1-4.htm#gapfill)
* [8.3 Total text reconstruction: total Cloze](http://www.ict4lt.org/en/en_mod1-4.htm#8.3)
  + [8.3.1 Learning task](http://www.ict4lt.org/en/en_mod1-4.htm#8.3.1)
  + [8.3.2 Text](http://www.ict4lt.org/en/en_mod1-4.htm#8.3.2)
  + [8.3.3 Image: Local area plan](http://www.ict4lt.org/en/en_mod1-4.htm#8.3.3)
  + [8.3.4 Description of the activity](http://www.ict4lt.org/en/en_mod1-4.htm#8.3.4)
  + [8.3.5 Skills/Strategies Table for Fun with Texts](http://www.ict4lt.org/en/en_mod1-4.htm#8.3.5)
  + [8.3.6 Follow-up learning task](http://www.ict4lt.org/en/en_mod1-4.htm#8.3.6)
* [8.4 Setting up text manipulation activities](http://www.ict4lt.org/en/en_mod1-4.htm#8.4)
  + [8.4.1 Integration issues](http://www.ict4lt.org/en/en_mod1-4.htm#8.4.1)
  + [8.4.2 Learning task](http://www.ict4lt.org/en/en_mod1-4.htm#8.4.2)
  + [8.4.3 Student training](http://www.ict4lt.org/en/en_mod1-4.htm#8.4.3)
  + [8.4.4 Learning task](http://www.ict4lt.org/en/en_mod1-4.htm#8.4.4)

**8.1 A definition**

**Text manipulation** is the name given to software in which the student has to reconstruct a text that has been "manipulated" in a number of different ways, e.g.

* Gap-filling - including Cloze procedure: see [Section 4.6, Module 1.3](http://www.ict4lt.org/en/en_mod1-3.htm#cloze), headed *Cloze procedure*
* Replacing existing words with other suitable words
* Re-ordering jumbled words, sentences and paragraphs
* Decoding and unscrambling words or chunks of text
* Partial or total text reconstruction - so-called **total Cloze** (see [Section 8.3](http://www.ict4lt.org/en/en_mod1-4.htm#8.3))

Text manipulation on the computer began to attract wide attention in the 1980s. It has been shown that text manipulation software has an important role to play in enabling students to improve their knowledge of the target language, especially with regard to sentence structure and accuracy of form, calling upon a range of different skills and strategies. See [Section 8.3.5](http://www.ict4lt.org/en/en_mod1-4.htm#8.3.5) below, which describes different strategies learners might use when reconstructing a text and contains a**Skills/Strategies Table for Fun with Texts** that can be used to document skills and strategies used by your own students. See [Trippen, Legenhausen & Wolff (1988)](http://www.ict4lt.org/en/en_mod1-4.htm#trippen). See also:

* [Brett (1994)](http://www.ict4lt.org/en/en_mod1-4.htm#brettp) on using text reconstruction software
* [Davies (2007b)](http://www.ict4lt.org/en/en_mod1-4.htm#daviesfwthist) for a brief history of **total Cloze** programs
* [Hewer (1997)](http://www.ict4lt.org/en/en_mod1-4.htm#hewer) for a comprehensive introduction to text manipulation
* [Higgins (2001)](http://www.ict4lt.org/en/en_mod1-4.htm#eclipse) regarding his **Eclipse** program

Text manipulation packages promote the development of a range of reading, writing and listening sub-skills and, if set up carefully ([Myles 1998)](http://www.ict4lt.org/en/en_mod1-4.htm#myles), can enhance **vocabulary acquisition**. While not dealing specifically with text manipulation, the following two articles provide evidence, based on empirical research, that CALL programs in general can make a positive contribution to vocabulary acquisition:

* [Grace (1998a)](http://www.ict4lt.org/en/en_mod1-4.htm#gracea)
* [Grace (1998b)](http://www.ict4lt.org/en/en_mod1-4.htm#graceb)

It is possible to set up text manipulation activities within a word-processor, as indicated in [Module 1.3](http://www.ict4lt.org/en/en_mod1-3.htm), *Using word-processing and presentation software in the Modern Foreign Languages classroom*. However, it is difficult to provide feedback in the majority of activities set up in this way and there is no doubt that students find the immediate and focused feedback offered by interactive text manipulation software both motivating and helpful: see next section, [Section 8.2](http://www.ict4lt.org/en/en_mod1-4.htm#8.2).

**8.2 Programs available**

The two major programs available which provide text manipulation activities are **Fun with Texts**from [Camsoft](http://www.ict4lt.org/en/en_mod1-4.htm#camsoft) and **The Authoring Suite** from [Wida Software](http://www.ict4lt.org/en/en_mod1-4.htm#wida). Both of these programs consist of two main components, (i) an authoring program for the teacher and (ii) a student program which sets up the activities. The teacher types in a text, which ideally is related to the course book and/or other work that the students are doing, and the student program turns the text into learning activities.

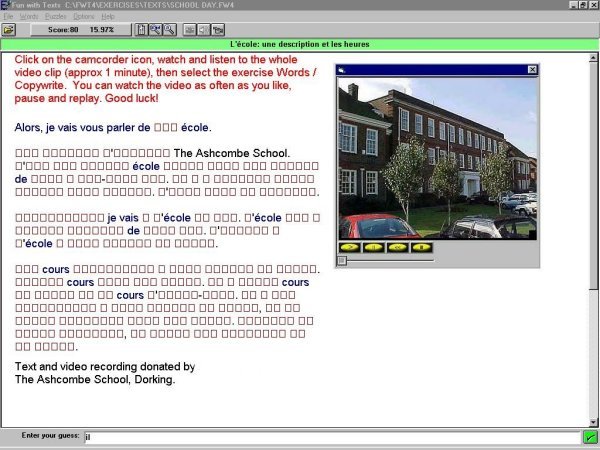
**8.2.1 Fun with Texts**

**Fun with Texts** offers seven activities based on a single text, which are as follows:.

* **Clozewrite:**Cloze exercise with the interval of word deletions chosen by the student - from every 2nd to every 9th word. The teacher can also set up the activity as a gap-filling exercise in which specific words, parts of words or whole phrases are removed.
* **Copywrite Easy:**Partial text reconstruction, in which the whole text is reduced to small squares and punctuation, leaving the only the first letter of each word.
* **Copywrite Hard:**Total text reconstruction - so called **total Cloze** - in which the whole text is reduced to small squares and punctuation.
* **Prediction:** An exercise in which the student predicts which word comes next in a text from a set of given choices.
* **Enigma:** A decoding exercise in which every letter in the text is replaced by another letter. The student has to decode the text.
* **Scrambler:** An exercise in which the letters in every word in the text are scrambled. The student has to unscramble the words.
* **Textsalad:** A line re-ordering exercise. The student has to put the jumbled lines of a text back into the correct order.

In each of the above exercises the teacher can decide which words must never be blanked out, e.g. proper names or uncommon words.

Version 4.0 of **Fun with Texts** enables you to combine the text manipulation activites with multimedia files containing pictures, sound or movies. See the screenshot below:



*Screenshot: Fun with Texts 4.0*

**8.2.2 The Authoring Suite**

**The Authoring Suite**consists of a number of different activities or games from which the teacher can choose. Images, sound and video files can be included in the activities. Unlike **Fun with Texts**, **The Authoring Suite** does not automatically set up all the activities with the given text because of the very different kinds of activities and games provided. The activities and games are designed to encourage learners to explore language, to develop specific skills or to promote vocabulary learning. The first three of the activities listed below fit the description of text manipulation given above. The activities are as follows. The name of each component in the software is given in brackets.

* Partial and total text reconstruction (**Storyboard**)
* Gap-filling (**Gapmaster**)
* Three types of matching pairs games (**Matchmaster**)
* Questions and answers (**Testmaster**)
* Multiple Choice (**Choicemaster**)
* Inferential reading skills (**Pinpoint**)
* Vocabulary building (**Vocab**)

**8.2.3 Gap-filling activities on a computer**

You might well ask yourself why you should bother with a computer program to set up gap-filling activities when it is perfectly possible to do so on paper. There are a number of reasons, some very practical and some directly related to the value of the learning experience, particularly for intermediate and advanced learners.

From a practical point of view, any computer-based activity always looks as fresh as the day that it was created and does not incur photocopying or printing costs incurred when paper is used.

Text created on a computer is always provisional. If you find that your activity is less than successful, you can always edit it in the light of student responses to it. The fact that text is provisional not only helps you to refine your materials, it is also of great benefit to students. They can type in what they believe fits in with the gaps, review their work and make changes before deciding to submit their answers for checking by the computer. This kind of approach encourages experimentation and self-assessment, both of which are useful language learning strategies which are not encouraged when it is a case of writing something into a gap on paper.

The most important factor in computer-based text manipulation exercises is the immediate **feedback** provided. See:

* [Section 1.2](http://www.ict4lt.org/en/en_mod1-4.htm#interactivity) (above), headed *Interactivity*.
* [Section 7.2 , Module 1.1](http://www.ict4lt.org/en/en_mod1-1.htm#7.2), headed *Feedback*.
* [Section 8, Module 2.5](http://www.ict4lt.org/en/en_mod2-5.htm#feedback), headed *How to factor feedback into your authoring*, on the distinction between **intrinsic** **feedback** and **extrinsic feedback**.

**Intrinsic feedback** does not immediately provide a correct answer when an error has been made. In some cases the correct answer is never given. The software simply indicates that the answer is wrong and it is up to the student to think about why it should be wrong and to try again. Cognitively, this is conducive to learning, particularly if the student has been trained in error identification and the kind of strategies likely to help them to solve problems thrown up by the text. For example, if they are working on a total text reconstruction and find that a word is rejected for a gap which they are targeting, they need to know that they might have tried out an inappropriate word and that they should consult a dictionary. They also need to know that they might have got the correct word, but that it has been spelt incorrectly. If both of those avenues fail to produce a correct input, they should then explore the context of the targeted word and try to work out the meaning of the word that would fill the gap and its likely function.

An alternative form of intrinsic feedback, which is often a feature of gap-filling activities, consists of showing the correct letters in a word input by students, leaving them to work out what the remaining letters should be from their understanding of the text and their own knowledge of the target language. It is also possible for the teacher to provide clues related to the gapped words. There is a great temptation to make these clues fast routes to getting the gap filled correctly. However, care should be taken to provide clues which not only help the student to get the right answer, but to learn something about the word on the way. For example, the missing word might be a less well known verb with the same meaning as a verb which students already know. They can be encouraged to think of or look up an alternative form of the verb that they know, rather than receive a more direct clue related solely to the missing words. Language learning has a lot to do with establishing links of various kinds. Clues can help students to make links and it is important that they do so.

**Extrinsic feedback**is more explicit, rather like the advice and encouragement that a good teacher would offer.

**8.3 Total text reconstruction: total Cloze**

**Total Cloze** dates back to an idea developed by Tim Johns and John Higgins in the early 1980s.. It's an interesting idea and one which could not have been implemented easily without the use of a computer: see [Higgins & Johns (1984:57)](http://www.ict4lt.org/en/en_mod1-4.htm#higginsjohns). Total Cloze programs have appeared in a wide variety of different forms: see [Levy (1997:24-25)](http://www.ict4lt.org/en/en_mod1-4.htm#levy97) and [Davies (2007b)](http://www.ict4lt.org/en/en_mod1-4.htm#daviesfwthist).

At first sight, total Cloze appears to be a daunting task. The learner is presented with a screen full of groups of small squares indicating letters, as in thescreenshot from **Fun with Texts** in [Section 8.2.1](http://www.ict4lt.org/en/en_mod1-4.htm#screenshotfwt). The teacher may set the program up so that a few key words and proper names remain on screen, but usually the learner is presented only with screen full of blanked-out words. The teacher may allow the learner to view the text for a short time before beginning the task of text reconstruction or the learner may be given some kind of prompt to work from, such as one of the following:

* an alternative form of the text, such as an interview, which is summarised in the text to be reconstructed;
* a translation of the text into another language;
* a picture relating to the text - for an example see [Section 8.3.3](http://www.ict4lt.org/en/en_mod1-4.htm#8.3.3) below;
* an audio file relating to the text;
* a video file relating to the text - as in the **Fun with Texts** screenshot above in [Section 8.2.1](http://www.ict4lt.org/en/en_mod1-4.htm#screenshotfwt).

By using a variety of skills and strategies (see [Section 8.3.5](http://www.ict4lt.org/en/en_mod1-4.htm#8.3.5) below) learners soon find that it is very quick and easy to get a skeleton of the text up on the screen and that this begins to suggest what the other missing words might be. In total Cloze programs, every occurrence of a word input by the learner appears immediately in the text in its correct place. If the learner correctly guesses a subject pronoun, s/he will then know that it makes sense to look for a verb to accompany it and that the verb must be correctly conjugated. Most learners adopt a sensible approach in reconstructing the test: for example, trying out content words found in the prompt, words suggested by a picture prompt, or words contained in an audio or video recording. These words add shape to the text and indicate aspects of sentence structure which should spark off further ideas for words to be input. Eventually the learner will be left with one or two stubborn gaps. Decisions will have to be made at that stage as to which of the help options to take, e.g. ask for the first letter of a missing word, ask for the whole word to be inserted, or have a look at the original text in its entirety. The different levels of help incur different penalties, causing the learner's score to go down by a lesser or greater degree.

The very nature of total Cloze forces the learner to engage with the text, to speculate on and explore the likely contents, and to take risks. If the input is wrong, the learner is simply invited to to have another go. There are no recriminations. The learner has to go back and work out an alternative - something which we all have to do in any language if communication fails. Research by the author of this section revealed that it is not unusual for a group of three learners working together on total text reconstruction to take up to 100 linguistic decisions in the space of half an hour, which is very high compared with many other language learning activities. Because of the gaming nature of the activity, learners rarely go off-task. Observations indicate little evidence of over-use of the help functions to complete the task - learners appear to like a challenge.

**8.3.1 Learning task**

Using your downloaded copy of **Fun with Texts**:

1. Copy and paste the English-language text ([Section 8.3.2](http://www.ict4lt.org/en/en_mod1-4.htm#8.3.2) below) into the Teacher's Program and save it as **Area**.
2. Copy and paste the **Skills/Strategies Table for Fun with Texts**([Section 8.3.5](http://www.ict4lt.org/en/en_mod1-4.htm#8.3.5) below) into your word-processor and print a copy.
3. Start the Student's Program in **Fun with Texts**and load the file you have just saved as **Area**.
4. Select the **Copywrite Hard** activity.
5. Complete the activity, using the **Local area plan** ([Section 8.3.3](http://www.ict4lt.org/en/en_mod1-4.htm#8.3.3) below) as a prompt. In Version 4.0 of **Fun with Texts** the image can be integrated into the program and called up whenever you need to look at it. In earlier versions of **Fun with Texts** the image cannot be integrated into the program and should be supplied on a printed handout.

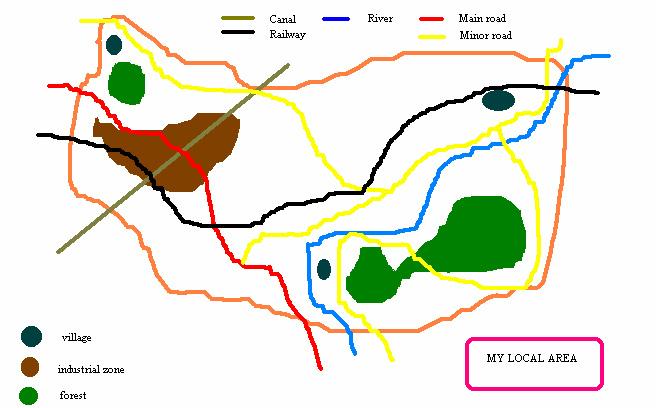
**Hint:**If you are unsure how to copy and paste a text or an image from a Web page into another application, see the technique described in [Section 2.1, Module 2.3](http://www.ict4lt.org/en/en_mod2-3.htm#saving), headed *Saving Web pages and selections from Web pages*. You should use the same technique when pasting a text into **Fun with Texts** from a word-processor, e.g. *Word*. You should always first paste the text into *Notepad* (or a similar tool that is used to produce plain text) so that all the invisible control characters that abound in Web or *Word* documents are removed or are transformed into visible "blobs" that you can delete. You'll be surprised how many characters of this sort exist in a Web text or in a word-processed text - and they can wreak havoc when pasted into another application. Once you have removed the redundant characters in *Notepad* copy the text again and then paste it into **Fun with Texts**.

Using the **Skills/Strategies Table** below ([Section 8.3.5](http://www.ict4lt.org/en/en_mod1-4.htm#8.3.5)), put a tick alongside the skills and strategies each time that you use one as you reconstruct the text. Add in any other strategies that you use in the boxes provided.

**8.3.2 Text**

I drew the plan of my local area on my computer.  
I live in the small village in the south east of the area.  
As you can see, it is near to quite a large forest.  
I go for walks there with my brother and sister and our dog.  
We are also not far from the river where we sometimes go fishing.  
My school is on the edge of the large industrial zone in the north west of the area.  
There are a lot of factories nearby which make different kinds of furniture  
from the wood which comes from our forest and from other forests a long way away.  
The wood is transported by barge from these forests to the factories but  
the furniture is transported by road or by rail.  
I think that I am lucky to live in the village, but  
I also enjoy going into town to buy clothes and to go to the cinema.

**8.3.3 Image: Local area plan**



*Image: Local area plan*

**8.3.4 Description of the activity**

Imagine that you are in your first year of learning English. Look at the local area plan (see [Section 8.3.3](http://www.ict4lt.org/en/en_mod1-4.htm#8.3.3) above). You are going to reconstruct a text containing a description of the area in the plan as written by a 12-year-old English native speaker (see [Section 8.3.2](http://www.ict4lt.org/en/en_mod1-4.htm#8.3.2) above). Try to predict what she will say and make a note of any useful words. When you are ready to begin the reconstruction of the text, go back to your downloaded copy of **Fun with Texts**, select the text called **Area** and complete the **Copywrite Hard** activity - and do not allow yourself the luxury of seeing the text!

**8.3.5 Skills/Strategies Table for Fun with Texts**

Research conducted by [Trippen, Legenhausen & Wolff (1988)](http://www.ict4lt.org/en/en_mod1-4.htm#trippen) revealed some interesting facts about the strategies adopted by students at both secondary school and university level when trying to reconstruct a text. They identified the following eight strategies which were adopted by students attempting a total Cloze exercise - ranked in order of frequency:

1. **Frequenzstrategien:** looking for high-frequency words: *the*, *a*, *is*, *in*, etc.
2. **Formale Strategien:** using punctuation clues and counting the blanks representing missing letters.
3. **Semantische Strategien:** looking for semantically linked words.
4. **Gedдchtnisstrategien:** remembering the original text - if it had been looked at before.
5. **Grammatische Strategien:** applying knowledge of grammatical rules, e.g. third person subject = third person verb form ending in "s".
6. **Weltwissenstrategien:** general knowledge about the world, e.g. a text about superstition might contain something concerning black cats or ladders.
7. **Textuelle Strategien:**looking for words appropriate to the type of text: formal text, dialogue, etc.
8. **Ratestrategien:** guessing - the least popular strategy!

Both teachers and learners may wish to use the following table to document skills and strategies used when reconstructing a text that has been completely blanked out. Learners should be encouraged to think out loud each time they enter a new word, indicating why they have chosen that particular word. Working in pairs can be beneficial in this sort of exercise.

|  |  |
| --- | --- |
| **Skills/Strategies Table for Fun with Texts** |  |
| Entering high-frequency words |  |
| Using punctuation as a clue |  |
| Counting the blanks representing missing letters and using the word length as a clue |  |
| Remembering a word from the original text - if you have chosen to read the whole text before starting the text reconstruction task |  |
| Looking for words that belong together, e.g. an adjective that is likely to be used together with a noun |  |
| Applying your knowledge of a grammatical rule, e.g. a verb ending that matches the preceding noun |  |
| Using your own world knowledge |  |
| Using the picture prompt to infer what the text is about |  |
| Revising a rejected word by applying your knowledge of the target language |  |
| Reading the text aloud to help you fill in a missing word |  |
| Substituting an alternative word when your input is rejected |  |
| Substituting a word with an alternative form, e.g. a different verb or case ending, when your input is rejected |  |
| Translating the text into your mother tongue to help identify missing words |  |
| Using audio clues - if an audio recording of the text is available |  |
| Using video clues- if a video recording of the text is available |  |
| Guessing |  |
| Other - specify |  |

**8.3.6 Follow-up learning task**

Find a suitable text in another language, e.g. from a newspaper on the Web, accompanied by a picture if you can find one, and repeat the above activity. [Kidon Media-Link](http://www.kidon.com/media-link/) lists links to nearly 20,000 newspapers and other news sources from almost every country and territory in the world

**8.4 Setting up text manipulation activities**

**8.4.1 Integration issues**

Any learning resource which does not have a clear rationale within the scheme of work and which is not integrated with other resources is unlikely to provide much by way of learning opportunities. Computer-based materials are no different from more traditional materials in this respect. Text manipulation activities are very easy to integrate and, because they are under teacher control as far as the content of the text is concerned, they can be closely tied in with the scheme of work.

**8.4.2 Learning task**

One of the easiest ways into ICT for the modern languages teacher is via text manipulation. Have a look at the scheme of work for one of the classes that you teach and identify the best point within a six week period when you could use text manipulation to help raise further the level of achievement of your students.

Integration is important not only in identifying where a text manipulation activity would be appropriate, but also in embedding it in the work of the class just by preparing the students adequately in terms of the kind of linguistic knowledge that they will need to complete the task and by giving them an opportunity to recycle the language used in the activity in one or more follow-up tasks. As indicated earlier, the most successful text manipulation activities are those in which students are required either to process and recycle information and/or process and recycle linguistic knowledge.

You might, for example, invite a class to listen to a discussion between two young people about their plans for the weekend. Having checked that they have understood the contents of the discussion, you ask them to listen to it again, taking notes about the content and any major vocabulary items. Next lesson you take them to the computer room and ask them to reconstruct a text which is a third person report about what each of the two young people actually did. Neither succeeded in doing everything that they had planned. The reconstruction involves the recycling of some language and information and the processing of language to turn verbs from 1st to 3rd person and from future to past tenses. Information processing can be encouraged by asking students to identify what it was that each of the two young people failed to achieve. As a follow-up activity, you could ask the students to compose a similar account based on the transcript of a comparable dialogue.

**8.4.3 Student training**

As you saw above, students might well need help in understanding and implementing the kind of strategies likely not only to help them to reconstruct the text, but, more importantly, to help them to sort out the meaning of other texts, to help them to acquire a knowledge of structure and form, and to increase their active vocabulary. Introduce them to the **Skills/Strategies Table for Fun with Texts** ([Section 8.3.5](http://www.ict4lt.org/en/en_mod1-4.htm#8.3.5)) before they use the program for the first time.

**8.4.4 Learning task**

Text manipulation is the most popular form of ICT in use in modern languages departments of British schools. As a result, there are a lot of ideas around about how to make the most of what it offers. See the section headed [Hints, tips materials, recommendations](http://www.camsoftpartners.co.uk/fwt.htm#hints) on Camsoft's **Fun with Texts** page.

Choose an activity for a class that you teach. List the intended learning outcomes, what students will do before or after the computer-based activity and decide on what kind of strategy training you will provide to enable them to get the most out of the activity. Compose or paste a text in the **Fun with Texts** Teacher's Program and and try it out with two or three students. Observe what happens, ask for comments from the students and evaluate the activity. Write a report on your activity under the headings below and include your textfile as an appendix:

Intended learning outcomes:

* Extent and nature of integration with other activities within the same unit of work
* Pre-**Fun with Texts** activities
* Post-**Fun with Texts** activities
* Student preparation for **Fun with Texts** activity, including strategy training
* Summary of observation findings
* Summary of student comments
* Evaluative analysis of observation findings and student comments

**Appendix: Viruses**

If you surf the Web, use email or use memory sticks sent to you by other people, you need to be protected against virus invasions. A virus is a nasty program devised by a clever programmer, usually with malicious intent. Viruses can be highly contagious, finding their way on to your computer's hard drive without your being aware of it and causing considerable damage to the software and data stored on it. Viruses can be contracted from files attached to email messages, e.g. *Microsoft Word* files, or from a memory stick. Be very wary of opening an email attachment of unknown origin, as this is the commonest way of spreading viruses. See Graham Davies's [Cautionary Tale](http://www.camsoftpartners.co.uk/bugs.htm), which includes references to *viruses,* *spam*, *adware* and *spyware*.

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CALICO: Acronym for Computer Assisted Language Learning Consortium, a professional association devoted to promoting the use of technology enhanced language learning. Founded in the USA in 1982: <http://www.calico.org/>. CALICO publishes the *CALICO Journal*.

CALLBOARD: A newsletter, edited by Graham Davies and David Steel, published by Ealing College of Higher Education (later Thames Valley University) from July 1982 to June 1992.

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**Feedback and blog**

If you wish to send us feedback on any aspect of the ICT4LT website, use our online [Feedback Form](http://www.camsoft.force9.co.uk/custard.htm) or visit the [ICT4LT blog](http://ictforlanguageteachers.blogspot.com/).

The Feedback Form and a link to the ICT4LT blog can be found at the bottom of every page at the ICT4LT site.

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[**[](http://www.ict4lt.org/index.htm)**](http://www.ict4lt.org/index.htm)**ICT4LT Module 1.5**

**Introduction to the Internet**

**Contents**

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**Aims**

This module aims to serve as an introduction to the Internet for language teachers, covering a variety of topics beginning with an explanation of the terms **Internet**, **World Wide Web** and **Web 2.0**, followed by a substantial set of topics from the basics of using a browser to recent developments such as the 3D virtual world of [Second Life](http://www.ict4lt.org/en/en_mod1-5.htm#secondlife).

After reading this module have a look at [Module 2.3](http://www.ict4lt.org/en/en_mod2-3.htm), *Exploiting Word Wide Web resources online and offline*.

This Web page is designed to be read from the printed page. Use **File / Print** in your browser to produce a printed copy. After you have digested the contents of the printed copy, come back to the onscreen version to follow up the hyperlinks.

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In order to keep pace with the rapid developments of Internet technology this module has undergone regular editing and revision by Graham Davies since it was first published, especially [Section 12](http://www.ict4lt.org/en/en_mod1-5.htm#anchordiscuss) on*Discussion lists, blogs, wikis, social networking* and [Section 14](http://www.ict4lt.org/en/en_mod1-5.htm#compmedcomm) on *Computer Mediated Communication (CMC)*.

**1. What is the Internet?**

Graham Davies, Editor-in-Chief of the ICT4LT website, put this question to a group of postgraduate students back in the late 1990s:

"If you were asked to name one single recent development in ICT that has had the most significant impact on your work, what would it be?"

Most of the students answered, as anticipated, "The Internet". Significantly, none of the students was aware that the **Internet** and the **World Wide Web** are *not* synonymous terms. The **Web** is a subset of the Internet, and none of the students was aware just how recently it came into being, namely 1993. The Internet dates back much further, its forerunner being ARPANET, a US military communications network which was set up in 1969. ARPANET was extended (i.e. as the Internet) in the 1970s to include libraries, educational institutions and businesses, and email began to become used as a means of communication. The first publicly accessible Web browser, known as **Mosaic**, appeared in 1993, followed by **Netscape** in 1994. See [Section 3](http://www.ict4lt.org/en/en_mod1-5.htm#anchorskills), headed *Using a browser: navigating the Web*.

Graham Davies describes the **Internet** as follows:

The **Internet** is a computer network connecting millions of computers all over the world. It provides communications to governments, businesses, universities, schools and homes. Any modern computer can be connected to the Internet using existing communications systems. Schools and universities normally access the Internet via their own educational networks, but private individuals usually have to take out a subscription with an **Internet Service Provider (ISP)**. They can then connect their computer to the Internet via a modem and their local telephone system. [Davies (1999)](http://www.ict4lt.org/en/en_mod1-5.htm#davies)

Nowadays there are many different ways of obtaining a connection to the Internet. If you work in an educational institution you are probably already connected and you should talk to your ICT manager if you require advice and information. If you work from home you should be able to obtain access to **broadband**, which is a fast connection to the Internet via a standard telephone line. See the [Glossary](http://www.ict4lt.org/en/en_glossary.htm) for a definition of broadband, and see [Section 1.3.2, Module 1.2](http://www.ict4lt.org/en/en_mod1-2.htm#modem) for more information on broadband.

**History of the Internet:** See [A brief history of the Internet](http://www.walthowe.com/navnet/history.html) by Walt Howe. Karenne Sylvester has produced a useful blog (*Kalinago English*) on [The history and the future of the Internet,](http://kalinago.blogspot.com/2009/02/history-and-future-supplementing-your.html) which includes an embedded video on the early developments of the Internet and a slide show on the future directions it may take, with suggested ways of exploiting these rersources in teaching business English.

**2. What is the World Wide Web?**

**Contents of this section**

* [2.1 What is Web 2.0?](http://www.ict4lt.org/en/en_mod1-5.htm#WEB2)
* [2.2 Discussion topics](http://www.ict4lt.org/en/en_mod1-5.htm#web2discuss)

[Davies (1999)](http://www.ict4lt.org/en/en_mod1-5.htm#davies) described the **World Wide Web** as follows:

This is the most powerful and fastest growing Internet service, now known simply as the Web. The Web is accessed by means of a computer program known as a browser. Two popular browsers are Internet Explorerand Netscape, both of which work more or less the same way. Using a browser you can accesswebsites all over the world and downloadpages of information. Most Web pages include pictures, and many include audio, animated graphics, video and links - known as hyperlinks - to other websites.

The inventor of the Web, Tim Berners-Lee, has a more visionary view:

The dream behind the Web is of a common information space in which we communicate by sharing information. Its universality is essential: the fact that a *hypertext link*[**Editor's Note:** My italics - now usually abbreviated to **hyperlink**] can point to anything, be it personal, local or global, be it draft or highly polished. There was a second part of the dream, too, dependent on the Web being so generally used that it became a realistic mirror (or in fact the primary embodiment) of the ways in which we work and play and socialise. That was that once the state of our interactions was on line, we could then use computers to help us analyse it, make sense of what we are doing, where we individually fit in, and how we can better work together. [(Berners-Lee 1998)](http://www.ict4lt.org/en/en_mod1-5.htm#bernerslee98)

The concept of **hypertext** predates the Web by many years.Vannevar Bush is credited with inventing the concept of hypertext: see his article "As we may think", written as early as 1945, in which he describes an imaginary machine called "Memex" - essentially a hypertext device that takes account of the way the human mind associates ideas and follows a variety of different paths rather than moving on sequentially [(Bush 1945)](http://www.ict4lt.org/en/en_mod1-5.htm#bushv). Bush wrote:

[ The human mind] operates by association. With one item in its grasp, it snaps instantly to the next that is suggested by the association of thoughts, in accordance with some intricate web of trails carried by the cells of the brain. It has other characteristics, of course; trails that are not frequently followed are prone to fade, items are not fully permanent, memory is transitory. Yet the speed of action, the intricacy of trails, the detail of mental pictures, is awe-inspiring beyond all else in nature

The term **hypertext** did not, however, appear until the 1960s, when it was coined by Ted Nelson. Hypertext was implemented in **HyperCard**, a program developed for the Apple Mac in 1987, which is acknowledged as the first successful (offline) hypertext system before the advent of the World Wide Web. Essentially, the Web is hypertext running across the Internet.

**2.1 What is Web 2.0?**

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* [2.1.2 Links to further information on Web 2.0](http://www.ict4lt.org/en/en_mod1-5.htm#web2links)
* [2.1.3 Examples of Web 2.0 applications](http://www.ict4lt.org/en/en_mod1-5.htm#web2apps)

**2.1.1 Definition of Web 2.0**

Contrary to what many people think, Web 2.0is not a new version of the World Wide Web - as this is what the appendage of a version number to a product's name normally implies. The term dates back to 1999 but only gained popularity following the first of a series of **Web 2.0 Summit**conferences initiated by Tim O'Reilly in 2004 ([Oreilly 2005](http://www.ict4lt.org/en/en_mod1-5.htm#oreilly)). Web 2.0 suggested a revival of the Web following the dot-com crash in the early 2000s, which had damaged people's confidence in the Web.

Essentially, the term Web 2.0 is an attempt to redefine what the Web is all about and how it is used. In recent years we have experienced a breathtaking increase in the number Web-based communities that make use of typical Web 2.0 tools such as **discussion lists**, **blogs**, **wikis** and **podcasts**, as well as dedicated **social networking** websites and **virtual worlds** or **MUVEs** that promote **sharing**,**collaboration** and **interaction**. In other words, Web 2.0 signifies a more *democratic* approach to the use of the Web, in which traffic is less likely to be one-way, i.e. from the website to the end-user. Thus more and more websites are emerging that are the result of sharing and collaboration between closed groups of users, e.g. students in a university or college, or by the public at large. [Wikipedia](http://www.ict4lt.org/en/en_mod1-5.htm#wikipedia) is a typical example of collaborative publishing by the public at large. To most newcomers to the Web, Web 2.0 *is* the Web.

Interestingly, Tim Berners-Lee's concept of the Web as described in 1998 (see citation [above](http://www.ict4lt.org/en/en_mod1-5.htm#vision)) is broadly in line with what many people now associate with Web 2.0. Tim Berners-Lee reiterated this view in an interview conducted in August 2006, when he dismissed Web 2.0 as a "piece of jargon":

Web 1.0 was all about connecting people. It was an interactive space, and I think Web 2.0 is, of course, a piece of jargon, nobody even knows what it means. If Web 2.0 for you is blogs and wikis, then that is people to people. But that was what the Web was supposed to be all along. And in fact, you know, this Web 2.0 means using the standards which have been produced by all these people working on Web 1.0.  
Source: [developerWorks Interviews: Tim Berners-Lee, 22 August 2006](http://www.ibm.com/developerworks/podcast/dwi/cm-int082206txt.html)

Many Web 2.0 applications work rather like the software installed on the hard disc of your desktop computer, like the software that you use for word-processing and other routine tasks. When you click on an icon in your word-processor you expect something to happen without a time delay and you also assume that you can save the documents that you create with your word-processor onto your hard disc and send copies to your friends using email software (see [Section 14](http://www.ict4lt.org/en/en_mod1-5.htm#compmedcomm)). You can now do this sort of thing via your Web browser (see [Section 3](http://www.ict4lt.org/en/en_mod1-5.htm#anchorskills)), regardless of where you are located. In the early days of the Web this would not have been possible. Firstly, the software tools were not available. Secondly, long delays were a feature of the early Web. When you clicked on a button on a Web page you could go away and make yourself a cup of coffee before anything happened. Time delays still occur on the Web, of course, but the advent of new Web programming tools such as **AJAX** (see [Glossary](http://www.ict4lt.org/en/en_glossary.htm)) and [plug-ins](http://www.ict4lt.org/en/en_mod1-5.htm#plug) have made it possible to create Web pages that respond more quickly to your requests and incorporate more interactivity and functionality. [GoogleMaps](http://maps.google.co.uk/)is a typical example of a Web application incorporating AJAX. Scroll around the map and watch it update itself with relatively little time delay.

With the advent of new, so-called Web 2.0 software tools and faster connections to the Internet, you no longer have to rely exclusively on software being installed on your desktop computer. Web 2.0 provides you with a variety of online tools that enable you to produce documents, communicate via email, set up lists of your favourite websites, and organise and store your digital photographs, thus making it possible for you to work away from home and also share what you create with other people, anywhere in the world. Web 2.0 certainly offers a wealth of exciting new developments, but the question arises regarding how and to what extent these developments can contribute to education, especially the teaching and learning of foreign languages. Web 2.0 tools cover a wide variety of applications, some of which are intended for serious work and some of which are just for fun.

See this excellent *PowerPoint* presentation, [The best of CALICO for K 12 teachers](http://tinyurl.com/y9escks), by Lara Lomicka, Gillian Lord, Nike Arnold and Lara Ducate. It looks at a range of Web 2.0 tools, with links to where they may be found, the pros and cons of using them and some imaginative ideas for projects.

**2.1.2 Links to further information on Web 2.0**

* *What is Web 2.0?* by [Tim O'Reilly (2005)](http://www.ict4lt.org/en/en_mod1-5.htm#oreilly).
* [Web 2.0 Summit conferences](http://www.web2summit.com/)
* [The evolution of the Web](http://news.bbc.co.uk/1/hi/programmes/click_online/6708491.stm), BBC's Click Online programme, 1 June 2007.
* [Web 2.0: Cool Tools for Schools](http://cooltoolsforschools.wikispaces.com/)
* [Web 2.0 in Education](http://e-language.wikispaces.com/web2.0): a wiki created by Mark Pegrum.
* [Web2 - 4 Languages Teachers](http://web2-4languageteachers.wikispaces.com/): a wiki created by Kris Paul.
* [Technogogy](http://www.technogogy.org.uk/): a website created by Nik Peachey. This website contains many useful links relating to the use of new technologies in language teaching and learning, including a downloadable guide for EFL and ESL teachers describing how to use a selection of Web-based tools and learning technologies to assist in language development. It's also useful for teachers of languages other than English.
* [Web 2.0 and Language Learning](http://www.youtube.com/watch?gl=FR&hl=fr&v=F1IRkqbUoXY) : A YouTube video with a section on [Second Life](http://www.ict4lt.org/en/en_mod1-5.htm#secondlife), by Graham Stanley of The British Council.
* [web2practice](http://blip.tv/web2practice): Video guides to help lecturers, researchers and administrators to get started with Web 2.0 technologies. Produced by Will Allen and Steve Boneham of Netskills with funding from the JISC Users & Innovation Programme. The following topics are covered:
  + Social media
  + Microblogging
  + Podcasting
  + RSS feeds
  + Collaborative writing
* [Wikipedia article on Web 2.0](http://en.wikipedia.org/wiki/Web_2.0)
* [Go2Web20](http://www.go2web20.net/): an index of Web 2.0 tools and applications.

**2.1.3 Examples of Web 2.0 applications**

The following sub-sections contain examples of and links to Web 2.0 applications that have been found useful by language teachers:

* [i. Image sharing](http://www.ict4lt.org/en/en_mod1-5.htm#imagetools)
* [ii. Social bookmarking](http://www.ict4lt.org/en/en_mod1-5.htm#socbooktools)
* [iii. Discussion lists, blogs, wikis, social networking](http://www.ict4lt.org/en/en_mod1-5.htm#discussiontools)
* [iv. Chat rooms, MUDs, MOOs and MUVEs (virtual worlds)](http://www.ict4lt.org/en/en_mod1-5.htm#chattools)
* [v. Podcasting](http://www.ict4lt.org/en/en_mod1-5.htm#podcasttools)
* [vi. Audio tools](http://www.ict4lt.org/en/en_mod1-5.htm#audiotools)
* [vii. Video sharing](http://www.ict4lt.org/en/en_mod1-5.htm#videotools)
* [viii. Screen capture tools](http://www.ict4lt.org/en/en_mod1-5.htm#capturetools)
* [ix. Animation tools - comic strips, movies, etc](http://www.ict4lt.org/en/en_mod1-5.htm#comictools)
* [x. Mashups](http://www.ict4lt.org/en/en_mod1-5.htm#mashuptools)
* [xi. Document sharing](http://www.ict4lt.org/en/en_mod1-5.htm#docsharing)

You might also consider looking at [DOTS (Developing Online Teaching Skills)](http://moodle.dots.ecml.at/), a free online course in ICT for language teachers, the result of a project funded by the [European Centre for Modern Languages (ECML)](http://www.ecml.at/). The course is delivered in English and in German via Moodle and covers Audacity, Audioconferencing, Blogs, Forums, Moodle, Podcasting, Quizzes, SurveyMonkey, Wikis, and YouTube.

**i. Image sharing**

* [Flickr](http://www.flickr.com/): See, for example, Graham Davies's [Flickr Photostream](http://www.flickr.com/photos/39193151@N06/).
* [Picturetrail](http://www.picturetrail.com/): Online photo sharing and image hosting website.
* [Slideshare](http://www.slideshare.net/): A site where you can upload and share your *PowerPoint* slides.
* [Tag Galaxy](http://taggalaxy.de/): A tool that enables you to find Flickr photographs by entering a keyword - also known as a **tag**. You enter a tag and set of planets appears on the screen. Each planet contains pictures relating to your tag, and when you click on them the images are placed on a 3D rotating globe. You click on any image to enlarge it.

If you wish to use Web 2.0 tools for image storage and sharing you also need to know how to use a digital camera, how to store the images on your computer's hard disc and how to edit the images: see Section [2.2.3.1, Module 2.2](http://www.ict4lt.org/en/en_mod2-2.htm#imageed), headed *Image editing software*.

[Compfight](http://compfight.com/) and [Behold](http://www.behold.cc/) are useful tools for finding images on the Web. See also [MorgueFile](http://www.morguefile.com/), which offers "Free images for your inspiration, reference and use in your creative work, be it commercial or not!"

**ii. Social bookmarking:** see [Section 5](http://www.ict4lt.org/en/en_mod1-5.htm#anchor674350) (below).

**iii. Discussion lists, blogs, wikis, social networking:**see [Section 12](http://www.ict4lt.org/en/en_mod1-5.htm#anchordiscuss) (below).

**iv. Chat rooms, MUDs, MOOs and MUVEs (virtual worlds):** see [Section 14.2](http://www.ict4lt.org/en/en_mod1-5.htm#14.2) (below).

**v. Podcasting:**See [Section 3.5.2, Module 2.3](http://www.ict4lt.org/en/en_mod2-3.htm#podcast), headed *Podcasting*. See also [(vi.) Audio tools](http://www.ict4lt.org/en/en_mod1-5.htm#audiotools) (below).

If you wish to use Web 2.0 tools for creating podcasts you also need to know how to use digital recording devices and software, how to store the recordings on your computer's hard disc and how to edit the recordings. See [Section 2.2.3.3, Module 2.2](http://www.ict4lt.org/en/en_mod2-2.htm#sounded), headed *Sound recording and editing software*. See also [Section 3.5, Module 2.3](http://www.ict4lt.org/en/en_mod2-3.htm#audio), headed *Audio and video*.

**vi. Audio tools**

There is an increasing choice of tools that enable audio recordings to be downloaded from and uploaded to the Web, combined with other media, for example:

* [VoiceThread](http://voicethread.com/): VoiceThread allows you to place collections of media such as images, videos, documents, and presentations at the centre of an asynchronous conversation. A VoiceThread allows people to have conversations and to make comments using any mix of text, a microphone, a web cam, a telephone, or uploaded audio file. VoiceThread runs inside your Web browser, so there is no software to download, install, or update. See Russell Stannard's **Teacher Training Videos**website, where you will find his [VoiceThread tutorial screencasts](http://www.teachertrainingvideos.com/voiceThread/index.html).
* [Voxopop](http://www.voxopop.com/): Enables you to set up talkgroups to help students develop their speaking skills. Talkgroups are a bit like message boards, but use voice rather than text and a have a specialised user interface. No longer confined to a physical classroom, teachers and students of oral skills can interact from home - or anywhere, anytime!

If you wish to use Web 2.0 audio tools you also need to know how to use digital audio recording devices and software, how to store audio recordings on your computer's hard disc and how to edit the recordings. See:

* [Section 2.2.3.3, Module 2.2](http://www.ict4lt.org/en/en_mod2-2.htm#sounded), headed *Sound recording and editing software*
* [Section 3.5, Module 2.3](http://www.ict4lt.org/en/en_mod2-3.htm#audio), headed *Audio and video*
* [Section 3.5.2, Module 2.3](http://www.ict4lt.org/en/en_mod2-3.htm#podcast), headed *Podcasting*.

**vii. Video sharing**

Many language teachers make regular use of video sharing websites, which enable them to play and download existing video recordings to the Web or upload their own recordings, for example:

* [BlipTV](http://blip.tv/): A video sharing site that focuses mainly on the delivery of a series of video broadcasts, for example the series on Second Life produced by [Karelia Kondor](http://blip.tv/karelia-kondor) (aka Helen Myers).
* [Dailymotion](http://www.dailymotion.com/): A popular video sharing website.
* [dotSUB](http://dotsub.com/): A website that enables you to upload, transcribe, translate and subtitle any video into any language.
* [Metacafe](http://www.metacafe.com/): A popular video sharing website.
* [Vimeo](http://vimeo.com/): A popular video sharing website.
* [YouTube](http://www.youtube.com/): The best known video sharing website. Contains lots of useful videos for language teaching.
* [Teachers Media](http://www.teachersmedia.co.uk/): A searchable video sharing website for educators. Teachers Media took over all the **Teachers TV** videos when the the Teachers TV website was closed down.
* [TeacherTube](http://www.teachertube.com/): A searchable video sharing website for educators. Contains lots of useful videos for language teaching.
* [Bubbletweet](http://www.bubbletweet.com/): An application that enables you to add videos to [Twitter](http://twitter.com/)

If you wish to use Web 2.0 video tools you also need to know how to use a **camcorder** or **webcam**, how to store video recordings on your computer's hard disc and how to edit the recordings. See[Section 2.2.3.4, Module 2.2](http://www.ict4lt.org/en/en_mod2-2.htm#videoed), headed *Video editing software*. See also [Section 3.5, Module 2.3](http://www.ict4lt.org/en/en_mod2-3.htm#audio), headed *Audio and video*.

**viii. Screen capture tools**

* [Debut Video Capture](http://www.nchsoftware.com/capture/): Captures video directly to your hard drive Records video in many video file formats including avi, wmv, flv, mpg, 3gp, mp4, mov - and more. Capture video from a webcam, network IP camera or a video input device (e.g., VHS recorder).
* [Fraps](http://www.fraps.com/): Especially good for capturing screens of Second Life and games programs. See, for example, this Fraps screen capture on YouTube, which shows Groovy Winkler conducting a [Tour of the EUROCALL HQ Building in Second Life.](http://www.youtube.com/watch?v=2GPTRLuT_qc)
* [Jing](http://www.techsmith.com/jing.html):Take a picture or make a short video of what you see on your computer monitor, share it instantly via web, email, IM, [Twitter](http://twitter.com/) or your blog. Two versions available: **Jing** is free and **Jing Pro** is available by subscription. See Russell Stannard's **Teacher Training Videos** website, where you will find his [Jing tutorial screencasts](http://www.teachertrainingvideos.com/Jing/index.html).
* [Screencast-O-Matic](http://www.screencast-o-matic.com/): a free online screen recorder. No installation necessary.
* [Screenr](http://www.screenr.com/): a Web-based screen recorder for creating and sharing screencasts.
* [Snagit](http://www.techsmith.com/snagit.html): Captures any image from your computer screen, pulls it into the image editor, where you can add text, arrows and effects. The completed Snagit image can then be pasted into emails, documents and presentations, or uploaded it to a website.

**ix. Animation tools - comic strips, movies, etc**

* [Acapela TV](http://www.acapela.tv/):A great tool for making animated cartoon movies.
* [ComicLab](http://webcomicbookcreator.com/)
* [Comic Creator](http://www.readwritethink.org/files/resources/interactives/comic/)
* [Comic Life](http://plasq.com/products/comiclife/win)
* [Crazy Talk](http://www.reallusion.com/crazytalk/): A website that offers facilities for creating face puppets, i.e animated 3D talking characters from photos, images or illustrations.
* [Domo Animate](http://domo.goanimate.com/): See the [Using Domo Animate tutorial by Joe Dale](http://www.cilt.org.uk/secondary/14-19/training_zone/using_domo_animate.aspx) at the **CILT** website.
* [Domo Nation](http://www.domonation.com/)
* [Dvolver](http://www.dvolver.com/)
* [MakeBeliefsComix](http://www.makebeliefscomix.com/)
* [ToonDoo](http://www.toondoo.com/)
* [Voki](http://www.voki.com/): A website that enables you to create and customise your own speaking cartoon character that can be embedded in your favourite social networks, blogs and websites. You can choose the text-to-speech (TTS) option to give the character a voice, or you can record your own voice. See José Picardo's [Box of Tricks](http://www.boxoftricks.net/2008/06/using-voki-and-a-blog-in-a-sequence-of-three-lessons/) blog for an example of how Voki might be used in class. See the[Creating a Voki tutorial by Joe Dale](http://www.cilt.org.uk/secondary/14-19/training_zone/creating_a_voki.aspx) at the CILT website.
* [ReadTheWords](http://www.readthewords.com/): A tool that works in much the same way as **Voki**, but without the option of recording one's own voice.
* [Witty Comics](http://www.wittycomics.com/)
* [Xtranormal](http://www.xtranormal.com/)**:**A great tool for making animated cartoon movies. See José Picardo's [Box of Tricks](http://www.boxoftricks.net/2009/11/xtranormal-in-the-classroom/) blog for an example of how Xtranormal might be used in class.
* [Zimmertwins](http://www.zimmertwins.com/)

**x. Mashups**

Mashups are typical manifestations of Web 2.0. The term **mashup** derives from the practice in music of mixing two or more songs in order to produce a new song, particularly in musical genres such as hip-hop. In the context of Web 2.0, a mashup can be described as a Web page, often assembled by an amateur enthusiast, that brings together data from two or more Web services and combines the data into a new application with added functionality. [O'Reilly (2005:4)](http://www.ict4lt.org/en/en_mod1-5.htm#oreilly) describes this phenomenon as "innovation in assembly". [Flickrvision](http://flickrvision.com/) and [Earthalbum](http://www.earthalbum.com/) are examples of mashups in which [Flickr](http://www.flickr.com/) and [Google Maps](http://maps.google.co.uk/) have been combined into new hybrid Web pages.

Essentially, then, a mashup is a way of repurposing existing Web services and requires relatively little Web programming expertise. A directory of mashups can be found here on the [Programmable Web](http://www.programmableweb.com/)site.

A mashup could be useful in language teaching and learning. A mashup for students studying a foreign language might consist, for example, of audio or video clips from an online broadcasting service, with transcriptions and annotations, grammar explanations and activities and exercises. Mashups could also be used in constructivist ways. For example, students could demonstrate their understanding of concepts by creating their own mashups.

**xi. Document sharing**

* [Google Docs](http://docs.google.com/): Upload and share your documents. Collaborate on producing a document.
* [Scribd](http://www.scribd.com/): Upload and share your documents. See Russell Stannard's **Teacher Training Videos** website, where you will find his [Scribd tutorial screencasts](http://www.teachertrainingvideos.com/scribd/index.html).

**2.2 Discussion topics**

1. To what extent is Web 2.0 a break with the past? Web 2.0 is broadly in line with the concept of the Web as defined by its inventor, Tim Berners-Lee, back in 1998 (see citation [above](http://www.ict4lt.org/en/en_mod1-5.htm#vision)), so is it more accurate to say that Web 2.0 is just an example of the continuous development of established technologies - a transition rather than a break with the past?
2. It has been argued that Web 2.0 is essentially a meaningless term invented by a group of businessmen as a way of convincing the media and investors that something fundamentally new had been created following the crash of the so-called [Dot-com bubble](http://en.wikipedia.org/wiki/Dot-com_bubble). See [O'Reilly (2005)](http://www.ict4lt.org/en/en_mod1-5.htm#oreilly). What do you think?
3. An article by Gregor Kennedy et al. (2007) suggests that the new generation of students is less interested in Web 2.0 technologies than teachers imagine them to be. It reports on a research study conducted among a large number of students in Australian universities, which concludes that there is greater diversity in frequency of use of technology than many commentators have suggested and that the use of collaborative and self-publishing Web 2.0 technologies associated with this generation is quite low: see [The net generation are not big users of Web 2.0 technologies: preliminary findings](http://www.ascilite.org.au/conferences/singapore07/procs/kennedy.pdf), ASCILITE 2007 Conference, Singapore. What kinds of experiences have you had using Web 2.0 tools in language teaching?

See also these discussion topics in the ICT4LT blog:

* [Web 2.0 - Is it just hype?](http://ictforlanguageteachers.blogspot.com/2007/04/web-20-is-is-just-hype.html) (initiated April 2007)
* [Students are not big users of Web 2.0 technologies](http://ictforlanguageteachers.blogspot.com/2009/07/students-are-not-big-users-of-web-20.html) (initiated July 2009)

**3. Using a browser: navigating the Web**

When you want to view pages on the World Wide Web, you need a computer program to do it, namely a **browser**. A browser is a software application that carries your messages to computers all over the world and returns messages to your computer. The most common browser is **Internet Explorer**, which is bundled with *Microsoft Windows*, but there are many others, e.g. **Firefox**, **Safari** and**Google Chrome**: see the Wikipedia article [List of Web browsers](http://en.wikipedia.org/wiki/List_of_web_browsers).

Essentially, a browser works as follows:

1. You request your browser to locate a website of your choice by typing in its address - or URL (Uniform Resource Locator) to use the correct technical term: see [Glossary](http://www.ict4lt.org/en/en_glossary.htm). The URL of the ICT4LT site is **http://www.ict4lt.org**
2. The website is located and the browser displays its contents on your computer screen.
3. You can then **navigate** around the site.
4. You can keep a record of your favourite Web pages by storing their URLs under **Favorites** (sic) or **Bookmarks** in your browser. (See [Section 5](http://www.ict4lt.org/en/en_mod1-5.htm#anchor674350) for more information on **bookmarking**.)

Some browsers, particularly later versions, have additional features, but the ones listed above are the most important.

**Tutorial materials**

It is assumed that if you are reading this module are already familiar with using a browser. There are many useful tutorials on using the Internet, e.g.

* Russell Stannard has created an excellent set of [Teacher Training Videos](http://www.teachertrainingvideos.com/) for a range of ICT applications. These include many [Web 2.0](http://www.ict4lt.org/en/en_mod1-5.htm#WEB2) applications.
* [Web Literacy](http://archive.ecml.at/projects/voll/literacy/): Written by Bernard Moro and located at the website of the Council of Europe's European Centre for Modern Languages.
* [Virtual Training Suite for Modern Languages](http://www.vtstutorials.co.uk/tutorial/modernlanguages): Free online materials to help university students develop their Internet research skills.
* [The Help Web: a Guide to Getting Started on the Internet](http://www.imagescape.com/helpweb/)
* [Walt Howe's Internet Learning Center](http://www.walthowe.com/about.html), a mine of information about the Internet.

See our "can do" list under the heading **Browsers** to check your progress: [ICT\_Can\_Do\_Lists](http://www.ict4lt.org/en/ICT_Can_Do_Lists.doc).

**4. Search engines: how to find materials on the Web**

The Web is truly an enormous collection of information: texts, images, audio and video recordings, etc, many of which can be exploited in language teaching. The problem is that this information is somewhat chaotically organised. [Bush (1996)](http://www.ict4lt.org/en/en_mod1-5.htm#bush) summed it up:

As someone once said, the Web is like one great big, wonderful library. You enter the front door, and there are all the books... piled in the middle of the floor!

But there are many tools available that will help you to find what you want. When you need to locate a Web page you may already have its Web address (**http://...** etc), but if you want to search for something completely new you will need to use a **search engine**. **Google** is currently the most popular search engine on the Web: see [Section 4.2](http://www.ict4lt.org/en/en_mod1-5.htm#googlewiki). And there are many other search engines in a variety of different languages: see [Section 4.3](http://www.ict4lt.org/en/en_mod1-5.htm#forlangs).

**Contents of this section**

* [4.1 Starting to search](http://www.ict4lt.org/en/en_mod1-5.htm#startsearch)
* [4.2 Using Google and Wikipedia](http://www.ict4lt.org/en/en_mod1-5.htm#googlewiki)
* [4.3 Search engines in foreign languages](http://www.ict4lt.org/en/en_mod1-5.htm#forlangs)

**4.1 Starting to search**

First and foremost, don't waste time looking for materials that are unlikely to be found on the Web. Living professional authors are usually unwilling to give information away for free. This is why the texts of most modern books cannot be found on the Web, especially those that are still subject to copyright, i.e. where the author has been dead for less than 70 years. Similarly, don't expect to find huge collections of freely downloadable audio and video materials for use with language learners, as copyright on audio and video materials is jealously guarded: see Section [3.5, Module 2.3](http://www.ict4lt.org/en/en_mod2-3.htm#audio), headed *Audio and video*. However, the situation regarding copyright on materials in electronic format has changed considerably in recent years: see our [General guidelines on copyright](http://www.ict4lt.org/en/en_copyright.htm). Sharing materials has become common practice since the advent of **Web 2.0**, and there are now many sites where you can find materials offered free of charge or buy them at a very low cost: see [Section 2.1](http://www.ict4lt.org/en/en_mod1-5.htm#WEB2), headed *What is Web 2.0?* where you will find references to some of these sites.

When searching, the most important thing is to hit on the keyword or combination of keywords that will bring up the information you are looking for. For example, you may be looking for lyrics of French songs. The keywords are **lyrics** **french songs** (note that you do not need to use upper case letters). These three keywords will probably find all the sites that contain these keywords, but not necessarily in that order and **french** may not be juxtaposed with **songs**. If you place quotation marks round **french** and **songs** - thus **"french songs"** - then the search engine will try to find sites in which the two words are juxtaposed. If you are looking for something more specific, for example the words of a particular song that was recorded by a particular singer, you can try a search such as **"edith piaf" lyrics milord**. This should find a site where the complete lyrics of the song *Milord*, as recorded by Edith Piaf, are listed.

The tutorial materials listed in [Section 3.1](http://www.ict4lt.org/en/en_mod1-5.htm#tutorial)contain advice on searching and search activities. The following guides will also help you learn how to be more successful in your searching.

* Nancy Blachman's [Google Guide](http://www.googleguide.com/).
* [The Spider's Apprentice](http://www.monash.com/spidap.html):Monash University's guide to search engines and search techniques, with links to sites that will help you learn to search effectively.
* [Search Engine Guide](http://www.searchengineguide.com/): Aimed mainly at small businesses, containing hundreds of articles and reviews and useful tips, such as **Search Engine Optimisation (SEO)**, i.e. how to make your website show up more effectively in Web searches..
* Have a look at the following article by Walt Howe: [Expert searching: a guide to developing your search skills](http://www.walthowe.com/navnet/searchtips.html).

**4.2 Using Google and Wikipedia**

**Google** is a very efficient search engine, and currently the most popular on the Web. Google's UK homepage is at <http://www.google.co.uk/>, but <http://www.google.com/> will also work. Google operates in a wide range of languages and also has a built-in translator, [Google Translate](http://translate.google.co.uk/).

Google is simple to use and very fast. Try entering your search terms and then clicking on **I'm feeling lucky** button, which homes in on the site that is most likely to fulfil your needs. You can also search for images and news items in the world's press by clicking on the **Images** or the **News** tab above the search box and then entering your search terms. If you click on the **Maps** tab above the search box you can search for a map showing almost any location anywhere in the world. There are many other useful features of Google, for example

1. Type **define:** immediately in front of a word (or a phrase in inverted commas) and Google will search for definitions of that word, e.g. **define:pedagogy** or **define:"learning outcome"**(NB the use of quotation marks when searching for two or more words that are normally linked together).
2. Type **link:** immediately in front of a URL and Google will find Web pages that link to that URL, e.g. **link:http:/www.ict4lt.org**

You can limit general searches as well as searches for news items to specific languages in Google by indicating in which language(s) you wish to search under [Google Preferences](http://www.google.co.uk/preferences).

**Searching for authentic usage in foreign languages**

Let us suppose that you wish to find examples of the phrase "il était une fois" ("once upon a time"). Enter the whole phrase in inverted commas in Google's search box and you will find hundreds of examples of how the phrase is used.

You can use a **wildcard** (\* = the asterisk character) if you are not sure of the spelling of a word or wish to look for two words used together but separated by other letters or words, e.g. a search for **ich \* habe gesurft** (no quotation marks round the phrase) will find **ich habe gesurft** and **ich habe gestern mittag noch normal gesurft** - very handy in German when different parts of the verb are separated. Enter the combination **ich \* habe \* Internet \* gesurft** (no inverted commas round the phrase) and you should find examples such as **dann habe ich im Internet nach Rezepten gesurft**.

**Searching for images in Google**

If you are unsure that you have found the right word in a foreign language try searching for the foreign word by clicking on the **Images** tab in Google. Seeing a picture of what you are looking for can often confirm that you are on the right track. For example, I was not sure that *arboriste* in French was the equivalent of *tree surgeon*, but the images I found clearly indicated that it was the right term, often combined with *grimpeur* to indicate that it refers to someone who climbs trees and lops off branches. A contributor to a discussion list recently asked if it was correct to say *cheveux auburn* in French (NB: no "s" on the end of *auburn*). Indeed it is: using Google images search facility I found lots of pictures of people with auburn hair and descriptions in French of hair products designed for auburn hair.

**Using Google as a concordancer**

You can also use Google as a simple **concordancer** (see [Module 2.4](http://www.ict4lt.org/en/en_mod2-4.htm) for more information about concordancers) to search for collocations that you are unsure about. Is is possible, for example, to say "a metal wood"? Yes, indeed! Google cites numerous examples. See [Robb (2003)](http://www.ict4lt.org/en/en_mod1-5.htm#robb2003).

**Wikipedia: searching for neologisms**

Here's a useful trick using a combination of of the online encyclopaedia [Wikipedia](http://www.wikipedia.org/) and Google.

Let us suppose that you want to know how to translate and how to use a new word or one that is unlikely to appear in printed bilingual dictionaries, e.g. *snowboard*, *zip wire*, *quad bike*, *podcast*, *wiki*.

First, you look up the term in the English-language version of the online encyclopaedia, [Wikipedia](http://www.wikipedia.org/). For example: [Snowboard](http://en.wikipedia.org/wiki/Snowboard).

When you find the Wikipedia entry in English click on one of the foreign languages in the languages list in the left-hand column of the screen, e.g. **Deutsch**. This will take you to the equivalent article in German: [Snowboard](http://de.wikipedia.org/wiki/Snowboard). This shows that German simply borrows the English term, but the article also shows how the word is used in context and that the noun used in German to describe the sport, namely*snowboarding*, is *(das) Snowboarden*.

Let's take another example:

Wikipedia shows that the German for *quad bike* is *(das) Quad*. The German-language article on [Quad](http://de.wikipedia.org/wiki/Quad) will show you how the word is used in context, but you can go one step further. Set your [Google Preferences](http://www.google.co.uk/preferences) to indicate that your preferred language is German. You can now search for specific words that might be used in combination with *Quad*, e.g. by entering **Quad** **fahren** or**fahre** **Quad** in the search box. A fruitful combination of keywords is likely to be **bin \* Quad gefahren** - i.e. the asterisk being a wildcard standing for anything between **bin** and **Quad gefahren**. This should enable you to find *Quad* used in contexts such as "Ich bin Quad gefahren”, “Ich bin mit einem Quad gefahren”, “Ich bin auf meinem Quad gefahren” etc.

Here are some more search engines:

* [Alta Vista](http://www.altavista.com/)
* [Ask Jeeves](http://uk.ask.com/): This search engine allows you to ask questions in "real" English, e.g. How can I improve my French?
* [Yahoo (English, UK)](http://uk.yahoo.com/)

**4.3 Search engines in foreign languages**

Most modern search engines can function in a range of languages and allow you to set your language preferences. Here are a few direct links to search engines in foreign languages:

* [Yahoo (French)](http://fr.yahoo.com/)
* [Yahoo (German)](http://de.yahoo.com/)
* [Yahoo (Spanish)](http://es.yahoo.com/)
* [Yahoo (Italian)](http://it.yahoo.com/)
* [Branchez-vous](http://www.branchez-vous.com/)(French): Useful for finding news items.
* [Rambler](http://www.rambler.ru/) (Russian). See [Section 11](http://www.ict4lt.org/en/en_mod1-5.htm#anchorfonts) for information on using fonts other than English on the Web.

**5. Bookmarking websites**

A **bookmark** is a facility within a browser that enables you to keep a record of Web pages that you have visited and may wish to visit again. Bookmarks are stored in a special folder on your computer. In*Internet Explorer*bookmarks are known as **Favorites** (sic - spelt the American way), which is also the name of the folder in which they are stored on your computer.

If you find a useful website, click on **Favorites** in *Internet Explorer*on the main menu bar of your browser. This will enable you to add the website's address to your own personal list so that you can locate the website quickly if you want to visit it again. See [Section 3](http://www.ict4lt.org/en/en_mod1-5.htm#anchorskills), headed *Using a browser: navigating the Web*.

More ambitious Web users may wish to set up their own annotated set of Web links, also known as a **webliography**, **portal** or **jump station**. See [Task 2](http://www.camsoftpartners.co.uk/lspinset.htm#weblinks) on [Graham Davies's INSET training materials Web page](http://www.camsoftpartners.co.uk/lspinset.htm) which explains step-by-step how to do this.

You can also use **Web 2.0** tools to store and share your bookmarks at so-called **social bookmarking** websites:

* [Delicious](http://www.delicious.com/): A website where you can store your bookmarks, share your bookmarks with your friends and colleague and find out what other people are bookmarking.
* [Diigo](http://www.diigo.com/): A website which allows you to bookmark and tag websites. Diigo also allows users to highlight any part of a Web page and attach post-it notes to the whole page or sections of a page. These notes can be kept private, shared with a group within Diigo or forwarded to an individual. Diigo is an acronym standing for Digest of Internet Information, Groups and Other stuff - pronounced "deego".
* [Scoop.it!](http://www.scoop.it/)A useful curation ool that enables you to set up Web pages that gather together links on a specific topic and follow other people's links on the same or related topics. Scoop.it provides a facility for you to "curate" information on your topics by trawling the Web and finding links that you may wish to add to your topic pages. The links are laid out attractively like the page of a magazine. Two of the topics covered are [Computer Assisted Language Learning](http://www.scoop.it/t/computer-assisted-language-learning) and [Virtual World Language Learning](http://www.scoop.it/t/virtual-world-language-learning).

For more information on **Web 2.0** see [Section 2.1](http://www.ict4lt.org/en/en_mod1-5.htm#WEB2) (above), headed *What is Web 2.0?*

**Lists of useful Web links**

There are many excellent collections of links from a variety of sources. As a starting point, see the list of links, headed [Useful Web links](http://www.ict4lt.org/en/en_resource.htm#weblinks), in the ICT4LT [Resource Centre](http://www.ict4lt.org/en/en_resource.htm). See also:

* [Graham Davies's Favourite Websites](http://www.camsoftpartners.co.uk/websites.htm): An annotated set of over 500 language-related websites.
* [iLoveLanguages](http://www.ilovelanguages.com/)**:** Acomprehensive guide to language-related Web sites. Tyler Chambers (nй Jones) is a great gatherer of information about foreign languages.

**6. Evaluating websites**

This section addresses the key issues that need to be considered when evaluating a website. See also:

* [Section 3.8, Module 1.4](http://www.ict4lt.org/en/en_mod1-4.htm#eval), headed *Evaluating CALL software*
* [Section 3.3, Module 2.2](http://www.ict4lt.org/en/en_mod2-2.htm#evalmm), headed *Evaluating multimedia software*
* The ICT4LT [CALL Software and Website Evaluation Forms](http://www.ict4lt.org/en/evalform.doc)

**Contents of this section**

* [6.1 Authorship](http://www.ict4lt.org/en/en_mod1-5.htm#authorship)
* [6.2 Aims and target audience](http://www.ict4lt.org/en/en_mod1-5.htm#targetaud)
* [6.3 Revision date](http://www.ict4lt.org/en/en_mod1-5.htm#revdate)
* [6.4 Contact name and addres](http://www.ict4lt.org/en/en_mod1-5.htm#contactname)s
* [6.5 Ease and speed of access](http://www.ict4lt.org/en/en_mod1-5.htm#easespeed)
* [6.6 Ease of navigation](http://www.ict4lt.org/en/en_mod1-5.htm#easenav)
* [6.7 Is the site finished?](http://www.ict4lt.org/en/en_mod1-5.htm#finished)
* [6.8 Do you need plug-ins?](http://www.ict4lt.org/en/en_mod1-5.htm#plug)
* [6.9 Is the content what you expected?](http://www.ict4lt.org/en/en_mod1-5.htm#contentexpect)
* [6.10 Copyright](http://www.ict4lt.org/en/en_mod1-5.htm#copyrightdetails)
* [6.11 Audio materials](http://www.ict4lt.org/en/en_mod1-5.htm#audiomaterials)
* [6.12 Video materials](http://www.ict4lt.org/en/en_mod1-5.htm#videomaterials)
* [6.13 Interactive exercises and feedback](http://www.ict4lt.org/en/en_mod1-5.htm#interaction)
* [6.14 Recording one's own voice](http://www.ict4lt.org/en/en_mod1-5.htm#recordvoice)

The Internet is totally unregulated and whilst this means that there are huge amounts of good materials, it also means that materials of poor and dubious quality also appear on websites. Before using materials with students, it is important to determine certain facts about the site. For example:

**6.1 Authorship**

Who created the site? What is their background? What credentials do they have? For example, you locate what appears to be a great website, but on closer examination you find it's been created by a 14-year-old schoolboy as a Web design project. We list the names of the original members of the ICT4LT project team, together with their affiliations on the [ICT4LT homepage](http://www.ict4lt.org/en/en_home.htm), and at the beginning of each module we provide information on its authors. Remember that *anyone* can publish *anything* on the Web and that, unlike books and articles in printed format, Web materials are less likely to be subjected to editorial scrutiny. Accuracy cannot always be guaranteed. You can find out who owns a site by using the [Whois Lookup](http://www.register.com/whois.rcmx) facility.

**6.2 Aims and target audience**

Who is the site aimed at? The site may sound like it's aimed at schoolchildren but on closer examination it may prove to be suitable only for adult learners. We provide details under the heading [Aims of the ICT4LT website](http://www.ict4lt.org/en/en_home.htm#aims) on the [ICT4LT homepage](http://www.ict4lt.org/en/en_home.htm).

**6.3 Revision date**

When were the contents written and how regularly is the site updated? Look for evidence of the most recent update. At the bottom of each page of this site we provide details of its [revision date](http://www.ict4lt.org/en/en_mod1-5.htm#revision).

**6.4 Contact name and address**

Is there a contact name or contact address at the site? We use a [Feedback Form](http://www.ict4lt.org/en/en_mod1-5.htm#anchorfeedback). If you find a mistake, wish to make a comment, or ask a question you can use the form to contact us. Our Feedback Form helps cut down spam as it makes our email address less obvious to *spambots*, i.e. programs designed to collect email addresses from the Internet in order to build mailing lists for sending spam. All email sent to us is filtered rigorously.

**6.5 Ease and speed of access**

Is the site easy to access and quick to download? Is the server on which the site is located up to the job of delivering its content at any time? Some servers slow down when lots of people are trying to access the site at peak times, e.g. between 9am and 5pm. Some servers shut down at weekends and during holiday periods.

**6.6 Ease of navigation**

The site may be huge and labyrinthine and you get hopelessly lost trying to navigate it.

**6.7 Is the site finished?**

The contents page looks impressive, but most of the site is "under construction" and a lot of internal links don't work.

**6.8 Do you need plug-ins?**

A **plug-in** is an extra piece of software that a Web browser needs to run certain elements of a Web page, e.g. animated sequences and audio or video clips. You will find that when you click on an icon that signifies the availability of streaming audio or video material, your browser will link with a plug-in. If the plug-in is not already installed on your computer then you will be able to download it free of charge. Web pages incorporating multimedia often need plug-ins such as [Flash Player](http://www.adobe.com/products/flashplayer.html), [QuickTime](http://www.apple.com/quicktime/), [Shockwave Player](http://www.adobe.com/products/shockwaveplayer/) or [RealPlayer](http://uk.real.com/realplayer/).

If you have problems running animated sequences or video clips check that the relevant plug-in has been downloaded and installed on the computer that you are using.

**6.9 Is the content what you expected?**

You find a site that appears to contain French legal texts, but when you access it it turns out to be full of pornographic pictures. Does this sound far-fetched? No, this actually happened to us when we did one of our regular checks on links that we list at the ICT4LT site. The site's name had been transferred from an institution that provided information on French law to a pornography business. See Graham Davies's [Dodgy Links](http://www.camsoftpartners.co.uk/DodgyLinks.htm) Web page.

**6.10 Copyright**

You must check where you stand regarding copyright on materials contained at the site. Most sites contain a **Terms of Use** link at the bottom of their homepage - which you should always check before downloading and reproducing their materials. See [Section 7.2](http://www.ict4lt.org/en/en_mod1-5.htm#copy), headed *Copyright issues*. See also our own [Copyright notice](http://www.ict4lt.org/en/en_mod1-5.htm#revision) and our [General guidelines on copyright](http://www.ict4lt.org/en/en_copyright.htm).

**6.11 Audio materials**

If audio materials are offered, are they of adequate quality? Can you play audio materials easily? Do you need a [plug-in](http://www.ict4lt.org/en/en_mod1-5.htm#plug) to play audio materials? See [Section 3.5, Module 2.3](http://www.ict4lt.org/en/en_mod2-3.htm#audio), headed *Audio and video*.

**6.12 Video materials**

If video materials are offered, are they of adequate quality? Can you play video materials easily? Do you need a [plug-in](http://www.ict4lt.org/en/en_mod1-5.htm#plug) to play video materials? See [Section 3.5, Module 2.3](http://www.ict4lt.org/en/en_mod2-3.htm#audio), headed *Audio and video*.

**6.13 Interactive exercises and feedback**

If **interactive exercises** are offered, do they do the job better than paper-based exercises? Consider especially the kind of **feedback** that they incorporate. Feedback should go beyond the standard "Well done!" and "Sorry, wrong!" types of messages. Feedback should mimic a good teacher offering helpful advice and encouragement. See:

* [Section 7.2 , Module 1.1](http://www.ict4lt.org/en/en_mod1-1.htm#7.2), headed *Feedback*.
* [Section 1.2, Module 1.4](http://www.ict4lt.org/en/en_mod1-4.htm#interactivity), headed *Interactivity*.
* [Section 8, Module 2.5](http://www.ict4lt.org/en/en_mod2-5.htm#feedback), *How to factor feedback into your authoring*.

**6.14. Recording one's own voice**

All language learners, especially in the early stages of learning a language, need to know what they sound like. If interactive exercises are offered, do they allow the learner to record and play back his/her own voice? This is not an unreasonable request, as teachers and learners have been making use of listen / respond / playback facilities ever since the advent of the tape recorder. Most multimedia CD-ROMs offer the possibility of recording one's own voice and some incorporate **Automatic Speech Recognition (ASR)**. Very few websites offer this facility and when they do it doesn't work very well. For further information on ASR see:

* [Section 3.4.7, Module 2.2](http://www.ict4lt.org/en/en_mod2-2.htm#speech), headed *CD-ROMs incorporating Automatic Speech Recognition (ASR)*.
* [Section 4, Module 3.5](http://www.ict4lt.org/en/en_mod3-5.htm#speechtech), headed *Speech technologies*.

**7. Using the Web with language learners**

**Contents of this section**

* [7.1 General advice](http://www.ict4lt.org/en/en_mod1-5.htm#genera;)
* [7.2 Copyright issues](http://www.ict4lt.org/en/en_mod1-5.htm#copy)
* [7.3 Further ideas and links](http://www.ict4lt.org/en/en_mod1-5.htm#further)
* [7.4 Webquests and scavenger hunts](http://www.ict4lt.org/en/en_mod1-5.htm#webquests)

**7.1 General advice**

There are several ways in which the Web can assist with teaching languages:

* The Web contains vast amounts of authentic materials consisting of texts, pictures, and audio and video recordings. Authentic materials can easily be downloaded from the Web and converted into activities and resources for word-processed handouts, for *PowerPoint* presentations, for offline use with a browser, etc - but beware of **copyright issues** (see [Section 7.2](http://www.ict4lt.org/en/en_mod1-5.htm#copy) below). When searching for authentic materials look especially at the websites maintained by newspapers, magazines, radio stations and TV stations.
* Students can find resources on their own or use materials at websites specified by the teacher.
* Teachers can create their own Web pages for on- or offline use. See [Module 3.3](http://www.ict4lt.org/en/en_mod3-3.htm), *Creating a World Wide Web site*.
* Students can create their own Web pages for on- or offline use. See [Module 3.3](http://www.ict4lt.org/en/en_mod3-3.htm), *Creating a World Wide Web site*.

There are advantages and disadvantages to using the Web in all the above situations, but most of those who have taken the plunge have not regretted it. Clare Bradin, in her article "The Dark Side of the Web" ([Bradin 1997](http://www.ict4lt.org/en/en_mod1-5.htm#bradin)), lists the following advantages to using the Web with students:

* provides students with authentic language
* up-to-the-minute information
* real communication
* motivating
* relevant to content-based instruction

See also the paper by Paul Bangs titled "Will the Web catch enough flies? Where Web-based learning cannot yet reach" [(Bangs 2001)](http://www.ict4lt.org/en/en_mod1-5.htm#bangs2001).

However, as with any lesson, a lesson using Web-based material needs to be carefully planned.

Before using the Web live with students:

* Do preview and evaluate material carefully. Always revisit websites shortly before each lesson to ensure that links are not broken or - which has happened in a few cases - have been transformed into something undesirable: see Graham Davies's article, [Dodgy links](http://www.camsoftpartners.co.uk/DodgyLinks.htm).
* Don't plan a whole lesson around a single site and make sure that you have a stand-by plan in case the connection is lost for any reason.
* Do make sure that all students can access a computer comfortably or think of other ways of working.
* Do make sure that students know what they are supposed to be doing and have plenty to keep them busy. Browsing "undesirable" sites is far more likely to happen if they are bored.

There are numerous ways in which materials on the Web can be exploited in language teaching. See [Felix (2001)](http://www.ict4lt.org/en/en_mod1-5.htm#felix2001), [Felix (2003)](http://www.ict4lt.org/en/en_mod1-5.htm#felix2003), [Gitsaki & Taylor (1999b and 2000)](http://www.ict4lt.org/en/en_mod1-5.htm#gitsaki), [Windeatt et al. (2000)](http://www.ict4lt.org/en/en_mod1-5.htm#windeatt).

**7.2 Copyright issues**

When downloading or copying materials from another website, it is most important that you pay attention to *copyright*. Above all, don't assume that just because material is publicly available on the Web you can do whatever you like with it.

Copyright infringement is a growing problem, which we refer to in:

* [Section 2.5, Module 2.3](http://www.ict4lt.org/en/en_mod2-3.htm#2.5), which deals with copyright in the context of downloading and using materials from the Web.
* [Forward, Section vi, Module 3.1](http://www.ict4lt.org/en/en_mod3-1.htm#cissues), which deals with copyright in the context of managing a multimedia language centre.
* [Section 9, Module 3.3](http://www.ict4lt.org/en/en_mod3-3.htm#9), which deals with copyright in the context of setting up a website.
* [Section 7, Module 4.1](http://www.ict4lt.org/en/en_mod4-1.htm#plagiarism), which is concerned with copyright in the context of students copying materials and failing to acknowledge their origins.

**Email:**There are a number of important copyright issues surrounding email correspondence. If you send an email to a private person or discussion list, for example, you automatically own the copyright in your email message and you retain your moral right to be identified as the author. Regarding other people's email messages, you should always seek permission (it's only polite, anyway) before passing them on to third parties or copying extracts for publication elsewhere.

See our [General guidelines on copyright](http://www.ict4lt.org/en/en_copyright.htm), which is a general introduction to copyright, drawing on a variety of sources.

Above all:

* Don't lend or donate downloaded materials to colleagues in other institutions.
* Don't publish downloaded materials in printed publications or on your own website without the express permission of the copyright holder.

**7.3 Further ideas and links**

* **Exploiting WWW resources online and offline:**[Module 2.3](http://www.ict4lt.org/en/en_mod2-3.htm) at the ICT4LT site, which follows on from Module 1.5 and contains more information on finding resources on the Web, downloading pages, copying texts and images, Web-based CALL, etc.
* [Internet activities for Foreign Language Classes](http://www.clta.net/lessons/): California Language Teachers Association (CLTA)

**7.4 Webquests and scavenger hunts**

**Webquests** and **scavenger hunts** are task-oriented activities in which the learner draws on material from different websites in order to achieve a specific goal, e.g. researching a topic and (i) answering a series of questions posed by the teacher, (ii) creating a presentation or (iii) writing an essay, etc. The skills that are required in a webquest or scavenger hunt mainly involve reading and listening, but there may also be communicative speaking exercises.

* Plan a trip to [Disneyland Paris](http://www.disneylandparis.com/).
* Plan a European railway journey:
  + [SNCF (France)](http://www.sncf.fr/)
  + [Deutsche Bahn](http://reiseauskunft.bahn.de/)
  + [Österreichische Bundesbahn](http://www.oebb.at/)
* Find information on the Web about a famous person from the target language country and write a profile of them.
* Use a weather report and/or weather map to introduce weather vocab and to provide a stimulus for talking about the weather in different European countries:
  + France: [Météo France](http://france.meteofrance.com/)
  + Germany: [WetterOnline](http://www.wetteronline.de/)
  + Austria: Click on the **Wetter** tab at the [Austrian TV (ORF](http://www.orf.at/)) site.
* Explore a city site and write a miniguide: [Paris Balades](http://www.parisbalades.com/).
* Create a [scavenger hunt](http://mmehenderson.typepad.com/my_weblog/2009/04/french-i-internet-scavenger-hunt.html) (also known as a **treasure hunt**).

For further information on webquests see:

* San Diego State University: [WebQuest](http://webquest.org/)
* [Language Quest](http://archive.ecml.at/projects/voll/our_resources/graz_2002/pthinking/marianewebquest/index.htm) by Marianne Driessen.
* [WebQuest Generator](http://www.teach-nology.com/web_tools/web_quest/):a tool for helping teachers create webquests.
* [TalenQuest](http://web.kennisnet2.nl/thema/webquest/talenquest) - in Dutch, but many of the links are in other languages.
* [LQuest (LanguageQuests)](http://archive.ecml.at/mtp2/LQuest/html/LQUEST_E_pdesc.htm).
* [Criteria for LanguageQuests - Assessment Tool](http://www.kennisnet.nl/cpb/thema/webquest/talenquest/meetlat/index.php?lang=en) - also available in Dutch and German.
* A [Webquest Repository](http://www.theconsultants-e.com/resources/webquests/repository.aspx) relating to language learning (mainly EFL) can be found at [The Consultants-E](http://www.theconsultants-e.com/) website.

For the theoretical underpinnings of webquests see: [Koenraad & Westhoff (2004)](http://www.ict4lt.org/en/en_mod1-5.htm#koenraad03).

**8. Distance learning and the Web: VLEs, MLEs etc**

See also these sections at the ICT4LT site:

* [Section 7, Module 1.4](http://www.ict4lt.org/en/en_mod1-4.htm#distancelearning), headed *Distance learning*
* [Section 3.1, Module 2.3](http://www.ict4lt.org/en/en_mod2-3.htm#interact), headed *Web-based CALL*

There is an increasing number of websites that offer distance learning materials, including whole courses delivered via the Web and email, using so-called **Virtual Learning Environments (VLEs)**. A VLE is a Web-based package designed to help teachers create online courses, together with facilities for teacher-learner communication and peer-to-peer communication. VLEs can be used to deliver learning materials within an institution or within a local education authority. They can also address a wider constituency and may even be used on a worldwide basis. VLEs have certain advantages in terms of ease of delivery and management of learning materials. They may, however, be restrictive in that the underlying pedagogy attempts to address a very wide range of subjects, and thus does not necessarily fit in with established practice in language learning and teaching.

A VLE may also be described as a:

* Managed Learning Environment (MLE)
* Course Management System (CMS)
* Learning Management System (LMS)
* Learning Support System (LSS).

Theoretically, there are differences in the way these systems operate, but this may mean little to the non-technical user. See the definitions for the above termsin the [Glossary](http://www.ict4lt.org/en/en_glossary.htm). Many people use **Learning Platform** as a catch-all term to describe software and systems designed to manage, deliver and provide access to e-learning materials in a distance-learning context.

A VLE is normally protected by passwords that enable teaching staff and enrolled students to access it. Typically, a VLE will contain:

* Areas where learning materials are stored - usually under different subject headings and levels
* Communication tools for both teachers and learner: e.g. discussion boards, wikis, blogs, text chat - see [Section 12](http://www.ict4lt.org/en/en_mod1-5.htm#anchordiscuss) (below) and [Section 14.2](http://www.ict4lt.org/en/en_mod1-5.htm#14.2) (below)
* Assessment tools
* Administration tools - for enrolment, tracking, grading students etc.

This Wikipedia article, [Virtual Learning Environment](http://en.wikipedia.org/wiki/Virtual_learning_environment), goes into more detail about what you can expect from a VLE.

These VLEs are used in education in the UK:

* [Moodle](http://moodle.org/): Probably the most widely used VLE in the language teaching community and the VLE that is favoured by [The Open University](http://www.open.ac.uk/), UK (see below). Moodle has its own [Moodle for Language Teaching](http://moodle.org/course/view.php?id=31) community - log in as a guest or register to join the community. See also [Mary Cooch's Blog.](http://www.moodleblog.net/)
* [Blackboard](http://www.blackboard.com/): Blackboard incorporates **WebCT**, following a merger in 2005.
* [Fronter](http://com.fronter.info/)
* [Kaleidos Learning Platform](http://www.rm.com/generic.asp?cref=GP1559452&SrcURL=/kaleidos), a VLE produced by RM, UK.
* [UniServity](http://www.uniservity.com/)

Distance learning courses for language students that make use of the Web are now well established: for example inThe Open University (OU) in the UK. See the OU's Web page on [What is distance learning?](http://www8.open.ac.uk/study/explained/what-is-distance-learning) Study materials include printed course books and audio materials that cover survival language for the traveller as well as the communication skills needed in a range of settings, at home, work or leisure.The OU makes use of both online tuition and face-to-face tuition See:

* [Faculty of Education and Language Studies](http://www8.open.ac.uk/education-and-languages/main/), The Open University.
* [Languages - OpenLearn](http://www.open.edu/openlearn/languages), The Open University - includes sample materials.
* [LORO (Languages Open Resources Online)](http://loro.open.ac.uk/): Free downloadable resources for language teaching and learning at The Open University. Includes the OU's own resources and materials submitted by other language teachers.

The Open University has also made some of its language learning materials available via [iTunes](http://www.apple.com/itunes/) and is reporting a huge uptake. See [Section 5, Module 2.3](http://www.ict4lt.org/en/en_mod2-3.htm#mall) on *Mobile Assisted Language Learning (MALL)*.

The Open University has been developing and using conferencing tools within its extensive distance-learning programmes for a number of years. An early example of a conferencing tool used by The OU is**FirstClass**, which began life as a text-only conferencing system and bulletin board. Then, in 2002, The OU developed its own in-house tool, **Lyceum**, an audio-graphics tool which included a whiteboard facility combined with audio-conferencing: see [Section 7.3, Module 1.4](http://www.ict4lt.org/en/en_mod1-4.htm#lyceum) for furthe references to Lyceum. More recently The Open University has chosen **Moodle** for the delivery of a wide range of its courses, making it the largest user of Moodle in the world. Moodle is **open source** software, which means you are free to download it, use it, modify it and even distribute it. Moodle has its own [Moodle for Language Teaching Community](http://moodle.org/course/view.php?id=31) - log in as a guest or register to join the community. Listen to the **Callspot** podcast in which OU lecturers Regine Hampel and Uschi Stickler are interviewed on the topic [Distance Language Teaching Online](http://callspot.libsyn.com/).

[Moodleflair](http://moodleflair.com/) is a site which is managed by Jeff Stanford and aimed at language teachers (and anyone else!) who want to play with Moodle. It is not a fully developed site but aims to give a an impression of the way in which Moodle works in practice. See also [Stanford (2009)](http://www.ict4lt.org/en/en_mod1-5.htm#stanford09).

We have added a Moodle "can do" list, compiled by Seth Dickens and updated by Mary Cooch, to our general [ICT\_Can\_Do\_Lists](http://www.ict4lt.org/en/ICT_Can_Do_Lists.doc).

For further information on VLE see:

* [Brandl (2005)](http://www.ict4lt.org/en/en_mod1-5.htm#brandl05): *Are you ready to "Moodle"?*
* [Britain & Liber (1999)](http://www.ict4lt.org/en/en_mod1-5.htm#britain): *A framework for pedagogical evaluation of Virtual Learning Environments*
* [Stanford J. (2009)](http://www.ict4lt.org/en/en_mod1-5.htm#stanford09): *Moodle 1.9 for second language teaching*
* [Stickler & Hampel (2007)](http://www.ict4lt.org/en/en_mod1-5.htm#stickler07): *"What I think works well...": Learners' evaluation and actual usage of online tools*

Distance learning of languages has only become feasible since audio and video quality has improved over the Web. Some sites are run for profit and will charge for the services, but others have been set up by enthusiasts keen to pass on their language and culture. The sites vary tremendously in quality and you would be well advised to spend quite some time reviewing materials from these sites before attempting to use them with students. However, there is some very innovative work going on and you may well find some gems: see [Felix (1998a)](http://www.ict4lt.org/en/en_mod1-5.htm#felix), [Felix (2001)](http://www.ict4lt.org/en/en_mod1-5.htm#felix2001) and [Felix (2003)](http://www.ict4lt.org/en/en_mod1-5.htm#felix2003), three works that contain a vast collection of information on virtual language learning, the latter two incorporating a number of case studies and articles on good practice. See also Graham Davies's annotated list of [Favourite Websites](http://www.camsoftpartners.co.uk/websites.htm), an extensive list of over 500 websites that is constantly being updated and expanded.

A good deal has already been written on distance learning of languages, e.g. in the form of articles based on conference papers presented at EUROCALL and CALICO conferences and published in[ReCALL](http://www.eurocall-languages.org/recall/index.html) (published in printed form and online by CUP) and in the [CALICO Journal](https://www.calico.org/journalTOC.php?current=1) (now published only online). There is also the [Language Learning and Technology (LLT)](http://llt.msu.edu/) journal (published only online).

Although Web-based language learning has expanded rapidly in recent years there are still limitations to the different kinds of interaction that work successfully on the Web, especially interaction involving prompted speaking activities, which is well established in CD-ROM-based learning. See [Section 3.1, Module 2.3](http://www.ict4lt.org/en/en_mod2-3.htm#interact), headed *Web-based CALL*.

Although VLEs have a number of advantages, they are not without their critics. Professor Mark Stiles talks about the **Death of the VLE** [(Stiles 2007)](http://www.ict4lt.org/en/en_mod1-5.htm#stiles07). The abstract follows:

The VLE has become almost ubiquitous in both higher and further education, with the market becoming increasingly 'mature'. E-learning is a major plank in both national and institutional strategies. But, is the VLE delivering what is needed in a world where flexibility of learning is paramount, and the lifelong learner is becoming a reality? There are indications that rather than resulting in innovation, the use of VLEs has become fixed in an orthodoxy based on traditional educational approaches. The emergence of new services and tools on the web, developments in interoperability, and changing demands pose significant issues for institutions' e-learning strategy and policy. Whether the VLE can remain the core of e-learning activity needs to be considered.

What do you think? Have a look at the ICT4LT blog under these topic headings:

* [Death of the VLE?](http://ictforlanguageteachers.blogspot.com/2008/08/death-of-vle.html) (August 2008) - where Mark Stiles's viewpoint is discussed.
* [The VLE is dead. Long live the PLE!](http://ictforlanguageteachers.blogspot.com/2009/07/vle-is-dead-long-live-ple.html) (July 2009) - where we raise the issue of the Personal Learning Environment (PLE) replacing the VLE. A PLE may also be referred to as a **Personal Learning Network (PLN)**. Such an environment, in contrast to a VLE, is not so much a package or system for *delivering* learning materials, rather it is an *approach* to using new technologies in order to enable learners to develop and control their own learning environment. This does not preclude the presence of teachers. Teachers are important for providing support for learners in setting their own learning goals and helping them manage the content and process of learning. The use of **social networking** tools (see [Section 12](http://www.ict4lt.org/en/en_mod1-5.htm#anchordiscuss)) and **Mobile Assisted Language Learning (MALL)**for communication both with teachers and peers are key elements of a PLE. See [Section 5, Module 2.3](http://www.ict4lt.org/en/en_mod2-3.htm#mall) for further information on MALL.
* See also the 3-minute YouTube video titled [Online Student Experience](http://www.youtube.com/watch?v=nWPI35WGsTc) , a succinct summary of what online learning is **not** about.

**Do-it-yourself:**For information on tools that are used to create distance learning materials see [Module 2.5](http://www.ict4lt.org/en/en_mod2-5.htm), *Introduction to CALL authoring programs*.

**Copyright:** If you upload third-party materials to a VLE make sure that they are not in breach of copyright. Contrary to popular opinion, copyright legislation still applies to password-protected VLEs. See our [General guidelines on copyright](http://www.ict4lt.org/en/en_copyright.htm), especially [Section 4.1](http://www.ict4lt.org/en/en_copyright.htm#commpub).

**9. Potential problems with using the Web**

* [9.1 World Wide Wait](http://www.ict4lt.org/en/en_mod1-5.htm#wwwait)
* [9.2 Dead links - linkrot](http://www.ict4lt.org/en/en_mod1-5.htm#linkrot)
* [9.3 Information overload](http://www.ict4lt.org/en/en_mod1-5.htm#infooverload)
* [9.4 Some websites are thin in substance](http://www.ict4lt.org/en/en_mod1-5.htm#thin)
* [9.5 Unreliable content](http://www.ict4lt.org/en/en_mod1-5.htm#reliability)
* [9.6 Viruses](http://www.ict4lt.org/en/en_mod1-5.htm#virusprobs)
* [9.7 Web clutter](http://www.ict4lt.org/en/en_mod1-5.htm#clutter)
* [9.8 Undesirable websites](http://www.ict4lt.org/en/en_mod1-5.htm#undesirable)
* [9.9 Reading from the screen is slow!](http://www.ict4lt.org/en/en_mod1-5.htm#slowreading)

Whilst the Web can provide valuable opportunities and superb resources, there are some potential problems that teachers should be aware of:

**9.1 World Wide Wait**

When the World Wide Web first appeared in the 1990s it was dubbed the World Wide Wait. Big files took an eternity to download and the wait time could be maddening. Internet access speeds still vary according to the type of Internet connection that you have, how congested the Internet is in general at a particular time of day, how many other people in your neighbourhood are trying to access a website at the same time as you, your computer configuration, and even the weather. But, generally speaking, the speed of Web access has improved enormously. Older **dial-up modems** using standard telephone lines running at around 56Kbps are now technically obsolete, and faster connections via **ADSL** **broadband** or via a dedicated**leased line** are the norm. See [Section 1.3.2, Module 1.2](http://www.ict4lt.org/en/en_mod1-2.htm#modem) for further information on modems and broadband, and see the [Glossary](http://www.ict4lt.org/en/en_glossary.htm) for an explanation of the terms**ADSL**, **broadband**, **dial-up modem** and **leased line**. New Web programming techniques have also resulted in more spontaneity and better interaction on the Web: see [Section 2.1](http://www.ict4lt.org/en/en_mod1-5.htm#WEB2), headed *What is Web 2.0?*

**9.1 Dead links - linkrot**

The ICT4LT site contains over 1000 links to other sites. Checking these links on a regular basis takes a good deal of time. Up to 5% of the links listed at the ICT4LT site move or disappear each month. This phenomenon is sometimes referred to as **linkrot** (see [Glossary](http://www.ict4lt.org/en/en_glossary.htm)). Linkrot is a growing disease: see Jakob Nielsen, [Fighting Linkrot](http://www.useit.com/alertbox/980614.html), *Alertbox*, 14 June 1998. We regularly check the ICT4LT site using the excellent [Xenu Link Sleuth](http://home.snafu.de/tilman/xenulink.html) program, which is available free of charge. We also mention the topic of linkrot in [Section 6.3.3, Module 3.3](http://www.ict4lt.org/en/en_mod3-3.htm#6.3.3).

After we have identified dead links with Xenu Link Sleuth, they have to be retraced manually - mainly by backtracking to homepages and using local or global search engines, combined with a bit of intuition. If you come across a dead link at the ICT4LT site please let us know.

You may be able to retrieve the contents of a dead link by entering its URL into the [Internet Archive](http://www.archive.org/) (aka the **Wayback Machine**). This enormous archive keeps records of revisions of websites at various stages in their lives. It is not 100% complete, but we have found it to be remarkably efficient at recovering old documents that we thought had been lost forever.

A further problem that we have identified is that domain names regularly change hands, especially when a site goes dead. Unfortunately, this can lead to so-called **cybersquatters** (see [Glossary](http://www.ict4lt.org/en/en_glossary.htm)) grabbing the name and using it for other purposes, e.g. for a site containing offensive material. We have had two experiences of this, which Graham Davies documents on his [Dodgy Links](http://www.camsoftpartners.co.uk/DodgyLinks.htm) Web page. Our research indicates that this is a growing problem. We check all links when we add them to this site, but constantly checking what they contain is very time-consuming. We apologise for any oversights on our part. You can help by notifying us if you discover any links that contain anything you find offensive.

[Felix (2001:353)](http://www.ict4lt.org/en/en_mod1-5.htm#felix2001) makes the following important points regarding mkaing use of other people's websites:

1. Only stable and frequently updated resources are worth considering.
2. If they are used frequently, the possibility of downloading the entire resource on a local intranet or creating mirror sites should be negotiated with the author.
3. Teachers need to be fully versed in the use of the resources.

Regarding the first of Uschi Felix's points, we expected educational and government sites to be among the most stable. How wrong we were! In terms of stability, these are the worst offenders in our experience. Their webmasters simply cannot resist moving the furniture around every few months. Restructuring is a permanent process, it seems, and very few webmasters in educational institutions and government organisations leave clear indications of how their site has been restructured. We therefore make a special plea to these webmasters: Please leave redirection instructions at the old URLs for a period of at least six months.

Regarding the second of Uschi Felix's points, please make sure you pay attention to copyright. Just because the material is on the Web it doesn't mean that it can be distributed freely to all and sundry. See our [General guidelines on Copyright](http://www.ict4lt.org/en/en_copyright.htm).

Regarding the third of Uschi Felix's points: This is where ICT4LT can help!

**9.3 Information overload**

There is so much information that it may be too time-consuming to find the "good stuff.". Even with search engines, it can be hard to find what you want, and you therefore have to select your search terms carefully (see [Section 4](http://www.ict4lt.org/en/en_mod1-5.htm#anchorsearch)). As Arthur C. Clarke put it: "Getting information from the Internet is like getting a glass of water from the Niagara Falls."

**9.4 Some websites are thin in substance**

See [Section 6](http://www.ict4lt.org/en/en_mod1-5.htm#anchorevaluate) on *Evaluating websites*.

**9.5 Unreliable content**

When you visit a website you need to know if the information it contains is reliable. This issue has already been raised above in [Section 6](http://www.ict4lt.org/en/en_mod1-5.htm#anchorevaluate) under the sub-heading *Authorship*. For example, consider[Wikipedia](http://www.wikipedia.org/), which is a free-content encyclopaedia on the Web that anyone can add to or edit - yes, *anyone*, which is both its strength and its weakness. While Wikipedia covers an enormous range of subjects in different languages there is no guarantee that what you read is accurate as the content can be added to or amended by any member of the public. Furthermore, there is often no indication of who the author is or the author's credentials. On the one hand this can be perceived as a wonderful example of **collaborative publishing**, but on the other hand it can be perceived as a golden opportunity for the propagation of oddball ideas and self-promotion. Graham Davies checked out the Wikipedia article on **Computer Assisted Language Learning** in early 2005. It was hopelessly out of date, sketchy and inaccurate, so he amended it. Many more additions and revisions were then made by other contributors, including a major rewrite (which was quite good) in 2007, but after that the article ended up as a complete mess as a result of too people making amendments that destroyed its structure and presented a completely inaccurate picture of CALL. Graham Davies then decided to rewrite the article from scratch at the end of 2010, posting the final update in early 2011: see the [Wikipedia article on CALL](http://en.wikipedia.org/wiki/Computer_assisted_language_learning) and join in the [Discussion about the article on CALL](http://en.wikipedia.org/wiki/Talk:Computer-assisted_language_learning).

In its early days Wikipedia was too open to unscrupulous editing by the public at large, but the editing process has since been tightened up and the content of articles meeting certain quality criteria can now be "fixed". While Wikipedia can be a remarkably useful and accurate resource it cannot be relied upon 100% - but nor can most other encyclopaedias. See the Wikipedia article, [Reliability of Wikipedia](http://en.wikipedia.org/wiki/Reliability_of_Wikipedia).

To a large extent Wikipedia's reliability depends on the subject matter: for example, articles on history and politics are often subject to wildly varying opinions - and even deliberate vandalism. As a consequence many colleges and universities have banned students from citing Wikipedia as a source in their coursework. The founder of Wikipedia, Jimmy Wales, is on record as saying (in 2005) that this is going too far and that teachers who ban the use of Wikipedia as a source of information are "bad educators". He did, however, go on to say that the website lacked the authority to be used as a citeable source for university students and that students who copied information from Wikipedia "deserved to get an F grade" (Source: BBC News, 7 December 2007: [Students 'should use Wikipedia'](http://news.bbc.co.uk/1/hi/technology/7130325.stm).)

Here's a useful tip: If you find an article on Wikipedia in English and then click on one of the language options (headed **in other languages**) in the left-hand column of the page, you go immediately to an article on the same subject in that language. See [Section 12](http://www.ict4lt.org/en/en_mod1-5.htm#wiki) for more information on **wikis**.

**9.6 Viruses**

Make sure that you are adequately protected against invasions by **viruses** when you surf the Web, as there are new strains of viruses that are able to invade your computer while you are browsing. You should consider installing a **firewall**, which gives you additional protection against unwanted intruders. Watch out also for **spam**, **adware** and **spyware**. See the [Appendix: Viruses](http://www.ict4lt.org/en/en_mod1-5.htm#viruses).

**9.7 Web clutter**

While you are surfing the Web all kinds of information is being dumped onto your hard disc. For example, a **cache** area on your hard disc keeps a record of sites that you have recently visited.**Cookies**store little bits of information about yourself after you have visited a site for the first time, and this can be accessed by the site server when you visit the site again. Caches and cookies take up valuable space on your hard disc drive. A useful piece of software is Webroot's [Window Washer](http://www.webroot.com/En_US/consumer-products-windowwasher.html), which enables you to remove caches, cookies and other clutter at regular intervals. You can also block cookies - along with those dreadful banner advertisements that slow down your browser - using **firewall** software. See the [Appendix: Viruses](http://www.ict4lt.org/en/en_mod1-5.htm#viruses).

**9.8 Undesirable websites**

Unfortunately, the Web is full of websites containing undesirable material, and it is all too easy for young people to access such material, by accident or by design. You should consider installing software that filters out undesirable material. See Graham Davies's [Dodgy links](http://www.camsoftpartners.co.uk/DodgyLinks.htm) Web page.

**9.9 Reading from the screen is slow!**

Web guru Jakob Nielsen writes:

Reading from computer screens is about 25% slower than reading from paper. Even users who don't know this human factors research usually say that they feel unpleasant when reading online text. As a result, people don't want to read a lot of text from computer screens: As a result, people don't want to read a lot of text from computer screens: you should write 50% less text and not just 25% less since it's not only a matter of reading speed but also a matter of feeling good. We also know that users don't like to scroll: one more reason to keep pages short. [...] Because it is so painful to read text on computer screens and because the online experience seems to foster some amount of impatience, users tend not to read streams of text fully. Instead, users scan text and pick out keywords, sentences, and paragraphs of interest while skipping over those parts of the text they care less about. (Source: [Be succinct! Writing for the Web](http://www.useit.com/alertbox/9703b.html), *Alertbox*, 15 March 1997.)

More recent research by Nielsen, in which the **iPad** and **Kindle** were examined, showed that

The iPad measured at 6.2% lower reading speed than the printed book, whereas the Kindle measured at 10.7% slower than print. However, the difference between the two devices was not statistically significant because of the data's fairly high variability. Thus, the only fair conclusion is that we can't say for sure which device offers the fastest reading speed. In any case, the difference would be so small that it wouldn't be a reason to buy one over the other. But we can say that tablets still haven't beaten the printed book: the difference between Kindle and the book was significant at the p<.01 level, and the difference between iPad and the book was marginally significant at p=.06. (Source: [iPad and Kindle reading speeds](http://www.useit.com/alertbox/ipad-kindle-reading.html), *Alertbox*, 2 July 2010.)

See Nielsen's other articles on [Writing for the Web](http://www.useit.com/papers/webwriting/).

The Web is unlikely to replace the printed book as a means of **presenting** large amounts of text. This is not to say that text on the Web is a bad thing. The Web is superb as a means of **delivering** text that can then be printed. It is also quicker to search the Web for information than visiting your local library, and once you have found a text you want to read you can use your browser to search for keywords within it.

It was interesting to read the story in *The Times* (29 November 2000, p. 9), headed *King leaves Internet readers in suspense*. The article claims that Stephen King decided not to complete his online Internet novel *The Plant* because - according to King - "it failed to grab the attention of readers on the Web". King found that a surprisingly high proportion of the readers accessing his site (75%-80%) made the "honesty payment" for being allowed to download chapters: "But", he said, "there are a lot fewer of them coming. Online people have the attention span of a grasshopper." The article also claims "that digital publishing has a bleak future because it is an unattractive medium for reading long texts and it is difficult to stop breach of copyright". See also [Messages from Stephen King](http://www.stephenking.com/stephens_messages.html).

You should therefore not feel guilty about printing out any of the pages at this site and sitting down in a comfortable armchair in order to read them. It's the sensible thing to do - and better for your eyes. To print a page, just use the **File/Print**facility in your browser.

Some of the above points were taken from Clare Bradin's FLEAT 97 paper, "The Dark Side of the Web" ([Bradin 1997](http://www.ict4lt.org/en/en_mod1-5.htm#bradin)).

See also [Section 6](http://www.ict4lt.org/en/en_mod1-5.htm#anchorevaluate), headed *Evaluating websites*.

**10. Glossary of Internet terms**

See the [Glossary of Internet Terms](http://www.matisse.net/files/glossary.html), a comprehensive list of Internet terminology compiled by Matisse Enzer.

See also our own [Glossary](http://www.ict4lt.org/en/en_glossary.htm), which is regularly updated and includes links to sections of the ICT4LT website.

**11. Fonts and other than English on the Web**

Reading foreign languages on the Web that use fonts other than the standard English-language fonts is no longer a problem. Most modern browsers support a range of fonts and alphabets, including those used in East Asian languages such as Chinese, Japanese and Korean. *Microsoft Windows* includes settings for a range of languages that just need to be activated by opening the **Regional and Language Options** in the **Control Panel** and making the required settings.

If you wish to *type* in different languages see [Section 5, Module 1.3](http://www.ict4lt.org/en/en_mod1-3.htm#forchars), headed *Typing foreign characters*.

**12. Discussion lists, blogs, wikis, social networking**

**Contents of this section**

* [12.1 Discussion lists, forums etc](http://www.ict4lt.org/en/en_mod1-5.htm#discussion)
* [12.2 Blogs](http://www.ict4lt.org/en/en_mod1-5.htm#blog)
  + [12.2.1 Blogging tools](http://www.ict4lt.org/en/en_mod1-5.htm#blogtools)
  + [12.2.2 Useful blogs created by and for language teachers](http://www.ict4lt.org/en/en_mod1-5.htm#ltblogs)
* [12.3 Wikis](http://www.ict4lt.org/en/en_mod1-5.htm#wiki)
* [12.4 Social networking](http://www.ict4lt.org/en/en_mod1-5.htm#socnet)
* [12.5 RSS feeds](http://www.ict4lt.org/en/en_mod1-5.htm#rssfeeds)
* [12.6 E-safety](http://www.ict4lt.org/en/en_mod1-5.htm#esafety)

**12.1 Discussion lists, forums etc**

**Discussion lists** are essentially ways of sharing emails with the members of a group of people with a common interest. Many educational discussion lists in the UK are managed by [Mailtalk](http://www.mailtalk.ac.uk/)or[JISCMail](http://www.jiscmail.ac.uk/).

Discussion lists are also referred to as **forums**(also **fora**, pl.), **notice boards** and **bulletin boards**. There may be subtle differences between them in the ways in which they are operated and the ways in which members can post messages to them, but essentially their main aim is to able people with common interests to share information and to communicate with one another.

Forums may also be set up in the context of a dedicated **social network** (see also [Section 12.4.](http://www.ict4lt.org/en/en_mod1-5.htm#socnet) below), an online community in which information can be exchanged between people having a common interest.

If you are seeking an answer to a specific question about the use of ICT in language learning and teaching you can contact us via our [Feedback Form](http://www.ict4lt.org/en/en_mod1-5.htm#anchorfeedback). Alternatively, you may wish to initiate a new topic in the following discussion lists and forums. You may find your question has already been answered in the archives of messages sent in by their members:

* [ALLNET](https://www.jiscmail.ac.uk/cgi-bin/webadmin?A0=ALLNET), the forum of the [Association for Language Learning (ALL)](http://www.all-languages.org.uk/), UK. Used mainly by UK teachers in primary and secondary education.
* [EUROCALL Discussion List](https://www.jiscmail.ac.uk/cgi-bin/webadmin?A0=EUROCALL-MEMBERS), maintained by [EUROCALL](http://www.eurocall-languages.org/), the leading European professional association for CALL, and used mainly by teachers in higher education.
* [EUROCALL Computer Mediated Communication (CMC) SIG](https://www.jiscmail.ac.uk/cgi-bin/webadmin?A0=CMCSIG)
* [EUROCALL Natural Language Processing SIG](http://nlpsig.ning.com/)
* [EUROCALL Teacher Education SIG](http://eurocallteachereducation.ning.com/)
* [EUROCALL/CALICO Virtual Worlds SIG](http://virtualworldssig.ning.com/)
* [IATEFL](http://www.iatefl.org/):The UK-based International Association of Teachers of English as a Foreign Language. IATEFL embraces a [Learning Technologies Special Interest Group (LT SIG)](http://ltsig.org.uk/).
* [Linguanet Forum](http://www.mailtalk.ac.uk/cgi-bin/webadmin?A0=linguanet-forum):Used mainly by UK teachers in primary and secondary education.
* [MFL Resources Forum](http://groups.yahoo.com/group/mflresources/): A forum for teachers of Modern Foreign Languages. Used mainly by UK teachers in primary and secondary education.
* [Modern Foreign Languages Forum](http://community.tes.co.uk/forums/28.aspx): A forum managed by the **Times Educational Supplement**. Used mainly by UK teachers in primary and secondary education.

**12.2 Blogs**

In recent years there has been a veritable explosion in the development of **weblogs** - or **blogs** for short. The first blogs that appeared took the form of a **log**, a kind of online diary. Blogs behave in similar ways to [discussion lists](http://www.ict4lt.org/en/en_mod1-5.htm#discussion), except that they often take the form of a journal or a collection of an individual's or group's ideas and thoughts, and they offer an easy facility for uploading new material to the Web. The ICT4LT site has an associated blog, managed by Graham Davies at [http://ictforlanguageteachers.blogspot.com](http://ictforlanguageteachers.blogspot.com/). Educational uses of blogs include:

* Journals of school excursions abroad. The students may be encouraged to put together an **electronic scrapbook** in the foreign language, consisting of texts that they have written, photographs, video recordings and links to **podcasts**: see [Section 3.5.2, Module 2.3](http://www.ict4lt.org/en/en_mod2-3.htm#podcast), headed *Podcasting*.
* Online courses in which the teacher sets the tasks and receives the coursework from the students. These may be **open courses** and viewable by the public or **closed courses** aimed at a specific group of students. Open blogs can motivate students, encouraging them to improve their writing because of the presence of other viewers. Such blogs may include Web resources specified by the teacher and day-by-day records of what the students have learned.
* Webquests and scavenger hunts: see [Section 7.3.1](http://www.ict4lt.org/en/en_mod1-5.htm#webquests) (above).
* Teacher training materials and hints and tips on using new technologies in the classroom.
* School and college newsletters.

**12.2.1 Blogging tools**

If you wish to create your own blog have a look at these sites. Most blogs enable you post anything you like: texts, photos, and audio and video files:

* [Blogger](http://www.blogger.com/): A popular, free blogging tool. The [ICT4LT blog](http://ictforlanguageteachers.blogspot.com/) uses Blogger
* [CoveritLive](http://www.coveritlive.com/): A blogging tool that enables conferences and other events to be covered live. EUROCALL's annual conference is covered by CoveritLive in the [EUROCALL blog](http://virtualeurocall.blogspot.com/).
* [EduBlogger](http://edublogger.org/)
* [Edublogs](http://edublogs.org/)
* [Posterous](http://posterous.com/)
* [TypePad](http://www.typepad.com/): See the[Setting up a Blog tutorial by Joe Dale](http://www.cilt.org.uk/secondary/14-19/training_zone/setting_up_a_blog.aspx) at the **CILT** website. Please note that there is a small charge for using TypePad.
* [WordPress](http://wordpress.com/)

**Netiquette:**If you set up or join a blog make sure that you read the service provider's guide to acceptable practice. See also [Section 14.1.4](http://www.ict4lt.org/en/en_mod1-5.htm#netiquette) (below) on **Netiquette**.

**12.2.2 Useful blogs created by and for language teachers**

* **Alice Ayel's Blog**: [http://aliceayel.posterous.com](http://aliceayel.posterous.com/)
* **Suzi Bewell's Blog:**[http://www.allsaintslanguagesblog.typepad.co.uk](http://www.allsaintslanguagesblog.typepad.co.uk/)
* **Alex Blagona's Blog:**[http://alexblagona.blogspot.com](http://alexblagona.blogspot.com/)
* **Helena Butterfield's Langwitch Chronicles:**[http://www.helenabutterfield.net](http://www.helenabutterfield.net/)
* **Marisa Constantinides' TEFL Matters Blog:** [http://marisaconstantinides.edublogs.org](http://marisaconstantinides.edublogs.org/)
* **Mary Cooch's Blog:** <http://www.moodleblog.net/>
* **Joe Dale's Blog:** [http://joedale.typepad.com](http://joedale.typepad.com/)
* **Sylvia Duckworth, eTools for Language Teachers:** [http://mmeduckworth.blogspot.com](http://mmeduckworth.blogspot.com/)
* **Chris Fuller's Blog:**[http://chrisfuller.typepad.com](http://chrisfuller.typepad.com/)
* **Esther Hardmans' Blog:**[http://crackthecode-eh.blogspot.com](http://crackthecode-eh.blogspot.com/)
* **Chris Harte's Blog:** [http://chrisharte.typepad.com](http://chrisharte.typepad.com/)
* **Simone Haughey's Blog (Primary Modern Foreign Languages):** [http://robinhoodpmfl.wordpress.com](http://robinhoodpmfl.wordpress.com/)
* **Simon Howells' Blog:** [http://simonhowells.typepad.com](http://simonhowells.typepad.com/)
* **Isabelle Jones's Blog:** [http://isabellejones.blogspot.com](http://isabellejones.blogspot.com/)
* **Fiona Joyce's Blog:**[http://www.wizenedcrone.com](http://www.wizenedcrone.com/)
* **Samantha Lunn's Blog:** [http://languagesresources.wordpress.com](http://languagesresources.wordpress.com/)
* **Dominic McGladdery's Blog:**[http://domsmflpage.blogspot.com](http://domsmflpage.blogspot.com/)
* **Nik Peachey's Blog:** [http://nikpeachey.blogspot.com](http://nikpeachey.blogspot.com/)
* **Jame Pearson's Blog:**[http://elblogjimmyp.blogspot.com](http://elblogjimmyp.blogspot.com/)
* **Marie-France Perkins' Blog:** [http://mmeperkins.typepad.com](http://mmeperkins.typepad.com/)
* **Josй Picardo's Blog:**<http://www.josepicardo.com/>
* **Josй Picardo's Box of Tricks Blog:**[http://www.boxoftricks.net](http://www.boxoftricks.net/)
* **Amanda Salt's Blog:** [http://amandasalt.blogspot.com](http://amandasalt.blogspot.com/)
* **Clare Seccombe's Blog:** [http://www.changing-phase.blogspot.com](http://www.changing-phase.blogspot.com/)
* **Steve Smith's Blog:**<http://frenchteachernet.blogspot.com/>
* **Steve Smith's list of Language Teaching Blogs:** <http://www.frenchteacher.net/blogs.html>
* **Lisa Stevens' Blog:**[http://lisibo.blogspot.com](http://lisibo.blogspot.com/)

See also the list of [Top 25 world languages blogs](http://www.onlinedegrees.org/top-25-world-languages-blogs/).

**12.3 Wikis**

Another way of sharing information on the Web or initiating discussions is to set up a **wiki**. A wiki is essentially a series of interlinked Web pages that can be edited and added to by a group of people, i.e. an online resource for which content can be created collectively. It's distinguishing feature is that it allows anyone who views the wiki to add to or edit the existing content, but it's possible to set up a closed wiki that is used simply to impart information to its readers. Photographs and video recordings can also be embedded in a wiki. Wiki derives from the Hawaiian "wiki-wiki", meaning "quick".

[Wikipedia](http://www.wikipedia.org/) is the best known example of a wiki, a collaboratively written encyclopaedia. There is an article on [Computer Assisted Language Learning](http://en.wikipedia.org/wiki/Computer-assisted_language_learning) in Wikipedia. Other examples of wikis include:

* [MediaWiki,](http://www.mediawiki.org/wiki/MediaWiki) a wiki package originally written for [Wikipedia](http://www.wikipedia.org/). It is now used by several other projects of the non-profit Wikimedia Foundation and by many other wikis.
* [PBworks](http://pbworks.com/) (formerly known as **PBwiki**). Examples of wikis created with PBworks:
  + [SL Experiments wiki](http://slexperiments.pbworks.com/), maintained by Nergiz Kern. Used for collecting and sharing ideas on how to use Second Life for teaching foreign language.
  + [Language Teachers Together](http://mflresources.pbworks.com/)
* [Wetpaint](http://www.wetpaint.com/): Examples of wikis created with Wetpaint:
  + [Mrs Holton's French wiki](http://argoedfrench.wetpaint.com/): a wiki for young learners of French.
  + [CILT Cymru](http://ciltcymrutrial.wetpaint.com/): Centre for Information on Language Teaching (Wales) - includes links to other wikis.
* [WikiSpaces](http://www.wikispaces.com/): Examples of wikis created with WikiSpaces:
  + [Mark Pegrum's E-Language wiki](http://e-language.wikispaces.com/)
  + [Graham Davies's personal wiki page](http://grahamdavies.wikispaces.com/)
  + [Web2 - 4 Languages Teachers](http://web2-4languageteachers.wikispaces.com/) - a wiki created by Kris Paul.

**12.4 Social networking**

**Social networking** is a term applied to a type of website where people can seek other people who have similar interests, find out what's going on in their areas of interest, and share information and resources. Social networking is a controversial topic. Critics such as [Sherry Turkle (2010)](http://www.ict4lt.org/en/en_mod1-5.htm#turkle2010) have expressed their misgivings about our reliance on technology for communicating with one another, but these two articles present a more positive view:

* [Online Education: study shows social networking a boon for education](http://www.education.com/magazine/article/online_ed/), by Johanna Sorrentino.
* [Flash forward](http://www.tes.co.uk/article.aspx?storycode=6040748), by Yojana Sharma and Joe Dale, *TES Magazine*, 9 April 2010. An excellent article, illustrating how a network of language teachers in the UK is making good use of social networking tools and other Web 2.0 tools in teaching foreign languages. See [Section 12.2.2](http://www.ict4lt.org/en/en_mod1-5.htm#ltblogs)(above) where you will find links to the blogs and wikis managed by teachers who are mentioned in the article.

Many teachers make use of social networking sites to build up their **Personal Learning Network (PLN)** or **Personal Learning Environment (PLE)**. A useful intoduction to this topic can be found at[Chris Smith's website](http://www.shambles.net/csmith/pln/). Chris Smith has also produced an amusing presentation titled [Which social network?](http://prezi.com/pjhvm8wym5v5/social-networks/) Graham Davies describes his experience in using social networks in [My life online](http://ictforlanguageteachers.blogspot.com/2011/01/my-life-online.html).

These are examples of popular social networking sites:

* [aPLaNet](http://aplanet-project.org/) is a project funded by the European Commission. The project aims to create support and resources which will help foreign language teachers in Europe to understand and use social networks in order to build and expand their **Personal Learning Network (PLN)**by connecting with educators on [Facebook](http://www.facebook.com/), [Twitter](http://twitter.com/) & [Ning](http://www.ning.com/), to continue with their professional development in an autonomous way, and to acquire the skills and digital literacies required in order to use these mediums successfully and productively.
* [Bebo](http://www.bebo.com/):Very popular with young people - a social media network that focuses mainly on entertainment.
* [Classroom 2.0](http://www.classroom20.com/) describes it self as a "social network for those interested in Web 2.0 and social media in education".
* [Cloudworks](http://cloudworks.ac.uk/): A place to share, find and discuss learning and teaching ideas and experiences. Cloudworks is being developed by the Institute of Educational Technology at The Open University.
* [Edmodo](http://www.edmodo.com/):A private social platform for teachers and students to share ideas, files, events and assignments.
* [Facebook](http://www.facebook.com/):Facebook is a huge social network with millions of members, and there are many sub-networks based around a workplace, a region, a school, a college, a charity, etc. [EUROCALL](https://www.facebook.com/group.php?gid=255577856335) has a group on Facebook.
* [Google+](http://www.google.com/+/learnmore/): A new social network (established 2011) that offers similar features to [Facebook](http://www.facebook.com/), plus a lot more.
* [IMVU](http://www.imvu.com/): You download IMVU's software onto your PC and create your own avatars who chat in animated 3D scenes.
* [MySpace](http://www.myspace.com/): A social network that focuses mainly on music and entertainment.
* [LinkedIn](http://www.linkedin.com/): A network that offers facilities for people wishing to stay in touch with their old friends from college or university, former colleagues at work, and people who share their professional interests. There is a substantial CALL community on LinkedIn, including a [EUROCALL Group](http://www.linkedin.com/groups/EUROCALL-710067). See also [Graham Davies's LinkedIn Profile](http://www.linkedin.com/in/grahamdavies).
* [Ning](http://www.ning.com/):A platform that enables you to create your own social network. A Ning enables anyone to create a network focusing on a particular topic or catering for a specific membership, for example a group of teachers working together on an educational project. Typically, a Ning includes blogs, announcements of events, a forum, live chat and facilities for uploading photographs and video clips. Examples of educational Nings include the [EUROCALL/CALICO Virtual Worlds Special Interest Group](http://www.ict4lt.org/en/en_mod1-5.htm#vwsig), [AVALON](http://www.ict4lt.org/en/en_mod1-5.htm#avalon) and [NIFLAR](http://www.ict4lt.org/en/en_mod1-5.htm#niflar). The word "Ning" derives from the Chinese word for "peace".

* [Twitter](http://twitter.com/" \t "_blank): As the Twitter site says: "Twitter is a service for friends, family, and co–workers to communicate and stay connected through the exchange of quick, frequent answers to one simple question: What are you doing?" You will find Graham Davies, Editor of the ICT4LT site, on Twitter under the alias [GroovyWinkler](http://twitter.com/GroovyWinkler). See Russell Stannard's **Teacher Training Videos** website, where you will find his [Twitter tutorial screencasts](http://www.teachertrainingvideos.com/twitter1/index.html).
* [Yahoo Groups](http://uk.groups.yahoo.com/): A long-established facility for setting up groups. The [MFL Resources Group](http://groups.yahoo.com/group/mflresources/) is a good example of how Yahoo Groups works. MFL Resources is a very active group.
* [Wiggio](http://wiggio.com/): A new facility (2011) for organising groups.

See this [Teachers TV video: Online Communities in the Classroom](http://www.teachersmedia.co.uk/videos/online-communities-in-the-classroom), in which secondary school French teacher Marie Guyomarc'h, investigates how to make use of online communities in her classes. Online communities and social networks are often shunned by teachers because of negative publicity and online safety surrounding certain websites. Marie meets with Lisa Stevens, a primary school Spanish teacher, who relishes using social media websites for teaching purposes. Lisa explains the benefits of using websites such as [Twitter](http://twitter.com/) and [VoiceThread](http://voicethread.com/), and demonstrates how you can use them in the classroom. Later, Marie faces her challenge of taking back what she's learned and using it in the classroom.

See also:

* [Section 2.1](http://www.ict4lt.org/en/en_mod1-5.htm#WEB2), headed *What is Web 2.0?*
* [Section 14.2](http://www.ict4lt.org/en/en_mod1-5.htm#14.2), headed *Chat rooms, MUDs, MOOs and MUVEs*
* Brick B. (2011a) ["How effective are Web 2.0 language learning sites in facilitating language learning?"](http://wwwm.coventry.ac.uk/researchnet/elphe/publications/Documents/compass_journal_3_2011_d5012_web.pdf) *Compass: The Journal of Learning and Teaching at the University of Greenwich* 3: 57-63.
* Brick B. (2011b) ["Social Networking Sites and Language Learning"](http://wwwm.coventry.ac.uk/researchnet/elphe/publications/Documents/Brick%20article_IJVPLE%202.3.pdf), *International Journal of Virtual and Personal Learning Environments* 2, 3: 18-31.

**12.5 RSS feeds**

**RSS** stands for **Really Simple Syndication**. Essentially, RSS allows you to see when websites have added new content. RSS can **feed** you information on new contributions to blogs, wikis and other types of social networking sites as soon as as they are published, hence the term **RSS feed**. Look for the RSS icon on a Web page. This indicates that an RSS feed is available:



*RSS icon*

If you click on an RSS icon on a Web page you will be given the option of subscribing to its feeds. Feeds can be added to your **Favorites** list in your browser by using the **Add to Favorites** option and they will then appear under the **Favorites/Feeds** tab. A more efficient way of subscribing to RSS feeds is to use [Google Reader](http://www.google.co.uk/reader/). Google Reader provides a summary of the sites to which you have subscribed, indicating which of them has added new content, thus saving you time if you subscribe to several different sites as then you don't have to go round each of them to check for new contributions. Google Reader includes a tutorial that explains how to set up and manage your feeds.

See:

* [The BBC website's explanation of RSS feeds](http://news.bbc.co.uk/1/hi/help/rss/)
* [The web2practice video on RSS feeds](http://web2practice.jiscinvolve.org/wp/rss-2/)

**12.6 E-Safety**

A degree of caution is advised when joining any kind of blog, wiki, chat room [(See Section 14.2)](http://www.ict4lt.org/en/en_mod1-5.htm#14.2) or social networking site. See:

* [Chatdanger](http://www.chatdanger.com/):A site all about the potential dangers of interactive services online: chat, IM, online games, email and mobile apps.
* [ThinkUKnow](http://www.thinkuknow.co.uk/): A site maintained by the Child Exploitation and Online Protection Centre (CEOP).
* [Digizen](http://www.digizen.org/): Information for educators, parents, carers, and young people.
* [Mobile Broadband: a complete resource of Internet safety for kids](http://www.mobile-broadband.org.uk/guides/complete-resource-of-internet-safety-for-kids/)
* [Internet Safety](http://www.youtube.com/watch?v=xZHq4CQekTY) : This chilling YouTube video drives the point home. Essential viewing!

**13. Creating your own Web pages**

Creating your own Web pages is fairly straightforward nowadays. Whilst it is possible to develop high level programming skills, it is also now becoming much easier to type a document and convert it ready for the Web. Microsoft *Word* offers a **Save as HTML** option, which will create a simple Web page from a normal *Word* document. If this is an area that particularly interests you, see [Module 3.3](http://www.ict4lt.org/en/en_mod3-3.htm),*Creating a World Wide Web site*.

It is also possible to create your own interactive exercises on the Web, using a tool such as [Hot Potatoes](http://hotpot.uvic.ca/) or [Quia](http://www.quia.com/).

See also:

* [Section 3.1, Module 2.3](http://www.ict4lt.org/en/en_mod2-3.htm#interact), headed *Web-based CALL*
* [Section 7, Module 2.5](http://www.ict4lt.org/en/en_mod2-5.htm#internet), headed *The arrival of the Internet*

**14. Computer Mediated Communication (CMC)**

**Contents of Section 14**

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* [14.11 Learning task](http://www.ict4lt.org/en/en_mod1-5.htm#14.11)

**14.1 What is Computer Mediated Communication?**

There is no question that the Internet has had a tremendous impact on teaching and learning foreign languages. The term **Computer Mediated Communication (CMC)**dates back to the early days of computing but more recently it has been associated with the use of a range of tools enabling instant communication via **email** and **Web-based teaching and learning**to take place irrespective of time and place. [Warschauer (1996a)](http://www.ict4lt.org/en/en_mod1-5.htm#warschauer96a) mentions the following features of CMC:

Computer Mediated Communication allows users to share not only brief messages, but also lengthy (formatted or unformatted) documents - thus facilitating collaborative writing - and also graphics, sounds, and video. Using the World Wide Web (WWW), students can search through millions of files around the world within minutes to locate and access authentic materials (e.g. newspaper and magazine articles, radio broadcasts, short videos, movie reviews, book excerpts) exactly tailored to their own personal interests. They can also use the Web to publish their texts or multimedia materials to share with partner classes or with the general public.

EUROCALL manages a [Computer Mediated Communications Special Interest Group (CMC SIG)](https://www.jiscmail.ac.uk/cgi-bin/webadmin?A0=CMCSIG).

Now let's look at some CMC tools in detail and how they are used in teaching and learning foreign languages.

**14.1.1 Email: an asynchronous communications medium**

The most stable and long standing of Internet communications media is **email**. Email is essentially an **asynchronous** text-based medium which enables anybody with an Internet connection to send messages to one or more people similarly connected. The advantage of asynchronous communications is that the people communicating with one another do not have to be present at the same time - and this is the essential meaning of the term **asynchronous**.

Email has been widely used by the academic community since the early 1980s and has led more recently to the setting up of asynchronous **discussion lists** and **blogs** referred to earlier in this module: see[Section 12](http://www.ict4lt.org/en/en_mod1-5.htm#anchordiscuss), headed *Discussion lists, blogs, wikis, social networking*. It is also possible to send voice messages as email attachments: see the following section on **audioconferencing**: [Section 14.1.2](http://www.ict4lt.org/en/en_mod1-5.htm#audioconf).

**14.1.1.1 Email attachments**

It is possible not only to exchange messages by email, but to send what are called **attachments**, which are files containing either text, graphics, audio or video clips, or any combination of these. It has to be remembered, however, that files involving graphics, audio and video are likely to be quite large and may take a comparatively long time to transmit and receive - although this is less of an issue than it used to be now that most schools have a **broadband** connection to the Internet. Attachments are also prone to contain viruses. Be very careful not to open an attachment that you receive from an unknown source, or with a strange name, as it might contain a virus: see the [Appendix: Viruses](http://www.ict4lt.org/en/en_mod1-5.htm#viruses). When sending an attachment it is common courtesy to accompany it with a plain text message so that the recipient can see that it is a bona fide, "clean" file, e.g.

Hi, Joe

I'm attaching a report on the conference we attended last week, together with a picture of the two of us that was taken at the conference banquet. The two attachments are named:  
ConfReport.rtf  
BanquetPic.jpg  
  
Regards  
Claire

**14.1.2 Audioconferencing: a synchronous communications medium**

**Audioconferencing** is a typical example of a **synchronous** communications system, in which the people communicating with one another have to be present (in different locations, of course) at the same time - and this is the essential meaning of the term **synchronous**. Alongside **videoconferencing** (see [Section 14.1.3](http://www.ict4lt.org/en/en_mod1-5.htm#videoconf)below), audioconferencing is progressing at an impressive rate.There are many software applications that enable audioconferencing via computers, e.g.

* [Gong](http://gong.ust.hk/" \t "_blank) offers facilities for voice communication on the Web. It allows groups of people to participate in discussion groups using their computers, using both synchronous (real-time) and asynchronous chat. It is widely used by schools and universities for providing a **voice board** for teaching purposes. There is also [NanoGong](http://gong.ust.hk/nanogong/), an applet that can be used by someone to record, playback and save their voice in a Web page. When the recording is played back the user can speed up or slow down the sound without changing it. The speeded up or slowed down version of the recorded sound can also be saved to the user's hard disc. In addition, the applet can be used as an integrated component in **Moodle**, a popular VLE (see [Section 8](http://www.ict4lt.org/en/en_mod1-5.htm#vlesetc) above).
* [Learning Times](http://www.learningtimes.com/): An online audioconferencing tool.
* [Schoolshape](http://schoolshape.com/):This website offers software for setting up an online Language Lab that includes the possibility of creating asynchronous audio and video assignments for students. Registration required.

* [Skype](http://www.skype.com/" \t "_blank): This is a free Web telephone service that enables one-to-one audio communication via a computer with anyone in the world, as well as conferencing with more than one person at a time. Skype also offers a cheap pay-as-you-go service that enables you to call landline phones via your computer and also to make video calls.

* [Ventrilo](http://www.ventrilo.com/" \t "_blank):An online tool that for voice communication.
* [Vocaroo](http://vocaroo.com/): A quick online voice recording app where you can record voice messages and afterwards share them with others via email or personal Web page.

* [Wimba](http://www.wimba.com/products" \t "_blank) specialises in in asynchronous voice technology which enables you, for example, to add voice messages to email and add audio to a website.
* **Second Life** can also be used for synchronous audioconferencing: see [Section 14.2.1](http://www.ict4lt.org/en/en_mod1-5.htm#secondlife) (below).

See also [Godwin-Jones (2005)](http://www.ict4lt.org/en/en_mod1-5.htm#skype).

**14.1.3 Videoconferencing: a synchronous communications medium**

**Videoconferencing** is another typical example of a **synchronous** communications system, essentially a system for connecting computers that are equipped with video transmission and reception facilities. Like audioconferencing, videoconferencing enables people to communicate in "real time", i.e. people communicating with these packages have to be present (in different locations, of course) at the same time. It is important to distinguish between **room-based** **videoconferencing** and **desktop videoconferencing**.

**Room-based videoconferencing** is generally organised on a group-to-group basis. In this case, a group sits in front of a large screen where they can view the participants at the other site as well as a smaller image of themselves. It is common to use this form of videoconferencing for distance-learning programmes. In this case the system may use an **ISDN (Integrated Services Digital Network)**connection or a dedicated **leased line**(see [Glossary](http://www.ict4lt.org/en/en_glossary.htm)) connection to transmit information from one site to another. The quality of the video transmitted in this way is generally better than that offered by desktop videoconferencing systems (see below), although there may be a delay between the transmission of audio and picture with slower ISDN lines (64 Kbps to 128 Kbps), which means that lip movements may not be synchronised with the audio. The set-up and running costs of videoconferencing systems of this type can be quite expensive.

**Desktop videoconferencing** involves using a standard multimedia computer equipped with a microphone, loudspeakers and a **webcam**, a type of video camera that sits on top of your computer and links it to the Internet: see [Section 1.2.6 Module 1.2](http://www.ict4lt.org/en/en_mod1-2.htm#webcam) for a picture of a webcam. You also need an appropriate desktop videoconferencing software application (see next section) and a fast **broadband**connection to the Internet. This is especially suited to one-to-one communication or between small groups. Software applications may allow users to combine the videoconference with a shared whiteboard on their screens, where each participant can write, draw diagrams and make changes to what others have written. If the bandwidth of the Internet is too slow to support good quality interaction, users may opt to freeze the picture image of their partner on the screen and simply use the audio and whiteboard functions. Desktop videoconferencing systems are much cheaper than room-based systems.

**Desktop videoconferencing software applications**

* [Adobe Connect](http://www.adobe.com/uk/products/adobeconnect.html)

* [Blackboard Colloborate](http://www.blackboardcollaborate.com/" \t "_blank)
* [FlashMeeting](http://flashmeeting.open.ac.uk/), a videoconferencing tool, based on Adobe **Flash**, developed at The Open University, UK.
* [Radvision SCOPIA Desktop Video Communications](http://www.radvision.com/Products/Video-Conference-Systems/Desktop-Video-Communications/)
* [SightSpeed](http://www.sightspeed.com/)**:**Videoconferencing, video chat and video email.
* [Video calling on Skype](http://www.skype.com/intl/en-us/features/allfeatures/video-call/): Video calls can also be made with [Skype](http://www.skype.com/).

Communications packages like these are becoming increasingly reliable. They enable groups of people to talk to and even see each other over the Internet and to share text, graphics and audio documents in real time. The costs are therefore relatively modest.

**Further resources**

* [iVisit](http://www.ivisit.com/): a range of tools for videoconferencing.
* [NetLearn Languages](http://www.netlearnlanguages.com/):a business that delivers language training courses live online.
* Robert O'Dowd's website: [Telecollaboration: developing intercultural language learning through online exchanges](http://www3.unileon.es/personal/wwdfmrod/collab/)
* Robert O'Dowd's website: [Videoconferencing in foreign language education](http://www3.unileon.es/personal/wwdfmrod/videoc.html)
* [Global Leap: Videoconferencing in the classroom](http://www.global-leap.org/)
* Using Second Life as an alternative to videoconferencing: see [below](http://www.ict4lt.org/en/en_mod1-5.htm#slvideo).

**14.1.4 Netiquette**

It is important to abide by a code of behaviour if you intend to communicate by email via the Internet. Such a code of behaviour is known as **netiquette**, for example:

1. **Identify the content of your message:**Use the subject line of your communications software to indicate clearly what your message is about. Recipients can then choose to delete messages that appear to be irrelevant or uninteresting.
2. **Identify yourself** clearly at the end of your message, indicating your institution or business, affiliations and relevant URLs. This is known as your **signature**.
3. **Be polite** - as you would in normal communication.
4. **Be brief.**
5. **Dont flame! Flame** is a term used to describe language that is rude, sarcastic, condescending or inflammatory (hence "flame").. It is very immature and unprofessional. Bear in mind that even private emails can end up in the wrong hands - and it is possible for them to be intercepted by experts who have the know-how. If you post to a discussion list or blog, a large audience will see your messages, the recipients may keep a copy of your messages, and your messages may also be archived on the Web, e.g. as in the [Linguanet Forum](http://www.mailtalk.ac.uk/cgi-bin/webadmin?A0=linguanet-forum). So your words could be stored and be on view to the public for many, many months.There are documented cases of people having been sued for making libellous remarks in blogs. A **troll** is a person who deliberately starts a **flame war** in a discussion list or blog by posting provocative or derogatory messages.
6. **Use plain text:** Always send your messages as plain (unstyled) text as other people's email systems may not be able to read messages sent, for example, in HTML or RTF format. Make sure you know how to set up your email system to send messages as plain text.
7. **Identify attachments:**Don't send unidentified attachments (e.g. *Word* documents, pictures, etc) to anyone. Always indicate what the attachment contains.
8. **Irony and humour**do not always come across in written communication. If you make a remark that is intended to be ironic or humorous, add an **emoticon**, e.g. a **wink** or a **smiley**, to reinforce it, thus: - ;-) :-)
9. Familiarise yourself with some of the common **acronyms and abbreviations** used in email communication, e.g. IMHO (In My Humble Opinion), BTW (By The Way), FYI (For Your Information), AFAIK (As Far As I Know), IIRC (If I Remember Correctly), LOL (Laughing Out Loud).
10. Don't type in **CAPITALS**. This is considered the equivalent to shouting.
11. Don't use the **Out of Office** automatic reply facility in your email system, especially when replying to public discussion lists, as this can signal to thieves that you are away from home and you may return to find your house burgled. It is fairly easy to match up a person's name in an Out of Office reply with a publicly accessible address list on the Web.
12. Make sure your **antivirus software** is kept up to date, i.e. daily. Email is the commonest way of spreading viruses. See the [Appendix: Viruses](http://www.ict4lt.org/en/en_mod1-5.htm#viruses).
13. Don't send people warnings about **hoax viruses**. As a general rule, don't send people warnings about viruses at all until you have checked that the virus is real. See the [Appendix: Viruses](http://www.ict4lt.org/en/en_mod1-5.htm#viruses).
14. **Copyright:**There are a number of important copyright issues surrounding email correspondence. If you send an email to a private person or discussion list, for example, you automatically own the copyright in your email message and you retain your moral right to be identified as the author. Regarding other people's email messages, you should always seek permission (it's only polite, anyway) before passing them on to third parties or copying extracts for publication elsewhere.
15. **Discussion lists and blogs:** Discussion lists such as those managed by mailing list services, e.g. [Mailtalk](http://www.mailtalk.ac.uk/)and[JISCMail](http://www.jiscmail.ac.uk/), and blogs have their own rules and usually contain guides on acceptable practice. Don't send attachments or unsolicited commercial emails to discussion lists and blogs.

There are several useful publications relating to **netiquette**:

* [Netiquette](http://www.albion.com/netiquette/) by Albion and Seth Ross.
* [Netiquette](http://www.fau.edu/irm/about/netiquette.php): Florida Atlantic University.
* [A beginner's guide to effective email](http://www.webfoot.com/advice/email.top.php) by Kaitlin Duck Sherwood - with translations into French, German and Indonesian.

**14.1.5 Discussion topic**

In terms of your own professional development, what kind of benefits do you think might accrue to you through a discussion list or blog which would not have been available to you before the advent of Computer Mediated Communication? See [Section 12](http://www.ict4lt.org/en/en_mod1-5.htm#anchordiscuss), headed *Discussion lists, blogs, wikis, social networking*.

**14.2 Chat rooms, MUDs, MOOs and MUVEs**

**Chat rooms**

Chat rooms are synchronous communication facilities, offering online environments where people either drop in or arrange to meet in at specific times. Most are text-based, where you type in text online that is seen almost immediately by others who are online at the same time and who respond online in real time. Chat rooms involve extensive connect time and, when used for language learning, can put a great deal of pressure on students by requiring them to read fairly rapidly, and also to write fairly rapidly, with little time to reflect on the quality of the language used. Some chat rooms are asynchronous, which means that messages are stored and can be replied to at any time. There are also chat rooms that offer synchronous video chat. See:

* [Chatzy](http://www.chatzy.com/): create your own virtual chat room.
* [ICQ Chat](http://www.icq.com/icqchat/): lots of different chat rooms, including chat rooms in many different languages.
* [Kindernetz](http://www.kindernetz.de/netztreff/chat/-/id=17426/17pssty/index.html): chat in German.
* [TinyChat](http://tinychat.com/): live video chat.

[Twitter](http://twitter.com/) can be considered as a type of asynchronous chat facility: see [Section 12.4](http://www.ict4lt.org/en/en_mod1-5.htm#twitterlink) (below).

Most **VLEs (Virtual Learning Environments)** and **virtual worlds** also offer a text chat facility. See [Section 8](http://www.ict4lt.org/en/en_mod1-5.htm#vlesetc) (above) and [Section 14.2.1](http://www.ict4lt.org/en/en_mod1-5.htm#secondlife) (below).

**E-Safety:**A degree of caution is advised when joining a chat room or a [social networking site](http://www.ict4lt.org/en/en_mod1-5.htm#socnet). See [Section 12.6](http://www.ict4lt.org/en/en_mod1-5.htm#esafety) (above):

**MUD**stands for **Multi User Domain** or **Multi User Dungeon**. MUDs were originally developed as text-based, role-playing **adventure games** to be engaged in across computer networks, but they also offer facilities for collaboration and education, including language learning.

**MOOs:** MUDs were superseded by MOOs. MOOstands for **Multi-User-Domain Object Oriented**. A MOO is rather like an online computer game for players from all round the world. Players can log into a MOO to communicate with other MOO users either synchronously or asynchronously. MOOs can be described as text-based **virtual worlds**, some of which are specifically designed for language learning, such as:

* [SchMOOze University (English)](http://www.ict4lt.org/en/en_mod1-5.htm#peterson)
* [MundoHispano (Spanish)](http://www.umsl.edu/~moosproj/mundo.html)
* [MOO Franзais (French)](http://www.umsl.edu/~moosproj/moofrancais.html)
* [Dreistadt (German)](http://cmc.uib.no/dreistadt/)

**MUVEs:** MOOs were followed by more elaborate three-dimensional virtual environments, **Multi-User Virtual Environments**, which are also known as**3D virtual worlds**. These are early examples of MUVEs:

* [Anarchy Online (English)](http://www.anarchy-online.com/)
* [Active Worlds (English)](http://www.activeworlds.com/)

Graham Davies has written a brief history of virtual worlds, which also appears in the preface of [Molka-Danielsen & Deutschmann (2009)](http://www.ict4lt.org/en/en_mod1-5.htm#molka) - click here [Virtual worlds: a brief history](http://www.ict4lt.org/en/Virtual_Worlds_History.doc).

**14.2.1 Second Life**

[Second Life](http://secondlife.com/)is the dominant 3D virtual world (MUVE) on the Web. There are competitors, many of which are listed by [ArianeB](http://arianeb.com/more3Dworlds.htm) and [Chris Smith](http://www.shambles.net/pages/learning/ict/virtual/), including embedded videos that show how they look, but Second Life continues to flourish, especially among teachers of foreign languages. In Second Life there are thousands of simultaneous users who interact with one another in the guise of a chosen character or **avatar**. Second Lifehas parks, shops, schools, museums, islands and beaches, all designed and maintained by the virtual residents. It is also supported by an economy and a virtual currency, the Linden Dollar: L$. The exchange rate is US$1 = L$250. You can buy virtual land, build a virtual house and fill it with virtual furniture. Second Life is a remarkable virtual environment in which you can let your imagination run free. You can create an avatar of yourself in almost any shape or form, dress yourself in virtual clothes and explore the exciting Second Life mini-worlds (simulations or "sims" for short), where you will meet people speaking a variety of different languages. Second Life is ideally suited to the **exploratory** or **constructivist** styles of learning. Or you can just have fun: you can take a cable car to a mountain chalet ([Figure 3](http://www.ict4lt.org/en/en_mod1-5.htm#chalet)), visit a club or pub and, if you want to spend a romantic evening, you can dance to beautiful music by a waterfall ([Figure 4](http://www.ict4lt.org/en/en_mod1-5.htm#waterfall)). This section is divided into the following sub-sections:

* [i. Introduction to Second Life for beginners](http://www.ict4lt.org/en/en_mod1-5.htm#introsl)
* [ii. Useful general references to Second Life](http://www.ict4lt.org/en/en_mod1-5.htm#genslrefs)
* [iii. Language learning and teaching in Second Life](http://www.ict4lt.org/en/en_mod1-5.htm#lltsl)
* [iv. Language conferences in Second Life](http://www.ict4lt.org/en/en_mod1-5.htm#slconfs)
* [v. Using Second Life as an alternative to videoconferencing](http://www.ict4lt.org/en/en_mod1-5.htm#slvideo)
* [vi. Language associations in Second Life](http://www.ict4lt.org/en/en_mod1-5.htm#sllangass)
* [vii. Further reading](http://www.ict4lt.org/en/en_mod1-5.htm#slfurther)
* [viii. Second Life screenshots](http://www.ict4lt.org/en/en_mod1-5.htm#slscreen)
* [xi. Second Life videos](http://www.ict4lt.org/en/en_mod1-5.htm#slvideos)

**i. Introduction to Second Life for beginners**

First, you need to register as a member of Second Life and download a piece of software known as a **viewer**. A viewer is to Second Life what a browser is to the Web, i.e. it enables you to explore this exciting 3D world in the same way as a browser enables you to explore the Web. Registering as a member of Second Life is free, quick and easy: click on **Join Now** at <http://secondlife.com/>

When you register as a member of Second Life you will find that the default choice is now **Version 3**. Learning how to use a Second Life Viewer will take some time, but it is worth the effort. Graham Davies aims to make your learning curve a little easier with this set of tutorial materials in *Word* format, [Introduction to the Second Life Viewer,](http://www.ict4lt.org/en/IntroSLViewer2.doc)which take into account the new **Version 3** interface. The materials take you step-by-step through the basics, including a tour of the [CALICO/EUROCALL HQ](http://www.ict4lt.org/en/en_mod1-5.htm#jointhqs) in Second Life. They include many links to other resources on the Web, including YouTube videos.[Feedback](http://www.ict4lt.org/en/en_mod1-5.htm#anchorfeedback) on the tutorial materials is welcomed.

Graham Davies's tutorial materials in *Word* format for the much earlier **Viewer 1** are still available here: [Introduction to Second Life Viewer 1](http://www.ict4lt.org/en/IntroSLViewer1.doc).

There are a number of alternative viewers. See the [list of viewers](http://www.shambles.net/pages/learning/ict/vwviewers/) compiled by Chris Smith.

See also:

* [Getting started with Second Life, JISC](http://www.jisc.ac.uk/publications/generalpublications/2009/gettingstartedsecondlife.aspx): The first part of this PDF document briefly covers the basics of Second Life, and the second part focuses on the more advanced skills of building and scripting, designing courses in Second Life, as well as offering useful practical advice on setting up Second Life in an educational institution.
* Stoerger S. (2010) [Creating a virtual world mindset: a guide for first time Second Life teachers](http://www.jofde.ca/index.php/jde/article/view/696/1156), *The Journal of Distance Education* 24, 3.
* [Introduction to Second Life and the British Council Isle by Graham Stanley](http://www.scribd.com/doc/59854704/Introduction-to-Second-Life-and-the-Britishcouncil-Isle)

**ii. Useful general references to Second Life**

* [Educational uses of Second Life](http://www.youtube.com/watch?v=qOFU9oUF2HA) : A YouTube video, giving an overview of how Second Life may be used in education.
* [The Open University in Virtual Worlds](http://www.open.ac.uk/virtualworlds/): The Open University in Virtual Worlds Project aims to promote the philosophy, practices and curriculum of The Open University within virtual world environments, using innovative techniques, interdisciplinary strategies and varied pedagogical approaches to enhance lifelong learning through technology.
* [Real Life or Second Life?](http://www.youtube.com/watch?v=flkgNn50k14)  An amusing YouTube video showing real people behaving like their Second Life avatars.
* [Schome](http://www.schome.ac.uk/): An Open University project, which created **Schome Park**, an island in Teen Second Life, in order to collect evidence about approaches to supporting teenage learners. **SchomeBase** is the Schome HQ in Second Life for connecting with adults. See this [Teachers TV video: ICT for the non-specialist](http://www.teachersmedia.co.uk/videos/virtual-worlds), which focuses on the use of Second Life by John Hanson School, Hampshire, UK. See also the entry under [The British Council](http://www.ict4lt.org/en/en_mod1-5.htm#britishcouncil) (below).
* [Second Classroom](http://secondclassroom.ning.com/) is a project that explores ways in which educators can use immersive media such as 3D virtual worlds and online multiplayer games in learning:
* [Second Life Education wiki](http://secondlife-education.pbworks.com/): A wiki edited by Randall Sadler.

* [SLOODLE](http://www.sloodle.org/moodle/" \t "_blank)is a free and open source project which integrates the multi-user virtual environments of Second Life and/or OpenSim with the Moodle learning-management system.
* [University of Western Australia](http://uwainsl.blogspot.com/): The University of Western Australian has an impressive presence in Second Life. Well worth a look.
* [Web 2.0 and Language Learning](http://www.youtube.com/watch?gl=FR&hl=fr&v=F1IRkqbUoXY) : A YouTube video with a section on Second Life, by Graham Stanley of The British Council.

**iii. Language learning and teaching in Second Life**

* **Association for Language Learning (ALL) London:** See below under [Language assocations in Second Life](http://www.ict4lt.org/en/en_mod1-5.htm#alllondon).

* [AVALON (Access to Virtual and Action Learning live ONline)](http://avalon-project.ning.com/" \t "_blank) is a project that was initiated with EU funding in 2009-2010, aiming to explore 3D worlds for language learning. AVALON now embraces the [SL Experiments](http://www.ict4lt.org/en/en_mod1-5.htm#slexperiments) group.
* [AVATAR (Added Value of teAching in a virTuAl woRld)](http://www.avatarproject.eu/): A two-year project (December 2009 to November 2011), co-financed by the European Commission under the Lifelong Learning Sub-Programme (Comenius). Also has a [Facebook Group](http://www.facebook.com/groups/157670140977321/). See also the [YouTube video](http://www.youtube.com/watch?v=p8RoX-W4HLs) .
* [Avatar Languages](http://www.avatarlanguages.com/index.php):Online language courses in English and Spanish in Second Life.
* **The British Council:** The British Council has been teaching English to 13-17 year-olds in its restricted [Second Life for Teens](http://www.britishcouncil.org/hongkong-english-secondlife.htm) location for several years, but since January 2010 it has been possible for 16-17 year-olds to join the main grid of Second Life. 13-15 year-olds are admitted to limited locations, with appropriate controls for administrators. Visit the [British Council Isle](http://maps.secondlife.com/secondlife/BritishCouncil%20Isle/232/125/40) in Second Life and try your hand at the challenging quests. See [Introduction to Second Life and the British Council Isle by Graham Stanley](http://www.scribd.com/doc/59854704/Introduction-to-Second-Life-and-the-Britishcouncil-Isle).
* **CALICO:**See below under [Language associations in Second Life](http://www.ict4lt.org/en/en_mod1-5.htm#calicoslhq).
* [Ciudad Bonita](http://blog.languagelab.com/blog/2008/11/13/ciudad-bonita-is-open/):A sim for learners of Spanish, with real-life Spanish teachers. See this YouTube video by Dafne Gonzales, [Introduction to Ciudad Bonita](http://www.youtube.com/watch?v=VN3kfD64vbk) .

* [Edunation Islands](http://edunation-islands.wikispaces.com/" \t "_blank):An area in Second Life that focuses on the potential for virtual worlds to enhance the language learning process. The EduNation Islands are maintained by a community of educators.
* **EUROCALL:**See below under [Language associations in Second Life](http://www.ict4lt.org/en/en_mod1-5.htm#eurocallsl).

* [EUROCALL/CALICO Virtual Worlds Special Interest Group](http://virtualworldssig.ning.com/" \t "_blank)
* [ExamSpeak](http://www.examspeak.com/): A project based at NovaUCD, the Innovation and Technology Transfer Centre at University College Dublin (UCD), and managed by a company named RendezVu. The project uses bots in a tailor-made virtual world to give students practice in speaking skills for the Cambridge Key English Test (KET). See the [UCD website](http://www.ucd.ie/nova/mediacentre/2011pressreleases/novanewstitle,90276,en.html) for further information. A trial beta test version of ExamSpeak is available here: <http://www.examspeak.com/KET>
* [Stefanie Hundsberger's Report (2009)](http://www.ict4lt.org/en/en_mod1-5.htm#hundsberger): *Foreign language learning in Second Life and the implications for resource provision in academic libraries*.
* [LanguageLab](http://www.languagelab.com/en/): Learn English online in Second Life.
* [Language learning in Second Life: an introduction](http://blip.tv/karelia-kondor/language-learning-in-second-life-an-introduction-2843701): A video by Helen Myers (aka Karelia Kondor in SL) on her introduction to SL and her experiences in learning Italian. Part of a series of Helen's videos on [BlipTV](http://blip.tv/karelia-kondor).
* **MFL Resources:**see below under [Language assocations in Second Life](http://www.ict4lt.org/en/en_mod1-5.htm#alllondon).

* [NIFLAR (Networked Interaction in Foreign Language Acquisition and Research)](http://cms.hum.uu.nl/niflar/" \t "_blank):an EU-funded project, which began in January 2009. See also the [NIFLAR Ning](http://niflar.ning.com/).
* [Mark Pegrum's wiki on Web 2.0 in Education - Virtual worlds](http://e-language.wikispaces.com/virtual-worlds): Includes references to spaces in Second Life where language students can practise the target language with natives and other learners.
* [RezEd, Language Learning in Virtual Worlds](http://rezedhub.ning.com/group/languagelearninginvirtualworlds): a Ning for educators interested in sharing experiences and exploring language learning and teaching in virtual worlds.
* [Scoop.it!](http://www.scoop.it/)A useful curation tool that enables you to set up Web pages that gather together links on a specific topic. Scoop.it provides a facility for you to "curate" information on your topics by trawling the Web and finding links that you may wish to add to your topic pages. The links are laid out like the page of a newspaper. One of the topics covered is [Virtual World Language Learning](http://www.scoop.it/t/virtual-world-language-learning).
* [Skoolaborate](http://www.skoolaborate.com/) is a global initiative that uses a blend of technologies - including blogs, wikis and virtual worlds - to transform learning These tools are used to provide engaging collaborative learning experiences for students aged between 13 and 18 years of age. The Skoolaborate virtual learning space is secure and only accessible via invitation. Students from schools around the world are invited to participate. Initiated and managed by Westley Field at MLC School Sydney, Skoolaborate now has over 40 schools and organisations from Australia, New Zealand, Taiwan, Japan, Singapore, Chile, Portugal, Canada, the UK and the USA. The [South East Grid for Learning (SEGFL)](http://microsites2.segfl.org.uk/view_page.php?id=2772&gimage_num=2#gallery), UK, website includes an introductory video on **Second Life and Skoolaborate**and a video by Helen Myers on the **Lingualand** project, which integrates SL with [SLOODLE](http://www.ict4lt.org/en/en_mod1-5.htm#sloodle).
* [SLanguages](http://slanguages.wikispaces.com/): A wiki on learning languages in virtual worlds.

* [SL Experiments](http://slexperiments.pbworks.com/" \t "_blank): A wiki written by Nergiz Kern (Daffodil Fargis in SL) for collecting and sharing ideas on how to use Second Life for teaching foreign languages. See also Nergiz's [Teaching in Second Life](http://slexperiments.edublogs.org/) blog. SL Experiments now has a group within the [AVALON](http://www.ict4lt.org/en/en_mod1-5.htm#avalon) project.
* [TalkAcademy](http://www.talkademy.org/): Part of the non-profit **Open Learning Association**, based in Vienna, Austria. TalkAcademy maintains an island in Second Life.
* [Teaching English in Second Life](http://nikpeachey.blogspot.com/2007/08/teaching-english-in-second-life.html): in Nick Peachey's Learning Technology Blog.
* [TESOL Electronic Village Online (EVO)](http://evosessions.pbworks.com/):A professional development project and virtual extension of the TESOL Convention. TESOL EVO offers workshops on teaching in Second Life.
* [Virtlantis](http://www.virtlantis.com/): Formerly referred to as **Second Life English**, Virtlantis is a non-profit project of the Oxford School for English, a language school located in Gцppingen, Germany, which has been in operation since 1965. It is also a collaborative effort which includes volunteer language teachers and language learners from all over the world. The Oxford School has been actively promoting language learning in Second Life via the Second Life English, Virtlantis, and other related projects, since 2006.
* Wikipedia article on [Virtual World Language Learning](http://en.wikipedia.org/wiki/Virtual_world_language_learning).

Language teachers are discovering a variety of different ways in which Second Life can be used in language learning and teaching, for example:

* **Simulations of real countries:** There are many simulations in Second Life that reflect the physical appearance and culture of real countries. Learners exploring these simulations are quite likely to meet individuals who speak languages other than English and can engage with them in voice chat or text chat. Many signs and instructions are posted in the "local" language, and automatic tours (e.g. by train, tram or even Roman chariot) may be offered with commentaries in different languages.
* **Scavenger hunts** - also known as **treasure hunts**- are becoming increasingly popular in Second Life. For example, the teacher can ask learners to search for an object that reflects the culture of a specific country, take a snapshot of it and write an accompanying textual description either in their own language or in the language that they are studying: see [Section 7.3.1](http://www.ict4lt.org/en/en_mod1-5.htm#webquests) (above), headed*Webquests and scavenger hunts*.
* [Ma Routine](http://languagesatmillthorpe.typepad.co.uk/files/french-hw-routine.wmv):Eleanor Kettley-Tomlinson from Millthorpe School has uploaded this video clip describing "My daily routine" in French, beginning with a cartoon character of a young girl waking up ("Je me réveille"), carrying our a series of daily tasks, and ending with going to bed ("Je me couche"). I am not sure which animation tool was used to create this clip, but something similar could be implemented in Second Life.
* [The Princess and the Pea](http://www.youtube.com/watch?v=mqRUPjfr7aI) : This Machinima video on YouTube is a wonderful illustration of the power of Second Life as a story-telling medium. I hadn't thought about using SL in this way - but it obviously works. Graham Davies's grandchildren love it! More of the same, please - and in foreign languages too!
* **Task-based learning:** It is possible to set up tasks in Second Life that simulate tasks that could be set up in a real classroom. For example, a class of students could be divided into groups, with each group given the task of setting a small dinner table for invited guests. The students pick up items of food from a large central table and transfer (or rather copy) them to each of the guests' dinner tables. In doing so they learn the names of the items of food, how to understand instructions, use of verbs and prepositions of location and placement, etc. At the same time they also learn SL basics such as how copy and place an item, and use a great deal of language in the process of collaborating with one another.
* **Learning Spanish:**Graham Davies writes: "During the **SLanguages 2009** conference in Second Life I took part in an introductory class for learners of Spanish, conducted by Cristina Palomeque (Cristina Papp in Second Life). The class took place in a simulated Spanish city called **Ciudad Bonita**, where we first learned the names of different items of clothing and then went shopping to "buy" them - free of charge, of course! The class ended with a parade on a catwalk where we showed off our new clothes and other students were asked to describe them. I am using Second Life almost daily in order to brush up my Spanish. I have found some great simulations of Spanish cities, where I often meet Spanish native speakers. I cannot understand 100% of what they write in text chat, but I am using a **text chat translator** as an aid. It often produces nonsense, but it helps me get the gist of what is going on and I can usually match up the Spanish and English vocabulary items, which is great for reinforcement."

**iv. Language conferences in Second Life**

Second Life is used regularly for virtual conferences on a wide range of topics. Regular conferences include:

**a. SLanguages**

[SLanguages](http://www.slanguages.net/): The first SLanguagescolloquium, **SLanguages 2007**, took place on 23 June 2007. [Figure 1](http://www.ict4lt.org/en/en_mod1-5.htm#SLCollJun07a) is a screenshot of the colloquium, which made use of the [Ventrilo](http://www.ict4lt.org/en/en_mod1-5.htm#ventrilo) audioconferencing software as well as standard Second Life text chat. Graham Davies writes:

Speakers' and participants' voices came through very clearly at my end, and the speakers were able to put up *PowerPoint* slides on a large display at the conference venue, the Glass Pyramid one of the three [EduNation Islands](http://www.ict4lt.org/en/en_mod1-5.htm#edunationislands). You couldn't see anyone "for real", of course. Text chat was active throughout the conference - and, because text chat is silent, participants could chat among themselves without disturbing the presenters. In the discussion sessions, participants could use text chat with the presenters or they could illuminate a light bulb on their head to indicate that they wished to speak, and then the chair would call upon them in turn. It worked amazingly well. This approach to conferencing was new at the time, but it in the meantime it has become fairly commonplace now that Second Life has introduced its own **voice chat** facility. I use voice chat regularly in Second Life to run online courses and communicate with colleagues all over the world. I recently gave a talk to cancer sufferers and carers in the HQ of the American Cancer Society in Second Life.

**SLanguages 2008** took place on 23-24 May 2008.

[SLanguages 2009](http://slife.dudeney.com/?p=191)took place on 8-9 May 2009. Graham Davies writes:

This was undoubtedly the best online conference that I have ever attended. I learned an enormous amount about teaching foreign languages in virtual worlds, and I even took part in a lesson for beginners in Spanish. The conference ran for 24 hours from Friday 8 May to Saturday 9 May, with many of the 39 presentations being repeated so that people in different time zones could attend them without having to stay up all night. A total of 359 participants took part in the conference, with a peak of 91 in attendance concurrently on Friday evening, 8 May.

[SLanguages 2010](http://avalon-project.ning.com/page/slanguages-2010-summary)took place on 15-16 October 2010. Graham Davies writes:

This was an excellent conference. I was invited to play the role of Eckart in a performance (in German, of course) of Brecht's "Baal" in a simulation of a 1920s Berlin Theatre. I learned a lot about the Dogme approach to language teaching from Scott Thornbury, attended a beginners course in Modern Greek and I was the key speaker in the closing ceremony.

**Slanguages 2011** took place on 16-18 September 2011.

**b. Webheads in Action**

The [Webheads in Action Online Convergence (WIAOC)](http://wiaoc.org/) conferences also make use of Second Life. Webheads describes itself as "An online community of practice of teachers and educators, practising peace and professional development through Web 2.0 and computer mediated communication".

**c. Virtual Round Table**

The [Virtual Round Table](http://www.virtual-round-table.com/) conference is a semi-annual live online conference on language learning technologies. A substantial part of the conference takes place in Second Life.

**v. Using Second Life as an alternative to videoconferencing**

Interestingly, many businesses are moving away from videoconferencing and are running their meetings in virtual worlds such as Second Life. This is a far cheaper option and apparently much liked by businessmen and businesswomen who don't have to dress smartly and worry about their appearance, i.e. they only have to dress their avatars, and if the meeting gets boring they can slip out for a coffee, leaving their avatar in place!

Graham Davies writes:

I attend virtual meetings regularly in Second Life in a variety of locations. The CALICO/EUROCALL HQ building is set up so that it can accommodate group meetings of up to a dozen people, complete with access to presentation screens on which I can project *PowerPoint* slides, photographs and other images, and motion video. I can also engage in text chat with the group or with individuals, send notecards containing textual information and call up Web pages, all within the virtual meeting rooms.

**vi. Language associations in Second Life**

These three professional associations have bases in Second Life:

a. **Association for Language Learning**(**ALL London**) **and** **MFL Resources**

The London branch of the [Association for Language Learning (ALL London) and MFL Resource](http://maps.secondlife.com/secondlife/EduNation/228/53/23)s have a joint base in Second Life.

**b. CALICO**

[CALICO](http://www.calico.org/) is the leading North American professional association dedicated to the promulgation of innovative research, development and practice relating to the use of technologies for language learning. CALICO and [EUROCALL](http://www.ict4lt.org/en/en_mod1-5.htm#eurocallsl) are affiliated associations that work together in a number of different ways. Their members share mutual benefits. See:

* [CALICO Virtual Worlds Special Interest Group (VW SIG)](http://colanmc.siu.edu/virtualworlds/): This is the website of the original CALICO VW SIG. CALICO and EUROCALL have now joined forces and set up a [Joint Virtual Worlds Special Interest Group](http://virtualworldssig.ning.com/).
* [CALICO 2009 Workshop on Virtual Worlds and Language Teaching](http://sl4calico.pbworks.com/): Now a bit dated, but contains interesting information on the history of virtual worlds, going back to **British Legends**,**SchMOOze University**, **Quantum Link**, **Habitat**, **Active Worlds** and **There**. See also [Davies (2009a)](http://www.ict4lt.org/en/en_mod1-5.htm#davies2009a) on the history of virtual worlds.

CALICOandEUROCALL have a [Joint Headquarters](http://maps.secondlife.com/secondlife/EduNation%20III/74/199/31) on **EduNation III Island** in Second Life, which is maintained by Randall Sadler (Randall Renoir in SL) and Graham Davies (Groovy Winkler in SL). See [Figure 2](http://www.ict4lt.org/en/en_mod1-5.htm#eurocallhq) and [Figure 5](http://www.ict4lt.org/en/en_mod1-5.htm#jointhqs).

There is a **CALICO Group** that you can join in Second Life. Use the SL search facility to find it.

**c. EUROCALL**

[EUROCALL](http://www.eurocall-languages.org/) is Europe's leading professional association dedicated to the promulgation of innovative research, development and practice relating to the use of technologies for language learning. EUROCALL and [CALICO](http://www.ict4lt.org/en/en_mod1-5.htm#calicoslhq) are affiliated associations that work together in a number of different ways. Their members share mutual benefits.

EUROCALL and CALICO have a [Joint Headquarters](http://maps.secondlife.com/secondlife/EduNation%20III/74/199/31) on **EduNation III Island** in Second Life, which is maintained by Graham Davies (Groovy Winkler in SL) and Randall Sadler (Randall Renoir in SL). See [Figure 2](http://www.ict4lt.org/en/en_mod1-5.htm#eurocallhq) and [Figure 5](http://www.ict4lt.org/en/en_mod1-5.htm#jointhqs).

EUROCALL and CALICO have also set up a [Joint Virtual Worlds Special Interest Group](http://virtualworldssig.ning.com/).

There is also a **EUROCALL Group** that you can join in Second Life. Use the SL search facility to find it.

See [Nergiz Kern's Interview with Graham Davies](http://tinyurl.com/l2x2lb) (July 2009) about EUROCALL's and CALICO's activities in Second Life.

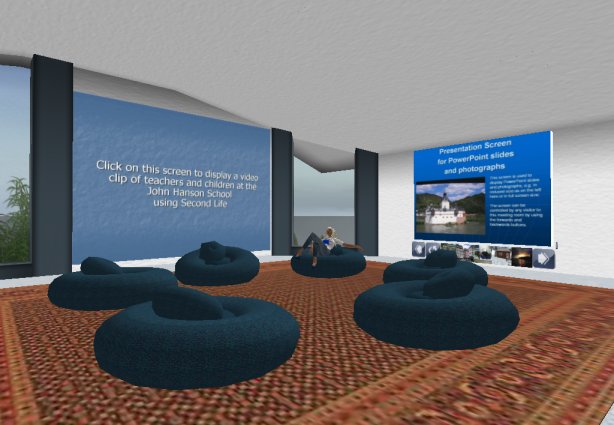
**vii. Further reading**

* [Bignell & Parson (2010)](http://www.ict4lt.org/en/en_mod1-5.htm#bignell) - this publication is aimed mainly at teachers of psychology, but it contains a wealth of useful general advice on teaching in virtual worlds, with a focus on problem-based learning.
* [Donaldson & Kötter (1999)](http://www.ict4lt.org/en/en_mod1-5.htm#donaldson)
* [Dudeney & Hockly (2006)](http://www.ict4lt.org/en/en_mod1-5.htm#dude06)
* [Evans, Mulvihill & Brooks (2008)](http://www.ict4lt.org/en/en_mod1-5.htm#evansetal)
* [Molka-Danielsen & Deutschmann (2009)](http://www.ict4lt.org/en/en_mod1-5.htm#molka)
* [Shield (2003)](http://www.ict4lt.org/en/en_mod1-5.htm#shield)
* [Stevens (2007)](http://www.ict4lt.org/en/en_mod1-5.htm#stevens07a)
* [Stevens (2008)](http://www.ict4lt.org/en/en_mod1-5.htm#stevens07b)
* [Svensson (2003)](http://www.ict4lt.org/en/en_mod1-5.htm#svensson)
* [The Herald (Plymouth, UK), 3 April 2009](http://tinyurl.com/dkgw3d): Interesting article in about Second Life boosting children's academic ability.

**viii. Second Life screenshots**



*Figure 1: The first SLanguages Colloquium, June 2007*



*Figure 2: The CALICO/EUROCALL HQ, interior view, upper floor*



*Figure 3: A mountain chalet*



*Figure 4: Dancing by a waterfall*



*Figure 5: The CALICO/EUROCALL HQ, exterior view*

**ix. Second Life videos**

This YouTube video, **Tour of the EUROCALL HQ Building in Second Life** by Graham Davies, shows the old EUROCALL HQ. A video showing the new joint EUROCALL/CALICO HQ is in production:

**Holodecks** are a fascinating feature of Second Life. What is a holodeck? The term derives from *Star Trek* TV series and feature films, in which the holodeck is depicted as an enclosed room where realistic simulations can be created both for training and for entertainment. Holodecks in Second Life fulfill more or less the same functions. Think of them as mini-simulations within the Second Life virtual world simulation as a whole. Holodecks offer exciting possibilities of calling up a range of instantly available simulations that can be used for entertainment, presentations, conferencing and, of course, teaching and learning. See this YouTube video, **Holodecks at the CALICO/EUROCALL HQ in Second Life** by Graham Davies, which shows how holodecks work. It was captured on the old CALICO plot in Second Life. A new holodeck platform can be found at this location on **EduNation III Island**: <http://maps.secondlife.com/secondlife/EduNation%20III/128/129/3500>

A new feature of Second Life is **Shared Media**. The latest Viewer includes a feature that teachers have long been waiting for, namely the ability to display a live Web page on any surface in Second Life, for example on a large screen, on the faces of a cube, or even on a sphere. The Web page then behaves as it would in a normal browser: links are clickable, pages can be scrolled, and it is possible to log on to [Ning](http://www.ning.com/), [Twitter](http://twitter.com/), [Flickr](http://www.flickr.com/), etc. Collaborative writing tasks are possible, and [YouTube](http://www.youtube.com/) videos can also be displayed. This is a powerful new feature which aims to make sharing standard Web-based media in Second Life easy and seamless. You can even conduct an Adobe Connect Pro meeting, for example, by placing the meeting page on a screen in SL. See this YouTube video in which Graham Davies demonstrates Shared Media on the old EUROCALL/CALICO plot in Second Life. A Shared Media screen can be found on the upper floor of the new EUROCALL/CALICO HQ: see [Figure 2](http://www.ict4lt.org/en/en_mod1-5.htm#eurocallhq).

Have a look at the **ICT4LT Blog** thread headed [Second Life videos](http://ictforlanguageteachers.blogspot.com/2010/05/second-life-videos.html) (May 2010). Feedback is welcomed.

**14.3 Email in action: virtual shopping basket**

A popular classroom application of email involves a group of younger learners in the UK sending out a message to groups of students in schools in a number of different French speaking countries requesting them to price a **virtual shopping basket** to provide the basis for practice in comparatives, having already given them the opportunity to make "real" use of previously learned vocabulary items and to formulate appropriate questions for their initial request for the information required. If they already have established and reliable links and request a prompt reply, they will probably get an answer within 24 hours. If schools do not have existing links but want to get specific information in this way on an ad hoc basis, they can find email addresses of possible partner schools at the websites listed below in [Section 14.8](http://www.ict4lt.org/en/en_mod1-5.htm#14.8). In the case of the shopping basket, it would be particularly appropriate to select schools in countries which have different standards of living.

**14.3.1 Discussion topic**

Can you think of a small scale activity like this that you could do with a specific class that you teach? What kind of learning outcomes would you anticipate? Would they be worth the time involved in setting it up?

**14.4 Exploiting email as a communications medium**

**14.4.1 Get to know your email package**

In order to use email, you need an Internet connection and an email package. *Microsoft Outlook Express* is an email package that is bundled with *Microsoft Windows*, but there are other packages such as [Eudora](http://www.eudora.com/). If you are considering using email as a teaching and learning tool, you will find that time spent on investigating all the facilities provided by the package to which you have access.

**14.4.2 Characteristics of email as a communications medium**

The three most important characteristics of email for the language teacher are the following:

* the ability to send messages one-to-one or one-to-many with equal ease and speed,
* the provisional nature of text to be sent out and the flexibility of incoming text for exploitation in other applications,
* the convenience of being able to receive and send messages when convenient.

**14.4.3 One-to-one and one-to-many**

If you are already an email user you know that it is just as quick and easy to send a message to 50 people as it is to one. As you will realise from the example given above, this facility removes the need to establish and maintain a relationship with a single school, which can be difficult, whether through email alone or a combination of traditional and electronic communications. It also means that, with access to schools worldwide, it is possible to "visit" different countries according to the topic being studied. It is also possible to work with schools which share the same target language. One-to-one links tend to be between schools which teach each other's mother tongue. This can lead to difficulties about which language students should use when generating messages. Both schools can be guaranteed authentic incoming language and it may decided that all writing should be done in the students' mother tongue. If you prefer your students to compose in the target language, the one-to-one facility is a useful alternative for one-off activities.

**14.5 Flexibility of text**

One of the difficulties of maintaining traditional school links lay in the need for students to copy out letters to send which had been drafted in rough before being copied up neatly. Text generated in a word-processor or in an email package is flexible until the Send button is pressed. This brings with it three important benefits for the language learner:

* Firstly, it motivates by removing the fear of making errors. By extension, it makes errors stepping stones to success because they can be discussed and a correct version found.
* Secondly, it opens up group work possibilities where, for example, a small group drafts a message to the link class, based on a full class brainstorming session about what should be included. The draft is circulated round the full class in a subsequent lesson and comments are made about the content and the accuracy or otherwise of the language used. A second group is identified to note down any changes proposed and to edit the text accordingly. The teacher checks the text and it is sent to the link class. The reply is received and a third group of students is given responsibility for reading it and providing an oral summary for the rest of the class who then decide on further action, and the cycle begins again.
* Thirdly, incoming messages can be imported into a word-processed file or into an authoring package and exploited for their linguistic content. For example, an incoming file about a class visit would provide opportunities for past tense and topic-related gap filling, sequencing based on time indicators and text reconstruction at various levels of difficulty as a round-up activity..

**14.5.1 Discussion topic**

Think of an activity based on this cycle with both a thematic and grammatical content that you could use profitably with one of your classes. In what ways would you expect their knowledge of language and reading and writing skills to have improved? How does email affect the way learners write in a foreign language? See [Biesenbach-Lucas S. & Weasenforth D. (2001)](http://www.ict4lt.org/en/en_mod1-5.htm#biesen). How could you integrate the activity with other activities undertaken over the same period of time as the email activity to give practice in speaking skills?

**14.6 Email - available to read when convenient**

As indicated in [Section 14.1.1](http://www.ict4lt.org/en/en_mod1-5.htm#email), email is an **asynchronous** communications medium. This means that messages can be read and responded to at a time convenient to the user. This is a huge benefit in terms of timetable management. Incoming text does not have to read instantly, on-screen. It can be saved, printed off to provide single or multiple copies, mulled over and worked on to get at the meaning. If the content is a response to a request for information from a group of students, it is likely to contain things of interest to them, in the language of their contemporaries. You will be surprised at their willingness to tackle quite difficult language when they really want to know what it means!

**14.7 Management of email-based activities**

You might have been put off the use of email with your students for a number of reasons including the following:

* Connect charges
* Lack of an Internet connection in the classroom
* Difficulty in finding partner schools or schools with whom to work on an ad hoc basis

**14.7.1 Connect charges**

In the bad old days teachers and home users had to use a **dial-up modem**, which connected computers to the Internet via a standard telephone line. Typically a dial-up modemconnects to the Internet at a very slow data transmission speed of only 56Kbps, and the quality of the connection is often poor. Now times have changed. Faster **ADSL broadband** connections are now widely available via standard telephone lines, reducing costs and improving connection speeds. See [Section 1.3.2, Module 1.2](http://www.ict4lt.org/en/en_mod1-2.htm#modem) for more information on ADSL broadband.

**14.7.2 If you have no Internet connection in the classroom**

You probably have at least one classroom in your school with one or more computers linked to your school's network and with a fast Internet connection. If that is the case, your students will be able to able to download incoming messages and upload outgoing ones for you, on the strict understanding that is all that they do! If you only have a stand-alone machine in your room, you can still engage in email activities. Your students can prepare messages, however small, in a word-processor and save them on a **memory stick** (see [Glossary](http://www.ict4lt.org/en/en_glossary.htm)). You and/or they can then go to a machine which is on the Internet and has an email package installed.

**14.8 Working with partner schools: e-twinning**

When very few schools were on the Internet and even fewer had email addresses, it was very difficult to find anyone to exchange messages with, and it took a long time for messages to be exchanged. That has all changed now and many schools already have e-partners or are seeking partners with whom they can exchange messages via the Internet. For schools which have long standing links with partner schools, email is often used for the administration of exchange visits. Anyone who has arranged such a visit will know the frustration of never being free at the same time as the colleague in the other school and constantly missing phone calls. With email, both partners read messages and respond at times convenient to themselves. For most people there is an expectation that correspondents will reply rapidly to emails because of the speed of the medium itself.

If you are new to the use of email for curricular purposes it is worth considering alternative strategies before committing yourself to what might turn out to be a potential failure. The traditional model of establishing a link with an exchange school works for some schools and not for others - for a whole range of reasons. It was the only sensible model when letters had to be handwritten and sent by traditional mail, unless students were to be involved in excessive copy writing. When it works well, it brings great benefits to students and staff alike. Where such links exist, the added benefits of the use of email within the curriculum, as well as for the administration of exchanges should be exploited. The fact that teachers in both of the schools concerned already know each other and are likely to have a shared understanding about the schemes of work followed and the levels of achievement of the two sets of students will facilitate the use of the medium and greatly enhance its potential to improve standards.

If you do not have an existing link, but would like to be in contact with schools in countries where the target language is spoken, have a look at the sites listed below.

* [eTwinning](http://www.etwinning.net/en/pub/index.htm): An initiative from the European Commission. See the publication [Voices of eTwinning: Teachers Talk](http://desktop.etwinning.net/library/desktop/resources/5/55/955/43955/etwinning_book_voices_of_etwinning_en.pdf) (downloadable PDF file).
* [The Big Challenge Club](http://www.thebigchallengeclub.com/): A European pen pal club that helps teachers and their student to set up exchanges.
* [British Council Schools Online](http://schoolsonline.britishcouncil.org/) (now incorporating **Global Gateway**).
* [Ruhr-Universität Bochum Tandem Learning](http://www.slf.ruhr-uni-bochum.de/Tandem/): see [Section 14.9](http://www.ict4lt.org/en/en_mod1-5.htm#14.9) (below), which focuses on tandem learning.
* [ePals Global Community](http://www.epals.com/)
* [European Schoolnet](http://www.eun.org/)
* [European Schools Projec Association (ESP Association)](http://www.europeanschoolsproject.org/)
* [International Pen Friend (IPF)](http://www.ipfeurope.com/)

It is also possible, as suggested earlier, to set up ad hoc links for specific purposes which might, for example, involve a one-off questionnaire sent to a number of schools, in order to gather data, say, for the compilation of a database about the leisure interests of the 13-18 age group in Europe. It would also be possible for a number of schools to agree to work together over a longer period of time to undertake a project such as the investigation of the views of the students on a wide range of topics.

**14.8.1 Discussion topic**

Is it better to:

1. establish a strong email link with a single school whose mother tongue is the target language of the other school,
2. make *ad hoc* links with schools who share a target language,
3. make *ad hoc* links with schools whose students are all native speakers of the target language of the school initiating the link?

**14.9 Tandem learning (buddy learning)**

Taking the process of an email link between one stage further, it may be worth considering **tandem learning**also known as **buddy learning**. This form of learning involves two people with different native languages working together as a pair in order to help one another to improve their language skills and to learn more about one another’s character and culture. Each partner helps the other through explanations in the foreign language, through comparisons, etc. As this form of learning is based on communication between members of different language communities and cultures, it also facilitates**intercultural learning**. Tandem learning partners have the opportunity to give each other help through friendly corrections, advice, questions etc. Tandem learning is underpinned by principles of reciprocity - both partners benefit equally from the exchange, and each partner is responsible for their own language learning, establishing learning goals and deciding on methods and materials.

Tandem learning has been used successfully for many years. It was pioneered at the [University of Sheffield](http://www.sheffield.ac.uk/mltc/research/tandem), both in face-to-face mode and via the Internet.

A website is maintained at the [Ruhr-Universität Bochum](http://www.slf.ruhr-uni-bochum.de/Tandem/), where more information on tandem learning can be found and ways in which partners can be identified.

See also [Tandem München](http://www.tandem-muenchen.de/).

Buddy systems for learning foreign languages are a growth area:

[busuu](http://www.busuu.com/): An online social network service where users can help each other to improve their skills in English, Spanish, French, German and Italian. The site has a large online community of native speakers and offers courses based on the [Common European Framework of Reference for Languages](http://www.coe.int/t/dg4/linguistic/CADRE_EN.asp). Users can also improve their conversational skills by connecting via video-chat directly with native speakers. Each user is both a student of a foreign language and also a tutor of his/her own language

[italki](http://www.italki.com/):A network that connects people from around the world in a community to learn from each other. talki also helps students connect with teachers for paid online lessons. italki has many free language learning features, such as questions and answers, group discussions, and multimedia materials for self-study. italki is both a social network and a marketplace. The social network helps bring people together to communicate and learn. The marketplace gives students, teachers, and companies the abililty to transact online.

[Livemocha](http://www.livemocha.com/):A language learning social network that integrates instructional content with a global community of language learners. Members of the network can aid others in learning the languages that they are proficient in while learning other languages themselves. See [Brick (2011b)](http://www.ict4lt.org/en/en_mod1-5.htm#brick2011b), who reports on his students' experiences in using Livemocha.

[Palabea](http://www.palabea.com/): A social network site that connects people who share interests in learning languages and in discovering different cultures. Members can improve their foreign language skills by communicating with native speakers from all over the world in audio or video conferences. Each member is both a student and a teacher. Palabea has created virtual classrooms where all members can upload contents on which they can work together, and they correct one another.

[Verbling](http://verbling.com/): The Verbling site allows you to sign up and choose the language you want to learn. Once you join the site during a session time, you are automatically paired with a language speaker who is fluent in the language you wish to learn. The site encourages users to talk to a number of different speakers within each session. So if you speak French and want to learn English, you’ll be paired up with a native English speaker who wants to learn French. You start in one language and halfway through the video session, a timer tells you when to switch to the other.

There is also a **Teach You Teach Me** group in [Second Life](http://www.ict4lt.org/en/en_mod1-5.htm#secondlife).

Further reading:

* [Lewis & Walker (2003)](http://www.ict4lt.org/en/en_mod1-5.htm#lewis)
* [Little (2001)](http://www.ict4lt.org/en/en_mod1-5.htm#little)
* [Little & Brammerts (1996)](http://www.ict4lt.org/en/en_mod1-5.htm#littlebramm)
* [Little & Ushioda (1998)](http://www.ict4lt.org/en/en_mod1-5.htm#littleush)
* [Little, Ushioda, Appel, Moran, O'Rourke & Schwienhorst (1999)](http://www.ict4lt.org/en/en_mod1-5.htm#littleetal)
* [Woodin (1997)](http://www.ict4lt.org/en/en_mod1-5.htm#woodin)
* [Woodin & Ojanguren (1996)](http://www.ict4lt.org/en/en_mod1-5.htm#woodinoj)
* [Stevens (2000)](http://www.ict4lt.org/en/en_mod1-5.htm#webheads)

**14.10 Email in the curriculum to raise standards of achievement**

Language teachers have an extremely difficult task to perform daily. Unlike their colleagues in a subject area such as History, they are not only required to impart knowledge about the target culture, but also to enable students to acquire a knowledge of the structure of a language, to learn wide-ranging vocabulary and to apply their linguistic knowledge as they practise complex discrete and multiple skills. For the language teacher communication is **content**, not the means of delivery and checking the extent to which delivery has been successful. This suggests that email, the essence of which is**communication**, is an important tool.

Like any other tool, email will only result in improved standards of achievement if it is used in a planned and integrated way. Email itself gives students the opportunity to communicate in a way which they consider to be of their time and, therefore, important and interesting. Because it is an asynchronous medium, their input can be reflective. They can succeed in sending messages in which the language will be acceptable, if not perfect. They can receive replies swiftly which they can subsequently manipulate in various ways to improve their own linguistic performance, based on models provided by their peers.

The trick is, therefore, to identify points in your teaching programme where you either need information from one or more target language schools, or where your students are likely to create "products" which you would like them to share with others, or where both incoming and outgoing information plays its part.

Having identified the vital point in the programme and thought up an appropriate activity of which email is a component, work your way through the following:

* Identify the contribution of the email component, based on the special characteristics which mark out email from other communications media and the way in which those characteristics can promote learning within the context of your programme of work.
* Clarify the learning objectives that the use of email is designed to enable students to achieve and share the objectives with the students.
* Plan assessment tasks which will enable you to measure the language learning outcomes against the objectives and evaluate the contribution of the email component.
* Plan the entire activity, taking into account what students will do before and after the core email activity.
* Ensure that language needed for the email activity is taught in advance.
* Ensure that this language and language acquired as a result of the email activity is re-cycled, not only in text-based activities, but also in oral and mixed skill work.
* Run the assessment tasks and reflect on what you can learn from them about the value of the email activity.
* Evaluate all aspects of the activity, taking into account assessment results, student comments and your own observations, and consider the appropriateness or otherwise of the use of email within it.

**14.11 Learning task**

Make out a case to present to your headteacher for the planned use of email in your department. Remember to write the document bearing in mind the reader. S/he might not have too much time! So, begin with a bullet point list of no more than 10 points indicating how the use of email is likely to raise student achievement levels. Then go on to identify just what you need to get going in terms of hardware, classroom network access and access to a networked computer classroom as required by your projected activities.

**Appendix: Viruses**

If you surf the Web, use email or use memory sticks sent to you by other people, you need to be protected against virus invasions. A virus is a nasty program devised by a clever programmer, usually with malicious intent. Viruses can be highly contagious, finding their way on to your computer's hard drive without your being aware of it and causing considerable damage to the software and data stored on it. Viruses can be contracted from files attached to email messages, e.g. *Microsoft Word* files, or from a memory stick. Be very wary of opening an email attachment of unknown origin, as this is the commonest way of spreading viruses. See Graham Davies's [Cautionary Tale](http://www.camsoftpartners.co.uk/bugs.htm), which includes references to *viruses,* *spam*, *adware* and *spyware*.

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http://www.ict4lt.org/en/en\_glossary.htm

**Glossary of ICT terminology**

This **Glossary of ICT terminology**, compiled by Graham Davies and Fred Riley, contains a list of technical terminology and terms specific to ICT and language learning and teaching. It also serves as an**index** to topics covered at the ICT4LT website. Anything underlined in blue will link you to further information, either within this Glossary, within the ICT4LT website, or anywhere on the Web as a whole. We welcome suggestions for additions to the Glossary: [Feedback and blog](http://www.ict4lt.org/en/en_glossary.htm#anchor46746)

If you cannot find what you want here, try these other sources:

[Computer Hope](http://www.computerhope.com/jargon.htm): Dictionary and glossary of ICT terms/

[FLV.com](http://www.flv.com/glossary.html): A glossary of terms relating mainly to audio and video formats, with links to a range of conversion tools.

[FOLDOC](http://foldoc.org/): Free OnLine Dictionary Of Computing. A searchable dictionary of ICT terms.

[Glossary of Internet Terms](http://www.matisse.net/files/glossary.html): A comprehensive list of Internet terminology compiled by Matisse Enzer.

[Google](http://www.google.co.uk/) is a great source if you are looking for definitions of unknown terms. Simply enter **define:** in the Google search box, followed by the term, e.g. **define:OCR**.See also [Section 4, Module 1.5](http://www.ict4lt.org/en/en_mod1-5.htm#anchorsearch), headed *Search engines: How to find materials on the Web*.

[Walt's Internet Glossary](http://www.walthowe.com/glossary/index.html): A glossary of Internet terminology, compiled by Walt Howe.

[Webopedia](http://www.webopedia.com/)**:** Unlovely name, lovely resource! A comprehensive, searchable dictionary of computing terms.

[Wikipedia](http://www.wikipedia.org/)**:**A collaboratively written general encyclopaedia that is constantly updated. It contains many useful entries on technical terminology: http://www.wikipedia.org. Here's a useful tip: If you find an article on Wikipedia in English and then click on one of the language options in the left-hand column of the page, you are linked immediately to an article on the same topic in that language. See the entry in this Glossary under [Wiki](http://www.ict4lt.org/en/en_glossary.htm#wiki).

For more detailed descriptions of computer [Hardware](http://www.ict4lt.org/en/en_glossary.htm#hardware) (including images) see [Module 1.2](http://www.ict4lt.org/en/en_mod1-2.htm),*Introduction to computer hardware and software*.

Click on a letter of the alphabet to go to the first entry for that letter.

[**A**](http://www.ict4lt.org/en/en_glossary.htm#GlossA)[**B**](http://www.ict4lt.org/en/en_glossary.htm#GlossB)[**C**](http://www.ict4lt.org/en/en_glossary.htm#GlossC)[**D**](http://www.ict4lt.org/en/en_glossary.htm#GlossD)[**E**](http://www.ict4lt.org/en/en_glossary.htm#GlossE)[**F**](http://www.ict4lt.org/en/en_glossary.htm#GlossF)[**G**](http://www.ict4lt.org/en/en_glossary.htm#GlossG)[**H**](http://www.ict4lt.org/en/en_glossary.htm#GlossH)[**I**](http://www.ict4lt.org/en/en_glossary.htm#GlossI)[**J**](http://www.ict4lt.org/en/en_glossary.htm#GlossJ)[**K**](http://www.ict4lt.org/en/en_glossary.htm#GlossK)[**L**](http://www.ict4lt.org/en/en_glossary.htm#GlossL)[**M**](http://www.ict4lt.org/en/en_glossary.htm#GlossM)[**N**](http://www.ict4lt.org/en/en_glossary.htm#GlossN)[**O**](http://www.ict4lt.org/en/en_glossary.htm#GlossO)[**P**](http://www.ict4lt.org/en/en_glossary.htm#GlossP)[**Q**](http://www.ict4lt.org/en/en_glossary.htm#GlossQ)[**R**](http://www.ict4lt.org/en/en_glossary.htm#GlossR)[**S**](http://www.ict4lt.org/en/en_glossary.htm#GlossS)[**T**](http://www.ict4lt.org/en/en_glossary.htm#GlossT)[**U**](http://www.ict4lt.org/en/en_glossary.htm#GlossU)[**V**](http://www.ict4lt.org/en/en_glossary.htm#GlossV)[**W**](http://www.ict4lt.org/en/en_glossary.htm#GlossW)[**X**](http://www.ict4lt.org/en/en_glossary.htm#GlossX)[**Y**](http://www.ict4lt.org/en/en_glossary.htm#GlossY)[**Z**](http://www.ict4lt.org/en/en_glossary.htm#GlossZ)

**A**

**Absolute Link:**A term used by Web authors. In an [HTML](http://www.ict4lt.org/en/en_glossary.htm#html) document a [Relative Link](http://www.ict4lt.org/en/en_glossary.htm#relative) indicates the location of a file relative to the document, whereas an *absolute link* specifies the full URL. For example, the *relative link* of this Glossary to the ICT4LT homepage is **../en/en\_glossary.htm** whereas it's *absolute link* is <http://www.ict4lt.org/en/en_glossary.htm>. It's generally better for Web authors to link to files within the same website using relative links rather than absolute links, as this makes site and file maintenance easier. See [Section 5.4, Module 3.3](http://www.ict4lt.org/en/en_mod3-3.htm#5.4), headed *Shared resources*.

**Acceptable Use Policy (AUP):** An AUP is a set of rules that define the ways in which ICT facilities can and cannot be used in a business or educational institution, including a description of the possible sanctions that can be applied if a user breaks the rules. Two of the most important topics covered by an AUP are (i) **e-safety** and (ii) **awareness of and compliance with copyright**. See [Section 12.6, Module 1.5](http://www.ict4lt.org/en/en_mod1-5.htm#esafety), headed *E-safety*, and [General guidelines on copyright](http://www.ict4lt.org/en/en_copyright.htm) for further information about these topics.

**Access:**The name of a [Database](http://www.ict4lt.org/en/en_glossary.htm#database) program forming part of the [Microsoft Office](http://www.ict4lt.org/en/en_glossary.htm#msoffice) suite of programs.

**Accessibility:** The fundamental issue regarding *accessibility* is that everyone should have access to the services provided by ICT, e.g. computer programs, [Email](http://www.ict4lt.org/en/en_glossary.htm#email) and the World Wide Web, regardless of any visual, auditory, or other physical impairment they might have. [Assistive Technology](http://www.ict4lt.org/en/en_glossary.htm#assistive) may be employed to increase access to such services, e.g. [Text To Speech (TTS)](http://www.ict4lt.org/en/en_glossary.htm#textosp) screen readers, screen magnifiers, speech recognition systems, hearing assistance devices, etc. Designers of computer programs and websites need to take account of accessibility when choosing colours, fonts and font sizes, etc: see [Font](http://www.ict4lt.org/en/en_glossary.htm#font). See [Section 4, Module 3.5](http://www.ict4lt.org/en/en_mod3-5.htm#speechtech) regarding speech technologies and how they may help unsighted and partially sighted computer users and people with hearing impairments. See [SENDA](http://www.ict4lt.org/en/en_glossary.htm#senda). See Section[6.3.1, Module 3.3](http://www.ict4lt.org/en/en_mod3-3.htm#6.3.1), headed *HTML Validators*, regarding website accessiblity.

**Action Maze:** A type of computer program used in Computer Assisted Language Learning. See [Maze](http://www.ict4lt.org/en/en_glossary.htm#maze) for a more detailed explanation.

**Active Matrix:**A term used to describe the newer type of computer [Display Screen](http://www.ict4lt.org/en/en_glossary.htm#display) that makes use of Thin Film Transistor (TFT) technology: see [TFT](http://www.ict4lt.org/en/en_glossary.htm#tft). Active matrix screens have excellent colour resolution and can display motion accurately and rapidly. See [Resolution](http://www.ict4lt.org/en/en_glossary.htm#resolution).

**Additive Colour:** A term used mainly by graphic designers. *Additive colour* is produced by the addition of light from a luminescent primary source. A light bulb appears white because it emits light in all colours of the visible spectrum, which combine to produce white light. All the colours in the light spectrum add up to make white light. Computer monitors use three additive colours, Red, Green and Blue (RGB), which are combined in different ways to produce millions of other colours. See [CMY](http://www.ict4lt.org/en/en_glossary.htm#cmy), [RGB](http://www.ict4lt.org/en/en_glossary.htm#rgb), [Subtractive Colour](http://www.ict4lt.org/en/en_glossary.htm#substractive).

**Address Book:**Usually supplied as part of your [Email](http://www.ict4lt.org/en/en_glossary.htm#email) software. An *address book* in this sense is used to keep a record of all the email addresses of people whom you may wish to contact by email.

**ADSL:** Abbreviation for Asymmetric Digital Subscriber Line. A high-speed digital telephone connection that operates over an existing copper telephone line, allowing the same line to be used for voice calls. ADSL lines offer transmission speed that are usually in the range 2Mbps to 8Mbps, and are used mainly for [Internet](http://www.ict4lt.org/en/en_glossary.htm#internet) access. The term *asymmetric* is used because the data flows more quickly from the telephone exchange to the user than from the user to the exchange - because most Web users are more interested in receiving data quickly from websites rather than uploading it to websites. The term*symmetric* is used for connections where the data flows at the same speed in both directions, which is essential for accessing websites where there is a high degree of interactivity. See [Broadband](http://www.ict4lt.org/en/en_glossary.htm#broadband), [ISDN](http://www.ict4lt.org/en/en_glossary.htm#isdn),[Kbps](http://www.ict4lt.org/en/en_glossary.htm#kbps), [Leased Line](http://www.ict4lt.org/en/en_glossary.htm#leased), [Mbps](http://www.ict4lt.org/en/en_glossary.htm#mbps).

**Adventure Game:** Adventure games date back to the early days of mainframe computing. The early adventure games consisted entirely of written text, but modern adventure games incorporate elaborate graphics, sound and video sequences. The dividing line between an adventure game and a [Simulation](http://www.ict4lt.org/en/en_glossary.htm#simulation) is rather fuzzy. In both sorts of programs there are a number of obstacles to overcome, and the player has to indulge in mind-stretching lateral thinking in order to overcome them. Adventure games are often set in a fantasy world, e.g. *Myst* or *Riven*, but some are more down-to-earth and can play an important role in language teaching and learning, e.g. *Who is Oscar Lake?* See [Section 3.4.9, Module 2.2](http://www.ict4lt.org/en/en_mod2-2.htm#simul), headed*A simulation on CD-ROM*. See[Maze](http://www.ict4lt.org/en/en_glossary.htm#maze),[MOO](http://www.ict4lt.org/en/en_glossary.htm#moo), [MUD](http://www.ict4lt.org/en/en_glossary.htm#mud), [MUVE](http://www.ict4lt.org/en/en_glossary.htm#muve).

**Adware** is software that may have been installed on your computer by a remote computer, i.e. via the Web. Many free utilities that you download from the Internet will install hidden software that sends details of the websites you visit and other information from your computer (which can include your email address) to advertisers so they can target you with popup ads and spam. See<http://www.camsoftpartners.co.uk/bugs.htm>, where tools for removing *adware* and *spyware* are described. See [Spam](http://www.ict4lt.org/en/en_glossary.htm#spam), [Spyware](http://www.ict4lt.org/en/en_glossary.htm#spyware).

**AI:**Abbreviation for [Artificial Intelligence](http://www.ict4lt.org/en/en_glossary.htm#artificial).

**AJAX:**Acronym for Asynchronous [JavaScript](http://www.ict4lt.org/en/en_glossary.htm#javascript) and [XML](http://www.ict4lt.org/en/en_glossary.htm#xml). AJAX is a Web programming tool (or rather a set of tools) that makes it possible to create interactive Web applications that work in much the same way as computer applications on your computer's hard disc, i.e. more responsive, more spontaneous, so that when you click on something on the Web page there is very little time delay - as in your word-processor, for example. While you are browsing a Web page AJAX is working behind the scenes. AJAX allows your browser to fetch data from the Web and use it to update a fragment of the page without refreshing the whole page so that you don't have to wait for the whole Web page to refresh or reload each time you click on a button or initiate an action in some other way. This increases the Web page's interactivity, speed, functionality, and usability. [Google Maps](http://maps.google.co.uk/)is a typical example of a Web application incorporating AJAX. Scroll around the map and watch it update itself with relatively little time delay. AJAX is a programming tool that is used extensively in what are known as [Web 2.0](http://www.ict4lt.org/en/en_glossary.htm#web2) applications. See [Section 2.1, Module 1.5](http://www.ict4lt.org/en/en_mod1-5.htm#WEB2), headed *What is Web 2.0?*

**ALTE:** Abbreviation for [Association of Language Testers in Europe](http://www.ict4lt.org/en/en_glossary.htm#alteass).

**Alt Key:**The *Alt keys* can be found on either side of the space bar on a computer keyboard. They are commonly used in conjunction with a set of numbers to enable foreign characters to be typed. See[ASCII](http://www.ict4lt.org/en/en_glossary.htm#ascii), [ANSI](http://www.ict4lt.org/en/en_glossary.htm#ansi). See [Section 5, Module 1.3](http://www.ict4lt.org/en/en_mod1-3.htm#forchars), headed *Typing foreign characters*.

**Analogue:** The basic meaning of analogue is "something that corresponds to something else". For example, in the context of equipment used for recording and playing back sound, analogue refers to the way in which the sound is recorded and reproduced. If you look closely at the groove of a 33 rpm vinyl gramophone record you will see that it is essentially a continuous wave, an undulating series of "hills". These "hills" correspond to the nature and volume of the sound that has been recorded. As the stylus of the record player moves along the wave it produces vibrations that are amplified and converted into sound. A parallel can be drawn with radio transmissions, where the sound signals are transmitted in the form of invisible waves. Early mobile phones worked in a similar way. Older tape recorders and videocassette recorders are based on the same principle, except that the signals representing the sound and moving images are imprinted onto a plastic tape coated with a magnetic powder. All analogue recordings suffer from background noise, and the quality of reproduction gradually degrades as the record or tape wears out. If the recording is copied, the copy will not be as good as the original, regardless of the quality of the equipment used to copy it. See the contrasting term [Digital](http://www.ict4lt.org/en/en_glossary.htm#digital).

**Anchor:**A term used in connection with [HTML](http://www.ict4lt.org/en/en_glossary.htm#html), the coding system used for creating Web pages. An anchor is the target of a [Hyperlink](http://www.ict4lt.org/en/en_glossary.htm#hyperlink), i.e. a point in a Web document to which you jump when you click on a hyperlink.

**Animation:**The display of a sequence of images in a computer program or on a Web page to give the impression of movement.

**ANSI:** Abbreviation for American National Standards Institute. This is a system that specifies code numbers for all the characters that appear on a computer [Keyboard](http://www.ict4lt.org/en/en_glossary.htm#keyboard), plus the extended character set used in *Microsoft Windows*. It includes all the [ASCII](http://www.ict4lt.org/en/en_glossary.htm#ascii) codes plus many others. Each character on the keyboard of a computer is assigned a unique ANSI code number, e.g. A = ANSI 065. Characters that don't appear on the keyboard can be typed by holding down the *Alt key*, pressing a series of digits on the number pad, e.g. ALT + 0233, and then releasing the *Alt key*. 0233 is the ANSI code for é. See also [Unicode](http://www.ict4lt.org/en/en_glossary.htm#unicode). See [Alt Key](http://www.ict4lt.org/en/en_glossary.htm#altkey). See [Section 5, Module 1.3](http://www.ict4lt.org/en/en_mod1-3.htm#forchars), headed *Typing foreign characters*.

**Anonymous FTP:** An *anonymous FTP* is a convention whereby users are not required to identify themselves with an account number, user name or password when they access a website from which they wish to download publicly available programs or files. Users may, however, be required to enter their email address before accessing certain websites. The vast majority of publicly available [Freeware](http://www.ict4lt.org/en/en_glossary.htm#freeware)and [Shareware](http://www.ict4lt.org/en/en_glossary.htm#shareware) archives on the Web permit anonymous FTP. See [FTP](http://www.ict4lt.org/en/en_glossary.htm#ftp).

**Anorak:** A colloquial term that is often used to describe someone who is fascinated by the technology of computers but not particularly interested in their applications. A synonym is [Trainspotter](http://www.ict4lt.org/en/en_glossary.htm#train). Both terms are closely allied to [Geek](http://www.ict4lt.org/en/en_glossary.htm#geek), [Nerd](http://www.ict4lt.org/en/en_glossary.htm#nerd) and [Techie](http://www.ict4lt.org/en/en_glossary.htm#techie) - which have slightly different connotations.

**Anti-virus Software:** See [Virus](http://www.ict4lt.org/en/en_glossary.htm#virus).

**Apache:** The most popular [Web Server](http://www.ict4lt.org/en/en_glossary.htm#webserve) software on the [World Wide Web](http://www.ict4lt.org/en/en_glossary.htm#wwweb). Apache runs mainly on [Unix](http://www.ict4lt.org/en/en_glossary.htm#unix) systems, although there is also a [*Microsoft Windows*](http://www.ict4lt.org/en/en_glossary.htm#windows) version. The Apache Project website is at[http://www.apache.org](http://www.apache.org/)

**API:**Abbreviation for Application Programming Interface. API is a so-called protocol of communication that enables different computer programs to communicate with one another. A good API makes it easier to develop a program by providing all the building blocks that the programmer needs. Although APIs are designed for programmers, they are also good for program users insofar as they guarantee that all programs using a common API will have similar interfaces. This makes it easier for users to learn new programs.

**App:**Abbreviation for [Application](http://www.ict4lt.org/en/en_glossary.htm#application).

**Applet:**A small program written in the [Java](http://www.ict4lt.org/en/en_glossary.htm#java) programming language and embedded in a Web page. When you use your [Browser](http://www.ict4lt.org/en/en_glossary.htm#browser) to access a Web page, an applet may run "inside" the Web page, as it were, to perform an interactive animation, make a calculation or carry out another simple task.

**Application:** A computer program or a suite of computer programs that performs a particular function for the user, such as a word-processor, e.g. *Microsoft Word*, or a range of functions, such as*Microsoft Windows* or [Microsoft Office](http://www.ict4lt.org/en/en_glossary.htm#msoffice). Commonly abbreviated to **app**, especially in the context of [Web 2.0](http://www.ict4lt.org/en/en_glossary.htm#web2)and [Mobile Assisted Learning (MALL)](http://www.ict4lt.org/en/en_glossary.htm#mall) apps. See [Computer Program](http://www.ict4lt.org/en/en_glossary.htm#computerprog), [Operating System](http://www.ict4lt.org/en/en_glossary.htm#opsys),[Windows](http://www.ict4lt.org/en/en_glossary.htm#windows), [Word-processor](http://www.ict4lt.org/en/en_glossary.htm#wordproc).

**Archive:**Used to describe documents or files that are not immediately needed but which should not be completely discarded. An *archive* may be stored on an external [Hard Disc](http://www.ict4lt.org/en/en_glossary.htm#harddisc), [CD-ROM](http://www.ict4lt.org/en/en_glossary.htm#cdrom), [DVD](http://www.ict4lt.org/en/en_glossary.htm#dvd) or other [Storage Device](http://www.ict4lt.org/en/en_glossary.htm#storagedev). Also used to describe stored messages that have been contributed to *discussion lists* or *blogs*. Also used as a verb. See [Blog](http://www.ict4lt.org/en/en_glossary.htm#blog), [Discussion List](http://www.ict4lt.org/en/en_glossary.htm#discussion).

**Artificial Intelligence (AI):** The ability of a computer to mimic human attributes in finding a solution to a problem. *Artificial Intelligence* techniques are applied in various ways in computer applications in the language world, e.g. in [Machine Translation (MT)](http://www.ict4lt.org/en/en_glossary.htm#mat) programs and in grammar and style checkers. See [Module 3.5](http://www.ict4lt.org/en/en_mod3-5.htm), *Human Language Technologies (HLT)*, especially [Section 6](http://www.ict4lt.org/en/en_mod3-5.htm#hlt_call), headed *Human Language Technologies and CALL*, and [Section 8](http://www.ict4lt.org/en/en_mod3-5.htm#parser_call) on *Parser-based CALL*. See [ICALL (Intelligent CALL)](http://www.ict4lt.org/en/en_glossary.htm#icall).

**ASCII:** Abbreviation for American Standard Code for Information Interchange. This is a system that specifies code numbers for all the characters that appear on a computer [Keyboard](http://www.ict4lt.org/en/en_glossary.htm#keyboard), plus other specialised characters. Each character on the keyboard of a computer is assigned a unique ASCII code number, e.g. A = ASCII 65. Characters that don't appear on the keyboard can be typed by holding down the *Alt key*, pressing a series of digits on the number pad, e.g. ALT + 130, and then releasing the *Alt key*. 130 is the ASCII code for é. The [ANSI](http://www.ict4lt.org/en/en_glossary.htm#ansi) character set (as used in *Microsoft Windows*) includes many more characters, Unicode includes even more and is becoming a standard coding system. See [Unicode](http://www.ict4lt.org/en/en_glossary.htm#unicode). See [Alt Key](http://www.ict4lt.org/en/en_glossary.htm#altkey). See [Section 5, Module 1.3](http://www.ict4lt.org/en/en_mod1-3.htm#forchars), headed *Typing foreign characters*.

**ASF:** Abbreviation for Advanced Streaming Format. This is Microsoft's own file format that stores both audio and video information and is specially designed to run over the Internet. ASF enables content to be delivered as a continuous stream of *streaming audio*or *streaming video* data.with little wait time before playback begins. This means that you no longer have to wait for your audio and video files to fully download before starting to view them. See [Streaming](http://www.ict4lt.org/en/en_glossary.htm#streaming). See [AVI](http://www.ict4lt.org/en/en_glossary.htm#avi), [MOV](http://www.ict4lt.org/en/en_glossary.htm#movqt), [MPEG,](http://www.ict4lt.org/en/en_glossary.htm#mpeg) [RM](http://www.ict4lt.org/en/en_glossary.htm#rmreal), which are alternative video file formats. See [Media Player](http://www.ict4lt.org/en/en_glossary.htm#mediaplay). See [Section 2.2.3.4, Module 2.2](http://www.ict4lt.org/en/en_mod2-2.htm#videoed), headed *Video editing software*.

**ASR:** Abbreviation for [Automatic Speech Recognition](http://www.ict4lt.org/en/en_glossary.htm#asr).

**Assistive Technology:**This term describes computer software or devices used by people with special needs to enable them to access the services provided by ICT, e.g. computer programs, [Email](http://www.ict4lt.org/en/en_glossary.htm#email) and the World Wide Web. Technologies under this heading include [Text To Speech (TTS)](http://www.ict4lt.org/en/en_glossary.htm#textosp) screen readers for the unsighted or partially sighted, alternative keyboards and mice for people who have problems in hand-eye coordination, head-pointing devices, speech recognition software, and screen magnification software. See [Accessibility](http://www.ict4lt.org/en/en_glossary.htm#accessibility), [Pointing Device](http://www.ict4lt.org/en/en_glossary.htm#pointing), [SENDA](http://www.ict4lt.org/en/en_glossary.htm#senda).

**Association of Language Testers in Europe (ALTE):** An association of providers of foreign language examinations: [http://www.alte.org](http://www.alte.org/)

**Asynchronous:** "Not at the same time". Often used to refer to communication by [Email](http://www.ict4lt.org/en/en_glossary.htm#email) or via a [Discussion List](http://www.ict4lt.org/en/en_glossary.htm#discussion), where the recipients of the email or the participants in the discussion do not have to be present at the same time and can respond at their own convenience. A feature of *asynchronous learning* is that the teachers and learners do not have to be present at their computers at the same time. See [Synchronous](http://www.ict4lt.org/en/en_glossary.htm#synchron). See [Section 14, Module 1.5](http://www.ict4lt.org/en/en_mod1-5.htm#compmedcomm), headed *Computer Mediated Communication (CMC)*.

**Attachment:** A term used in connection with [Email](http://www.ict4lt.org/en/en_glossary.htm#email). An attachment can be a [File](http://www.ict4lt.org/en/en_glossary.htm#file) of almost any kind - a document file, an image file, a sound file or a video clip - that you can add, i.e. *attach*, to an email.

**Attribute:** A term used by Web authors. An attribute of an **HTML** **tag** controls how that tag operates. For example, in the HTML fragment **<img src="../images/home01.gif" alt="English home page">**, the required attribute **src** defines the image file to be displayed, and the optional attribute **alt** defines the text to be displayed when the [Mouse](http://www.ict4lt.org/en/en_glossary.htm#mouse) moves over the image. Attributes can only exist within tags. See [HTML](http://www.ict4lt.org/en/en_glossary.htm#html), [Tag](http://www.ict4lt.org/en/en_glossary.htm#tag).

**Audio Card:** See [Sound Card](http://www.ict4lt.org/en/en_glossary.htm#soundcard).

**Audioconferencing** or **Audio Conferencing:** A computer-based communications system that allows a group of computer users at different locations to conduct a "virtual conference" in which the participants can hear one another as if they were in the same room participating in a real conference. Unlike [Videoconferencing](http://www.ict4lt.org/en/en_mod1-5.htm), audioconferencing systems do not allow the participants to see one another. See [Conferencing](http://www.ict4lt.org/en/en_glossary.htm#confer). See [Section 14.1.2, Module 1.5](http://www.ict4lt.org/en/en_mod1-5.htm#audioconf), headed *Audioconferencing: a synchronous communications medium*.

**AUP:** Abbreviation for [Acceptable Use Policy](http://www.ict4lt.org/en/en_glossary.htm#acceptableuse).

**Authoring Package / Authoring Program / Authoring Tool:** These terms describe **content-free** software packages that allow the teacher to develop interactive learning and teaching materials without having to have a detailed knowledge of a computer [Programming Language](http://www.ict4lt.org/en/en_glossary.htm#proglang). These terms may also be applied to software packages used for creating Web pages, e.g. **Front Page** or **Dreamweaver**. See[Module 2.5](http://www.ict4lt.org/en/en_mod2-5.htm), *Introduction to CALL authoring programs*. See [Module 3.2](http://www.ict4lt.org/en/en_mod3-2.htm), *CALL software design and implementation*. See [Module 3.3](http://www.ict4lt.org/en/en_mod3-3.htm), *Creating a World Wide Web site*. See [Content-Free](http://www.ict4lt.org/en/en_glossary.htm#contfree).

**Authorship Analysis Software:** Authorship Analysis Software can help to identify authorship of texts. Such software has been used by literary and linguistic researchers for many years and is now widely used by security services in counter-terrorism activities.

**Automatic Speech Recognition (ASR):** A branch of [Human Language Technologies](http://www.ict4lt.org/en/en_glossary.htm#hlt) devoted to the automatic processing of human speech. See [Speech Recognition](http://www.ict4lt.org/en/en_glossary.htm#speechrec). See [Section 4, Module 3.5](http://www.ict4lt.org/en/en_mod3-5.htm#speechtech), headed *Speech technologies*.

**Avatar**: A graphical representation of a real person, such as used in a [MUVE](http://www.ict4lt.org/en/en_glossary.htm#muve) or [MMORPG](http://www.ict4lt.org/en/en_glossary.htm#mmorpg), a kind of "virtual world". Participants in a MUVE or MMORPG choose a name and a visual representation of the character that they wish to adopt as an inhabitant of the MUVE or player in the MMORPG. See [Section 14.2, Module 1.5](http://www.ict4lt.org/en/en_mod1-5.htm#14.2), headed *Chat rooms, MUDs, MOOs and MUVEs*.

**AVI:** Abbreviation for Audio Video Interleave (or Interleaved). A file format for storing video recordings on a computer. See [ASF](http://www.ict4lt.org/en/en_glossary.htm#asf), [MOV](http://www.ict4lt.org/en/en_glossary.htm#movqt), [MPEG,](http://www.ict4lt.org/en/en_glossary.htm#mpeg) [RM](http://www.ict4lt.org/en/en_glossary.htm#rmreal), which are alternative video file formats. See[Media Player](http://www.ict4lt.org/en/en_glossary.htm#mediaplay). See [Section 2.2.3.4, Module 2.2](http://www.ict4lt.org/en/en_mod2-2.htm#videoed), headed *Video editing software*.

[Top](http://www.ict4lt.org/en/en_glossary.htm#GlossTop)

**B**

**Backup or Back Up:** Used as a verb, *to back up* means to copy a [File](http://www.ict4lt.org/en/en_glossary.htm#file) or [Folder](http://www.ict4lt.org/en/en_glossary.htm#folder) from your computer to another [Storage Device](http://www.ict4lt.org/en/en_glossary.htm#storagedev), e.g. a [CD-ROM](http://www.ict4lt.org/en/en_glossary.htm#cdrom), as a precaution in case your [Hard Drive](http://www.ict4lt.org/en/en_glossary.htm#harddisc) fails or is infected by a [Virus](http://www.ict4lt.org/en/en_glossary.htm#virus). A *backup*, used as a noun, or a *backup copy* describes a copy that you have made in this way. It is essential to back up new files and folders at regular intervals.

**Bandwidth:** The amount of data that can be sent from one computer to another through a particular connection in a certain amount of time, e.g. via a computer to the Internet and vice versa. The more bandwidth available, the faster you are able to access information. Bandwidth is usually measured in *kilobits per second* (Kbps) or *megabits per second* (Mbps). See [ADSL](http://www.ict4lt.org/en/en_glossary.htm#adsl), [Broadband](http://www.ict4lt.org/en/en_glossary.htm#broadband), [Kilobit](http://www.ict4lt.org/en/en_glossary.htm#kilobit),[Megabit](http://www.ict4lt.org/en/en_glossary.htm#megabit), [Narrowband](http://www.ict4lt.org/en/en_glossary.htm#narrowband).

**Baud:**A unit of measurement at which data can be transferred (i.e. the *baud rate*), for example over a telephone line via a [Modem](http://www.ict4lt.org/en/en_glossary.htm#modem) or from a computer to an external device such as a [Printer](http://www.ict4lt.org/en/en_glossary.htm#printer). Rarely used nowadays, as transfer transfer rates are normally expressed in kilobits per second ([Kbbs](http://www.ict4lt.org/en/en_glossary.htm#kbps)) or megabits per second ([Mbps](http://www.ict4lt.org/en/en_glossary.htm#mbps)).

**BBS:**Abbreviation for Bulletin Board System. See [Bulletin Board](http://www.ict4lt.org/en/en_glossary.htm#bulletin).

**BECTA:**British Educational Communications and Technology Agency, formerly known as NCET (National Council for Educational Technology), MESU (Microelectronics Education Support Unit) and the CET (Council for Educational Technology). BECTA is due to close down under the recently elected UK government (May 2010).

**Binary:** A number system using base 2 instead of the usual (human) base 10, which is normally referred to as the decimal system. Computers use base 2 because they can only recognise two values, 1 or 0. This is simulated electronically by using a device, such as a switch, which is either on (1) or off (0). All numbers are represented by combinations of ones and zeroes, thus the number 9 is represented as 1001, the right-most column being the units column and the other columns, moving from right to left, being 2, 4, 8. See [Hexadecimal](http://www.ict4lt.org/en/en_glossary.htm#hexa).

**Binary File:** Strictly speaking all computer files are [Binary](http://www.ict4lt.org/en/en_glossary.htm#binary), consisting of a string of ones and zeroes, but the term *binary file* is often used to differentiate program files and data files from *text files*, which contain only unformatted printable ASCII characters. See [ASCII](http://www.ict4lt.org/en/en_glossary.htm#ascii), [Text File](http://www.ict4lt.org/en/en_glossary.htm#textfile).

**BIOS:** Acronym for Basic Input/Output System. This is a built-in ROM [Chip](http://www.ict4lt.org/en/en_glossary.htm#chip) on the [Motherboard](http://www.ict4lt.org/en/en_glossary.htm#motherboard) containing essential programs to manage the computer's input and output, which are loaded into memory during the boot process. See [Boot](http://www.ict4lt.org/en/en_glossary.htm#boot), [ROM](http://www.ict4lt.org/en/en_glossary.htm#rom)*.*

**Bit:** Contraction of *binary digit*. A bit is the smallest measurement unit of computer memory or data transmission speed, e.g. via a [Modem](http://www.ict4lt.org/en/en_glossary.htm#modem). See the entry on [Measurement Units](http://www.ict4lt.org/en/en_glossary.htm#measure). See [Byte](http://www.ict4lt.org/en/en_glossary.htm#byte), [Kilobit](http://www.ict4lt.org/en/en_glossary.htm#kilobit),[Kilobyte](http://www.ict4lt.org/en/en_glossary.htm#kilobyte), [Megabit](http://www.ict4lt.org/en/en_glossary.htm#megabit), [Megabyte](http://www.ict4lt.org/en/en_glossary.htm#megabyte).

**Bitmap:** A computer graphic or image composed of thousands of individual dots or *pixels*, each pixel being stored as a number. The image is displayed by specifying the colour of each pixel. Bit-mapped graphics can be imported into other applications, e.g. a word-processor, but they cannot be edited within these applications. When bit-mapped graphics are resized they usually suffer a loss of sharpness, whereas *vector graphics* can be resized without such loss. See [BMP](http://www.ict4lt.org/en/en_glossary.htm#bmp), [Pixel](http://www.ict4lt.org/en/en_glossary.htm#pixel), [Resolution](http://www.ict4lt.org/en/en_glossary.htm#resolution), [Vector Graphic](http://www.ict4lt.org/en/en_glossary.htm#vector).

**Blackboard:** A commercial [Virtual Learning Environment (VLE)](http://www.ict4lt.org/en/en_glossary.htm#virtual) package, i.e. a software package that integrates online communications software with content software enabling teachers to create courses that are delivered partially or entirely via the Web. Courses using *Blackboard* might be mainly text-based, but can be enhanced with images, audio and video. See: [http://www.blackboard.com](http://www.blackboard.com/).*Blackboard* and *WebCT* announced an agreement to merge in October 2005.

**Blended Learning:** This term normally refers to combining Internet-based *distance learning* with face-to-face tuition but it may also be used to describe combining offline ICT-based materials with more traditional materials, such as books, audiocassettes and videocassettes. See [Distance Learning](http://www.ict4lt.org/en/en_glossary.htm#distancelearn), [E-learning](http://www.ict4lt.org/en/en_glossary.htm#elearn), [Online Learning](http://www.ict4lt.org/en/en_glossary.htm#onlinelearn), [Virtual Learning Environment (VLE)](http://www.ict4lt.org/en/en_glossary.htm#virtual). See [Section 4, Module 2.3](http://www.ict4lt.org/en/en_mod2-3.htm#hybrid) under the heading *Hybrid systems and blended learning*.

**Blog:**Contraction of the term [Weblog](http://www.ict4lt.org/en/en_glossary.htm#weblog). A *blog* is essentially a website that contains discrete pieces of information posted by different users. New items of information are usually entered by contributors via a simple form, following the introduction of each new theme by a person who initiates the blog, and then submitted to the site, where they may be filtered by an administrator before being posted. A blog can contain news items, short essays, annotated links, documents, graphics, and multimedia. These posts are usually in reverse chronological order and often take the form of a journal or diary. A blog is normally accessible to any Internet user, but closed blogs may also be created, e.g. to document the thoughts and experiences of a group of students or to provide a means of communication between teachers and students following a particular course. The word *blog* is also used as a verb, and [Blogger](http://www.ict4lt.org/en/en_glossary.htm#blogger) is used as a noun to describe someone who blogs (see next entry). A blog is usually distinguished from an Internet [Discussion List](http://www.ict4lt.org/en/en_glossary.htm#discussion) (also known as a [Forum](http://www.ict4lt.org/en/en_glossary.htm#forum)), but the latter can function in a similar way insofar as it typically allows any user to post messages to it that can be viewed via the Web. See[Moblog](http://www.ict4lt.org/en/en_glossary.htm#moblog), [RSS](http://www.ict4lt.org/en/en_glossary.htm#rss), [Splog](http://www.ict4lt.org/en/en_glossary.htm#splog), [Wiki](http://www.ict4lt.org/en/en_glossary.htm#wiki). See [Section 12, Module 1.5](http://www.ict4lt.org/en/en_mod1-5.htm#anchordiscuss), headed *Discussion lists, blogs, wikis, social networking*. The ICT4LT website blog is at: [http://ictforlanguageteachers.blogspot.com](http://ictforlanguageteachers.blogspot.com/)

**Blogger:**Normally used to refer to someone who *blogs*, i.e. who regularly writes *blogs*. Also used to describe a service that provides Web-based tools used by individuals to create a [Blog](http://www.ict4lt.org/en/en_glossary.htm#blog) or [Weblog](http://www.ict4lt.org/en/en_glossary.htm#weblog). See [http://www.blogger.com](http://www.blogger.com/)

**Bluetooth:***Bluetooth* is a technical industry standard for radio technology which facilitates the transmission of signals over short distances (up to around 10 metres) between telephones, computers and other devices without the use of wires. For example, a Bluetooth-enabled mobile phone can communicate with a [Desktop Computer](http://www.ict4lt.org/en/en_glossary.htm#desktopcomp) or [Laptop Computer](http://www.ict4lt.org/en/en_glossary.htm#laptop) for the purpose of synchronising data, such as an appointments diary.

**BMP:** Abbreviation for [Bitmap](http://www.ict4lt.org/en/en_glossary.htm#bitmap), a file format for storing images. This is the standard format used, for example, by *Windows Paint*. BMP image files occupy quite a lot of space compared to other formats. See [EPS](http://www.ict4lt.org/en/en_glossary.htm#eps), [GIF](http://www.ict4lt.org/en/en_glossary.htm#gif), [JPEG/JPG](http://www.ict4lt.org/en/en_glossary.htm#jpeg), [TIFF](http://www.ict4lt.org/en/en_glossary.htm#tiff). See also [Section 2.2.3.1, Module 2.2](http://www.ict4lt.org/en/en_mod2-2.htm#imageed), headed *Image editing software*.

**Bookmark:**A *bookmark* is a facility within a [Browser](http://www.ict4lt.org/en/en_glossary.htm#browser) that enables you to keep a record of Web pages that you have visited and may wish to visit again. Bookmarks are stored in a subdirectory of the[Windows](http://www.ict4lt.org/en/en_glossary.htm#windows) directory on your computer. In *Internet Explorer*bookmarks are known as [Favorites](http://www.ict4lt.org/en/en_glossary.htm#favorites) (sic - spelt the American way), which is also the name of the subdirectory in which they are stored. Bookmarks are also used to mark positions in a *Word* document, i.e. positions to which you can jump from other points in the document by clicking on them with the [Mouse](http://www.ict4lt.org/en/en_glossary.htm#mouse).

**Boot:**(verb) To start up a computer by loading the operating system into memory. The computer is regarded as *bootstrapping* itself into operation, i.e. picking itself up by its own bootstraps. The adjective *bootable* is often used to describe a backup disc that can be used to start a computer, e.g. when the hard disc fails or becomes corrupted for some reason. See [Operating System](http://www.ict4lt.org/en/en_glossary.htm#opsys).

**Bot:**Short for *Robot*. See [Crawler](http://www.ict4lt.org/en/en_glossary.htm#crawler).

**bps:**Abbreviation for *bits per second*, the smallest measurement of data transmission speed, e.g. via a [Modem](http://www.ict4lt.org/en/en_glossary.htm#modem). Computer people normally measure data transmission speeds in *Kbps*, meaning *kilobits per second*, or *Mbps*, meaning *megabits per second*. If you have a 56Kbps modem (which is slow by today's standards) it means that your modem can transmit at speeds up to 56,000 bits of information per second. See [Bit](http://www.ict4lt.org/en/en_glossary.htm#bit), [Kilobit](http://www.ict4lt.org/en/en_glossary.htm#kilobit), [Megabit](http://www.ict4lt.org/en/en_glossary.htm#megabit).

**Branching:**The process of interrupting a sequence of instructions in a computer program in order to go to a different point. For example, in a CALL exercise the program might branch to one point if the learner is right but to another if the learner is wrong. This is a technique that is also used frequently in adventure games, mazes and simulations. See [Adventure Game](http://www.ict4lt.org/en/en_glossary.htm#adventure), [Maze](http://www.ict4lt.org/en/en_glossary.htm#maze), [Simulation](http://www.ict4lt.org/en/en_glossary.htm#simulation).

**Broadband:** A general term used to describe a high-speed connection to the Internet. Connection speed is usually measured in [Kbps](http://www.ict4lt.org/en/en_glossary.htm#kbps) (kilobits per second) and [Mbps](http://www.ict4lt.org/en/en_glossary.htm#mbps) (megabits per second). Typically, a home user will have a broadband connection using an ADSL telephone line running at 2Mbps to 8Mbps. Educational institutions ideally need a symmetric connection of at least 8Mbps to ensure smooth trouble-free connections to the Internet when large numbers of students are accessing the Internet all at once. See [ADSL](http://www.ict4lt.org/en/en_glossary.htm#adsl), [Bandwidth](http://www.ict4lt.org/en/en_glossary.htm#bandwidth), [ISDN](http://www.ict4lt.org/en/en_glossary.htm#isdn), [Kilobit](http://www.ict4lt.org/en/en_glossary.htm#kilobit), [Leased Line](http://www.ict4lt.org/en/en_glossary.htm#leased), [Megabit](http://www.ict4lt.org/en/en_glossary.htm#megabit). Contrasted with [Narrowband](http://www.ict4lt.org/en/en_glossary.htm#narrowband).

**Browser:** A software package installed on the hard disc of your computer that enables you to access and to navigate the [World Wide Web](http://www.ict4lt.org/en/en_glossary.htm#wwweb) - to "surf the Web" in colloquial terms. See [Section 3, Module 1.5](http://www.ict4lt.org/en/en_mod1-5.htm#anchorskills), headed *Using a browser: navigating the Web*.

**Buddy Learning:** See [Tandem Learning (Buddy Learning)](http://www.ict4lt.org/en/en_glossary.htm#tandemlearning).

**Bulletin Board:** A type of forum on the Internet or an intranet, where users can post messages by email or via the World Wide Web for other users to read and respond to. Bulletin Board Systems (BBSs) have largely been replaced by other types of online systems for communal communication, such as blogs, discussion lists and forums. See [BBS](http://www.ict4lt.org/en/en_glossary.htm#bbs), [Blog](http://www.ict4lt.org/en/en_glossary.htm#blog), [Discussion List](http://www.ict4lt.org/en/en_glossary.htm#discussion), [Forum](http://www.ict4lt.org/en/en_glossary.htm#forum).

**Bug:**Not a nasty insect but a logical fault in a computer program which causes it to malfunction. All computer programs contain bugs, some of which take years to come to light. It is rumoured that the term arose as a result of moths getting into the circuitry of an older [Mainframe Computer](http://www.ict4lt.org/en/en_glossary.htm#mainframe), causing it to break down. See [Debug](http://www.ict4lt.org/en/en_glossary.htm#debug), [Millennium Bug](http://www.ict4lt.org/en/en_glossary.htm#millenium).

**Burn:** When data is written to a CD, for example using a CD-Read/Write drive, a pattern of microscopic dots is etched with a laser beam in a spiralling track on the CD surface. This is a process often referred to as "burning a CD". [See CD-ROM.](http://www.ict4lt.org/en/en_glossary.htm#cdrom) See [Section 1.2.1, Module 1.2.](http://www.ict4lt.org/en/en_mod1-2.htm#cdromdvd)

**Bus:** Not the sort you get on to go into town. This is basically a set of parallel wires for connecting the [Central Processing Unit (CPU)](http://www.ict4lt.org/en/en_glossary.htm#centproc) of a computer to all other input-output devices. Data can be transmitted in two directions, from and to the CPU.

**Byte:** A measurement of computer memory or disc capacity. A byte comprises 8 *bits*. See entry on [Measurement Units](http://www.ict4lt.org/en/en_glossary.htm#measure). See [Bit](http://www.ict4lt.org/en/en_glossary.htm#bit),[Gigabyte](http://www.ict4lt.org/en/en_glossary.htm#gigabyte)*,* [Kilobyte](http://www.ict4lt.org/en/en_glossary.htm#kilobyte), [Megabyte](http://www.ict4lt.org/en/en_glossary.htm#megabyte),

[Top](http://www.ict4lt.org/en/en_glossary.htm#GlossTop)

**C**

**C&IT:**Abbreviation for Communications and Information Technology. The same thing as ICT but the other way round! C&IT (Communications and Information Technology) is a peculiarly British term that arose in Higher Education as a result of the 1997 Dearing Report and never caught on outside the UK Higher Education environment. C&IT was incorporated in the name of the C&IT Centre for Modern Languages at the University of Hull, which in 2000 became the new name of the former CTICML (Computers in Teaching Initiative Centre for Modern Languages), which was established in 1989. The C&IT Centre (CTICML) was closed down in 2002. See [ICT](http://www.ict4lt.org/en/en_glossary.htm#ict).

**CAA:**Abbreviation for Computer Aided Assessment

**Cache:** The *cache* contains information stored by a Web [Browser](http://www.ict4lt.org/en/en_glossary.htm#browser) on your hard disc, so that you don't have to download the same material repeatedly from a remote computer. Browsers keep copies of all the Web pages that you view so that the pages can be redisplayed quickly when you go back to them. The cache is normally stored under *Windows* in a folder called *Temporary Internet Files*. This folder can become enormous over time and can cause your hard disc to become overloaded and then your computer may lock up. The cache needs to be emptied at regular intervals - which you can do manually or using utility software such as *Window Washer*. You can set the maximum size of the *Temporary Internet Files*folder*,* using the *Tools* menu in your browser.

**CAD/CAM:** Abbreviations for Camputer Aided Design / Computer Aided Manufacturing. A process of drafting, designing and manufacturing with the aid of a computer. CAD enables the user to manipulate drawings, including 3D drawings, and viewing them from a variety of angles. CAM is a general term for computer support during the manufacturing process.

**CAI:** Abbreviation for [Computer Assisted Instruction](http://www.ict4lt.org/en/en_glossary.htm#compass).

**CALI:**Acronym for Computer Assisted Language Instruction. A term which has now become almost obsolete, having been replaced by [CALL](http://www.ict4lt.org/en/en_glossary.htm#call) in the 1980s. The term fell out of favour because it became associated with [Programmed Learning](http://www.ict4lt.org/en/en_glossary.htm#proglearn). See [CAI](http://www.ict4lt.org/en/en_glossary.htm#cai), [CALL](http://www.ict4lt.org/en/en_glossary.htm#call), [CELL](http://www.ict4lt.org/en/en_glossary.htm#cell), [TELL](http://www.ict4lt.org/en/en_glossary.htm#tell). See [Section 1.1, Module 1.4](http://www.ict4lt.org/en/en_mod1-4.htm#whatiscall), headed *What is CALL?* and [Section 2, Module 1.4](http://www.ict4lt.org/en/en_mod1-4.htm#historyofcall), headed *History of CALL*.

[CALICO](http://www.calico.org/):Acronym for Computer Assisted Language Instruction Consortium, a US-based professional association, founded in 1982. CALICO originally incorporated [CALI](http://www.ict4lt.org/en/en_glossary.htm#cali) into its name, but it now favours the term [CALL](http://www.ict4lt.org/en/en_glossary.htm#call).

**CALL:**Abbreviation for Computer Assisted Language Learning. A term which came into favour in the early 1980s, replacing the older term CALI (Computer Assisted Language Instruction). Often associated (wrongly) with an old-fashioned approach to the use of ICT in language learning and teaching, but the leading professional associations, i.e. [EUROCALL](http://www.eurocall-languages.org/), [CALICO](http://www.calico.org/) and [IALLT](http://www.iallt.org/), interpret CALL as meaning the use of computers in the learning and teaching of foreign languages in the broadest sense, from the use of word-processors to the use of the Internet. See [CALI](http://www.ict4lt.org/en/en_glossary.htm#cali), [CELL](http://www.ict4lt.org/en/en_glossary.htm#cell), [TELL](http://www.ict4lt.org/en/en_glossary.htm#tell). See[Section 1.1, Module 1.4](http://www.ict4lt.org/en/en_mod1-4.htm#whatiscall), headed *What is CALL?* and [Section 2, Module 1.4](http://www.ict4lt.org/en/en_mod1-4.htm#historyofcall), headed *History of CALL*.

**Camcorder:** A portable video camera, capable of recording live motion video for later replay through a videocassette recorder (VCR), DVD player or computer. Videos produced by a camcorder can be *uploaded* to a computer via a [USB](http://www.ict4lt.org/en/en_glossary.htm#universal) cable or [Firewire](http://www.ict4lt.org/en/en_glossary.htm#firewire), edited using special software such as *Windows Movie Maker*, and played on a computer using [Media Player](http://www.ict4lt.org/en/en_glossary.htm#mediaplay) software. See [Section 2.2.3.4, Module 2.2](http://www.ict4lt.org/en/en_mod2-2.htm#videoed), headed *Video editing software*. See [Digital Camera](http://www.ict4lt.org/en/en_glossary.htm#digitalcam), [Upload](http://www.ict4lt.org/en/en_glossary.htm#upload).

**Can Do Statement:***Can do statements* are used as a means of describing what learners can typically do at different levels in a programme of studies, for example in the [Common European Framework of Reference for Languages](http://www.ict4lt.org/en/en_glossary.htm#commoneuro) and in the syllabuses specified by bodies such as the [Association of Language Testers in Europe (ALTE)](http://www.alte.org/) and examination boards such as [Asset Languages](http://www.assetlanguages.org.uk/). See [Section 2.2, Module 4.1](http://www.ict4lt.org/en/en_mod4-1.htm#cef). The ICT4LT website contains a *Word* document, [ICT\_Can\_Do\_Lists](http://www.ict4lt.org/en/ICT_Can_Do_Lists.doc), which contains sets of can do statements relating to the ICT skills that language teachers should find useful.

**Card:** In computer jargon, a *card* is an electronic circuit board, usually one which can be slotted into your computer in order to fulfil a specialised function. See [Sound Card](http://www.ict4lt.org/en/en_glossary.htm#soundcard), [Video Card](http://www.ict4lt.org/en/en_glossary.htm#vidcard).

**Cascading Style Sheets (CSS):** Cascading Style Sheets are a feature of [HTML](http://www.ict4lt.org/en/en_glossary.htm#html) that enables a range of styles for headers, body text, bullet points, links etc., to be specified for hypertext documents. This makes it possible to set up CSS file containing a library of styles that are used throughout a website, thereby facilitating consistency. If a style needs to be changed throughout a website it only needs to be changed once in the CSS file and then it will be applied automatically. CSS have a good deal in common with the *Styles and Formatting* feature in [Microsoft Word](http://www.ict4lt.org/en/en_glossary.htm#word).

**Case Sensitivity:**Used to describe how a computer program, e.g. a [Browser](http://www.ict4lt.org/en/en_glossary.htm#browser), interprets upper and lower case letters, e.g. in the name of a program, the name of a folder stored on your computer, or the name of a website. Some computer programs may be *case sensitive*, in other words they make a distinction between capital letters and lower case letters so that, for instance, *Manchester* is perceived as different from *manchester*. Other programs may not make a distinction and perceive capital letters and lower case letters as one and the same. Be especially careful when typing the names of websites, as case sensitivity may be crucial and you may not be able to find the website if you fail to type capital letters in the right places.

**Cathode Ray Tube (CRT):** An older type of computer [Display Screen](http://www.ict4lt.org/en/en_glossary.htm#display) or [Monitor](http://www.ict4lt.org/en/en_glossary.htm#monitor), in which beams of high-voltage electrons are fired at a screen causing thousands of Red, Green and Blue ([RGB](http://www.ict4lt.org/en/en_glossary.htm#rgb)) dots to glow in different combinations and intensities, thus producing the full-colour image displayed on the screen. Cathode Ray Tubes are also used in older domestic TV sets. Newer types of display screens are of the [LCD](http://www.ict4lt.org/en/en_glossary.htm#lcd) or [TFT](http://www.ict4lt.org/en/en_glossary.htm#tft) flat panel type - like many modern TV sets. They are much lighter, use less electricity and take up less room on your desk. See [Section 1.1.2, Module 1.2](http://www.ict4lt.org/en/en_mod1-2.htm#monitor) for further information and illustrations of different types of display screens.

**CBT:** Abbreviation for [Computer Based Training](http://www.ict4lt.org/en/en_glossary.htm#compbased).

**CD-ROM:** Abbreviation for Compact Disc Read Only Memory. A CD-ROM is an [Optical Disc](http://www.ict4lt.org/en/en_glossary.htm#optdisc) on to which data has been written via a laser - a process often referred to as "burning a CD": see [Burn](http://www.ict4lt.org/en/en_glossary.htm#burn). A CD-ROM looks much the same as an audio CD, but can contain text, sound, pictures and motion video. Once written, the data on a CD-ROM can be fixed and rendered unalterable, hence the term*read-only -***but** modern computers are usually equipped with a read/write CD-ROM drive that enables new material to be stored on a special kind of CD-ROM: CD-R (recordable) or CD-RW (rewriteable). It is worthwhile investing in a read/write CD-ROM drive for making backups and storing your own multimedia materials. Blank CD-Rs or CD-RWs can be bought from computer media suppliers at a relatively low cost. You can store data on CD-Rs using a read/write drive, adding to it until it is full, and then you can format the CD-ROM so that it is fixed and can be read by a standard CD-ROM drive. You can also store data on CD-RWs in the same way, but these discs can only be read by a read/write CD-ROM drive. The advantage of CD-RWs is that they can be erased and used over and over again, but now that the cost of blank CD-Rs has fallen to such a low level it is questionable how useful CD-RWs are. See [Combination Drive](http://www.ict4lt.org/en/en_glossary.htm#combodrive), [Digital Video Disc (DVD)](http://www.ict4lt.org/en/en_glossary.htm#dvd). See [Section 1.2.1, Module 1.2](http://www.ict4lt.org/en/en_mod1-2.htm#cdromdvd) and [Module 2.2](http://www.ict4lt.org/en/en_mod2-2.htm).

**CEF:** Shortened abbreviation for the [Common European Framework of Reference for Languages](http://www.ict4lt.org/en/en_glossary.htm#commoneuro).

**CEFR:**Abbreviation for the Common European Framework of Reference for Languages. Often shortened to **CEF** (see previous entry). See [Common European Framework of Reference for Languages](http://www.ict4lt.org/en/en_glossary.htm#commoneuro).

**CELL:** Acronym for Computer Enhanced Language Learning. An alternative term to CALL that aims to stress the role of the computer as a *tool* for the learner, making it less central in the learning process. See [CALI](http://www.ict4lt.org/en/en_glossary.htm#cali), [CALL](http://www.ict4lt.org/en/en_glossary.htm#call), [TELL](http://www.ict4lt.org/en/en_glossary.htm#tell).

**Central Processing Unit (CPU):** Also known as the [Central Processor](http://www.ict4lt.org/en/en_glossary.htm#centpr). In a modern computer the CPU is a single microprocessor [Chip](http://www.ict4lt.org/en/en_glossary.htm#chip) or [Microchip](http://www.ict4lt.org/en/en_glossary.htm#microchip), an intergated circuit which carries out information processing and calculations. In essence, the CPU is the computer's "brain". See [Clock Speed](http://www.ict4lt.org/en/en_glossary.htm#clocksp), [Microprocessor](http://www.ict4lt.org/en/en_glossary.htm#microproc), [Motherboard](http://www.ict4lt.org/en/en_glossary.htm#motherboard).

**Central Processor:**See [Central Processing Unit (CPU)](http://www.ict4lt.org/en/en_glossary.htm#centproc).

**CERN:**Abbreviation for Centre Européen pour la Recherche Nucléaire, the European particle physics laboratory and the birthplace of the *World Wide Web*, which was invented there by Tim Berners-Lee.

**CGI Script:** A term used by Web authors. CGI is an abbreviation for Common Gateway Interface. A program residing on a [Web Server](http://www.ict4lt.org/en/en_glossary.htm#webserve), usually in a directory called **cgi-bin**, which processes data from an HTML form. CGI scripts can be written in any programming language suitable for handling text data, but Perl ([http://www.perl.com](http://www.perl.com/)) is the most popular scripting language.

**Character User Interface (CUI):**A *Character User Interface* describes a way in which a computer user communicates with a computer by entering commands as *text*, i.e. in order to run programs and to carry out other operations such as copying information from one [Folder](http://www.ict4lt.org/en/en_glossary.htm#folder) to another, deleting files, etc. Contrasted with a [Graphical User Interface (GUI)](http://www.ict4lt.org/en/en_glossary.htm#graphuser), e.g. *Microsoft Windows*, which allows the user to carry out such operations by clicking on *icons*, opening and shutting *windows* and dragging and dropping with a *mouse*. [MS DOS](http://www.ict4lt.org/en/en_glossary.htm#msdos) and [Unix](http://www.ict4lt.org/en/en_glossary.htm#unix) are examples of CUIs. See [Icon](http://www.ict4lt.org/en/en_glossary.htm#icon), [Mouse](http://www.ict4lt.org/en/en_glossary.htm#mouse), [Operating System](http://www.ict4lt.org/en/en_glossary.htm#opsys),[Window](http://www.ict4lt.org/en/en_glossary.htm#window), [Windows](http://www.ict4lt.org/en/en_glossary.htm#windows).

**Chat Room:**A *synchronous*, mainly text-based communication facility, offering a Web-based environment where people either drop into or arrange to meet and *chat* at specific times. You type in your text online, it is seen almost immediately by others online at the same time who respond online in real time. When used for language learning chat rooms can put a great deal of pressure on students by requiring them to read fairly rapidly and to write, also fairly rapidly, with little time to reflect on the quality of the language used. A degree of caution is advised when joining a chat room. Some have been used for sinister purposes. See [Synchronous](http://www.ict4lt.org/en/en_glossary.htm#synchron). [Section 14.2, Module 1.5](http://www.ict4lt.org/en/en_mod1-5.htm#14.2), headed *Chat rooms, MUDs, MOOs and MUVEs*.

**Chip:**Short for [Microchip](http://www.ict4lt.org/en/en_glossary.htm#microchip) or [Silicon Chip](http://www.ict4lt.org/en/en_glossary.htm#silicon).

**Client:** A computer that receives services from another computer. A stand-alone computer on your desk which you use to browse the Web is a *client*, and the computers from which World Wide Web files are downloaded to your computer are *servers*. Similarly, a computer (also known as a workstation) connected to a [Local Area Network (LAN)](http://www.ict4lt.org/en/en_glossary.htm#lan) is a *client* that can receive information from and send information to the *server* that controls the LAN. See [Browser](http://www.ict4lt.org/en/en_glossary.htm#browser), [Server](http://www.ict4lt.org/en/en_glossary.htm#server), [Web Server](http://www.ict4lt.org/en/en_glossary.htm#webserve).

**CLIL:**Acronym for [Content and Language Integrated Learning](http://www.ict4lt.org/en/en_glossary.htm#clilfull).

**Clipart**or **Clip Art:** A collection of image files that can be embedded or inserted into Web pages, word-processed documents, *PowerPoint* presentations, etc. Some clipart images are copyright-free or in the public domain but others may be subject to a licence fee if you wish to make them public, e.g. on a website. See [Copyright](http://www.ict4lt.org/en/en_glossary.htm#copyright).

**Clipboard:** A temporary storage area in a computer's memory. It may be used, for example, to store text that you are in the process of copying and pasting from one section of a word-processed document to another section in the same document or to another document. You should find a *clipboard viewer* program on your computer, which enables you to see what is currently being temporarily stored in the clipboard.

**Clock Speed:** The speed of a computer's [Central Processing Unit (CPU)](http://www.ict4lt.org/en/en_glossary.htm#centproc), which is normally expressed in [MegaHertz](http://www.ict4lt.org/en/en_glossary.htm#megahertz) (= one million cycles per second) or [GigaHertz](http://www.ict4lt.org/en/en_glossary.htm#gigahertz), (= 1000 MegaHertz). This figure represents the number of instruction cycles the processor carries out each second. In simple terms this indicates how fast the computer runs - how powerful it is. Computers that run at 500 MegaHertz (500MHz) used to be considered fast, but modern computers now run at over one GigaHertz (1GHz). See [Hertz](http://www.ict4lt.org/en/en_glossary.htm#hertz), [Microprocessor](http://www.ict4lt.org/en/en_glossary.htm#microproc).

**Cloze Procedure:** Note the spelling: **Cloze** not **Close** - which is deliberate and was invented by Wilson Taylor: Taylor W.L. (1953) "Cloze procedure: a new tool for measuring readability", *Journalism Quarterly* 30: 415-433. *Cloze procedure* was originally conceived as a tool for measuring the readibility of a text or a learner's reading comprehension level and derives from the gestalt psychology term "closure", whereby people tend to complete a familiar but incomplete pattern by "closing" the gaps. In Cloze tests or exercises every nth word (usually 5th to 7th) or a certain percentage of a text is blanked out and the learner has to fill in the blanks with a suitable word, but not necessarily the original word that appeared in the text. In the days before computers the words had to be blanked out by hand, but now a computer can do the job in seconds, varying the word deletion interval. Cloze procedure is still widely used in language learning and teaching - including [Total Cloze](http://www.ict4lt.org/en/en_glossary.htm#totalcloze), where the whole text is blanked out - and figures in numerous CALL programs. See [Section 4.6, Module 1.3](http://www.ict4lt.org/en/en_mod1-3.htm#cloze), headed *Cloze procedure*. See [Section 8, Module 1.4](http://www.ict4lt.org/en/en_mod1-4.htm#textmanip), headed *Text manipulation*. See [Gap-filler](http://www.ict4lt.org/en/en_glossary.htm#gapfill), [Text Manipulation](http://www.ict4lt.org/en/en_glossary.htm#textmanip).

**CMC:**Abbreviation for [Computer Mediated Communication (CMC)](http://www.ict4lt.org/en/en_glossary.htm#cmc).

**CMS:** Abbreviation for *Content Management System*, a software package that makes it possible for non-technical users to publish content (text, images, etc) on a website. Also stands for [Course Management System](http://www.ict4lt.org/en/en_glossary.htm#courseman), a type of [Virtual Learning Environment (VLE)](http://www.ict4lt.org/en/en_glossary.htm#virtual).

**CMY:** Abbreviation for Cyan Magenta Yellow. The scheme used in colour printing, where inks of the subtractive primary colours Cyan, Magenta and Yellow are combined to produce millions of other colours. Most colour printers also have a black ink cartridge, both for monochrome printing and to produce a true black in colour printing. See [Additive Colour](http://www.ict4lt.org/en/en_glossary.htm#additive), [RGB](http://www.ict4lt.org/en/en_glossary.htm#rgb), [Subtractive Colour](http://www.ict4lt.org/en/en_glossary.htm#substractive).

**CODEC:** Short for **COmpressor / DECompresso**r or **COder / DECoder**. A CODEC is software that is used to compress or decompress a digital audio or video file. CODECs are additional pieces of software that operate in conjunction with different media players, and certain types of audio and video recordings will only play back if the relevant CODEC is running in conjunction with the media player that you are using. A CODEC can consists of two components, an encoder and a decoder. The encoder compresses the file during creation, and the decoder decompresses the file when it is played back. Some CODECs include both components, while other CODECs include only one. CODECs are used because a compressed file takes up less storage space on your computer or on the Web. When you play an audio or video file in your media player it will use a CODEC to decompress the file. See [Section 2.2.1, Module 2.2](http://www.ict4lt.org/en/en_mod2-2.htm#codec), headed*Media players*.

**Collaborative Writing:**A process that involves the creation and editing documents using [Web 2.0](http://www.ict4lt.org/en/en_glossary.htm#web2) tools designed for use by multiple authors, e.g. [Google Documents](http://docs.google.com/) or [Zoho Writer](http://writer.zoho.com/). Such tools look, act and feel like normal word processors, but simplify the process of sharing and viewng documents.

**Colour Depth:** The number of colours that can be displayed at any one time on a computer [Display Screen](http://www.ict4lt.org/en/en_glossary.htm#display). Modern computers can display a range of millions of colours, producing very high quality images. See [Resolution](http://www.ict4lt.org/en/en_glossary.htm#resolution).

**Combination Drive:** A [Disc Drive](http://www.ict4lt.org/en/en_glossary.htm#discdrive) that is capable of reading and writing to [CD-ROMs](http://www.ict4lt.org/en/en_glossary.htm#cdrom), audio CDs and [DVDs](http://www.ict4lt.org/en/en_glossary.htm#dvd). See [Section 1.2.1, Module 1.2](http://www.ict4lt.org/en/en_mod1-2.htm#cdromdvd).

[Common European Framework of Reference for Languages](http://www.coe.int/t/dg4/linguistic/CADRE_EN.asp" \t "_blank): Usually known simply as the **CEFR or CEF**. This is a scheme developed by the Council of Europe, dating back to the 1970s, with the aim of providing a basis for the mutual recognition of language qualifications, thus facilitating educational and occupational mobility. It is increasingly used in the reform of national curricula and by international consortia for the comparison of language certificates. See [Section 2.2, Module 4.1](http://www.ict4lt.org/en/en_mod4-1.htm#cef).

**Comms:**Short for *communications*, as in Information and Communications Technology (ICT). Used to refer to ways in which computer systems communicate with one another, e.g. via a cable, a telephone line, satellite or wireless.

**Compatiblity:**Pieces of hardware and/or software which are capable of being used together are described as *compatible*.

**Compiler:** A program which converts programs written in a high-level *programming language*, i.e. as used by professional human programmers, into [Machine Code](http://www.ict4lt.org/en/en_glossary.htm#machinecode), a language that can be "understood" by a computer. A *compiler* produces a *binary* *executable* program file after the programmer has completed the programming. Program files on personal computers can be recognised by their three-letter**.exe** or **.com**[Extension](http://www.ict4lt.org/en/en_glossary.htm#extension) after their filenames, e.g. **winfile.exe**. See [Binary File](http://www.ict4lt.org/en/en_glossary.htm#binfile), [Executable](http://www.ict4lt.org/en/en_glossary.htm#execut), [Interpreter](http://www.ict4lt.org/en/en_glossary.htm#interpreter), [Programming Language](http://www.ict4lt.org/en/en_glossary.htm#proglearn).

**Compression:**A technique which reduces the amount of space required to store data, e.g. as used to reduce the amount of space needed to store an image, an audio recording, or a video recording.

**Computer Aided Assessment (CAA):** See [Module 4.1](http://www.ict4lt.org/en/en_mod4-1.htm), *Computer Aided Assessment (CAA) and language learning*.

**Computer Assisted Instruction (CAI):**A term used mainly in the business world. Implies a top-down, instructor-centred approach to teaching with computers and is closely associated with[Programmed Learning](http://www.ict4lt.org/en/en_glossary.htm#proglearn). See [CALI](http://www.ict4lt.org/en/en_glossary.htm#cali).

**Computer Based Training (CBT):** A term used mainly in the business world. Implies a top-down, trainer-centred approach to teaching with computers and is closely associated with [Programmed Learning](http://www.ict4lt.org/en/en_glossary.htm#proglearn).

**Computer Mediated Communication (CMC):** *Computer Mediated Communication* is used as a term describing the use of the Internet as a means of fostering teaching and learning, especially the use of [Email](http://www.ict4lt.org/en/en_glossary.htm#email), [Conferencing](http://www.ict4lt.org/en/en_glossary.htm#confer) and [Social Networking](http://www.ict4lt.org/en/en_glossary.htm#socialnet). See the entry under [Web 2.0](http://www.ict4lt.org/en/en_glossary.htm#web2). See [Section 14, Module 1.5](http://www.ict4lt.org/en/en_mod1-5.htm#compmedcomm), headed *Computer Mediated Communication (CMC)*.

**Computer Program:** A set of instructions that the computer carries out in sequence to perform a given task. Programs are written in English-like programming languages (e.g. C, Pascal), and are then converted into binary machine instructions via a compiler or an interpreter. See [Compiler](http://www.ict4lt.org/en/en_glossary.htm#compiler), [Interpreter](http://www.ict4lt.org/en/en_glossary.htm#interpreter), [Programming Language](http://www.ict4lt.org/en/en_glossary.htm#proglang).

**Concept Keyboard:**An overlay or replacement for the traditional computer [Keyboard](http://www.ict4lt.org/en/en_glossary.htm#keyboard). Concept keyboards are useful for small children or learners with special needs: for example, offering pictures or symbols as an alternative to the alphabetic keyboard.

**Concordance Program:** A *Concordance Program* (also known as a *Concordancer*) operates on a body of texts (a corpus) and is commonly used for compiling glossaries and dictionaries, e.g. by arranging every word in the text alphabetically or in order of frequency, together with its context. Concordance programs also play an important role in language learning and teaching, for example: (i) the teacher can use a concordance program to find examples of authentic usage to demonstrate a point of grammar, typical collocations, etc; (ii) the teacher can generate exercises based on examples drawn from a variety of corpora; (iii) language learners can work out rules of grammar and usage for themselves by searching for a particular key word in context (KWIC). Concordance programs form the basis of a methodology pioneered by Tim Johns, University of Birmingham, which he described as Data Driven Learning (DDL). See [Module 2.4](http://www.ict4lt.org/en/en_mod2-4.htm), *Using concordance programs in the Modern Foreign Languages classroom*, and [Module 3.4](http://www.ict4lt.org/en/en_mod3-4.htm), *Corpus linguistics*. See also [Data Driven Learning](http://www.ict4lt.org/en/en_glossary.htm#ddl).

**Concordancer:** See [Concordance Program](http://www.ict4lt.org/en/en_glossary.htm#concprog).

**Condenser Microphone:** This type of microphone is probably the best type to use in multimedia CALL programs as it provides a stronger signal when the learner is recording his/her own voice. Condenser microphones work only with sound cards that provide power to the microphone. Also known as a *powered microphone*. The other main type of microphone is known as a [Dynamic Microphone](http://www.ict4lt.org/en/en_glossary.htm#dynamic), which provides a softer signal and may result in faint playback.See [Microphone](http://www.ict4lt.org/en/en_glossary.htm#microphone), [Sound Card](http://www.ict4lt.org/en/en_glossary.htm#soundcard). See [Section 1.2.4, Module 1.2](http://www.ict4lt.org/en/en_mod1-2.htm#mic) for further information on microphones. See also [Module 2.2](http://www.ict4lt.org/en/en_mod2-2.htm),*Introduction to multimedia CALL*.

**Conferencing:**Computer *conferencing* is a development of [Email](http://www.ict4lt.org/en/en_glossary.htm#email) designed to support many-to-many communication, whereby computer users in different locations can take part in a "virtual conference". A conference usually consists of a group of participants who have a common interest in the conference subject matter. Computer conferencing software enables the organisation, storage, structuring and retrieval of messages. Messages may be organised under different topics, by author or by date of posting. [Asynchronous](http://www.ict4lt.org/en/en_glossary.htm#asynchron) conferencing may take place via a [Blog](http://www.ict4lt.org/en/en_glossary.htm#blog), [Discussion List](http://www.ict4lt.org/en/en_glossary.htm#discussion), [Forum](http://www.ict4lt.org/en/en_glossary.htm#forum) or[Wiki](http://www.ict4lt.org/en/en_glossary.htm#wiki): see [Section 12, Module 1.5](http://www.ict4lt.org/en/en_mod1-5.htm#anchordiscuss), headed *Discussion lists, blogs, wikis, social networking*. [Synchronous](http://www.ict4lt.org/en/en_glossary.htm#synchron) conferencing takes place in "real time", e.g. within a [Chat Room](http://www.ict4lt.org/en/en_glossary.htm#chatroom). See also [Audioconferencing](http://www.ict4lt.org/en/en_glossary.htm#audioconf),[Videoconferencing](http://www.ict4lt.org/en/en_glossary.htm#videoconf).

**Content and Language Integrated Learning (CLIL):**A term used to describe learning a subject such as history or geography through the medium of a foreign language and thereby learning the foreign language at the same time.

**Content-Free:**Used to describe a computer program which is supplied as an "empty shell", i.e. without content such as texts, images, audio recordings, or video recordings. The user (i.e. the teacher) is expected to provide the content, and the program then enables to content to be manipulated in various ways, for example to set up exercises and activities for different groups of learners. See [Authoring Package](http://www.ict4lt.org/en/en_glossary.htm#authoringt).

**Content Management System (CMS):**See also [Course Management System](http://www.ict4lt.org/en/en_glossary.htm#courseman).

**Continuing Professional Development (CPD):** Further study relevant to one's profession that most bodies encourage their members to undertake. This can take the form of seminars, research, training courses, etc. The materials at the ICT4LT website can serve the purposes of CPD.

**Cookie:** A piece of information stored on a user's computer by a Web [Browser](http://www.ict4lt.org/en/en_glossary.htm#browser) when the user visits a website for the first time. Websites use cookies to recognise users who have previously visited them. The next time that the user visits that site, the information in the cookie is sent back to the site so that the site can tailor what it presents to the user, e.g. tastes in music or shopping habits.

**Copyright:**New technologies have raised all kinds of new issues relating to copyright - mainly because it has become so easy to copy materials from a variety of digital sources. We have produced a Web page at the ICT4LT site: [General guidelines on copyright](http://www.ict4lt.org/en/en_copyright.htm).

**Course Management System (CMS):** A type of [Virtual Learning Environment (VLE)](http://www.ict4lt.org/en/en_glossary.htm#virtual), e.g. [Moodle](http://www.ict4lt.org/en/en_glossary.htm#moodle).

**Courseware:** A set of computerised lessons, exercises, tests and reference material.

**CPD:**Abbreviation for [Continuing Professional Development](http://www.ict4lt.org/en/en_glossary.htm#contprof).

**CPU:** Abbreviation for [Central Processing Unit](http://www.ict4lt.org/en/en_glossary.htm#centproc).

**Crash:**A term describing what happens to hardware or software when it suddenly fails to work properly. The commonest symptom of a crash is the "frozen screen", i.e. when the keyboard and/or mouse goes dead with the result that nothing can be typed and the [Cursor](http://www.ict4lt.org/en/en_glossary.htm#cursor) cannot be moved around the screen. Modern computers typically crash several times a day. Most crashes are not serious and are simply the result of faulty programming - i.e. most programming. Some kinds of crashes can be symptomatic of more serious problems, however, and should be investigated if they keep occurring. Operating systems themselves, e.g. *Microsoft Windows*, are particularly prone to crashes. See [Operating System](http://www.ict4lt.org/en/en_glossary.htm#opsys), [Windows](http://www.ict4lt.org/en/en_glossary.htm#windows).

**Crawler:** A *crawler* is a program that searches the Web for new links, new content and changes in order to keep [Search Engine](http://www.ict4lt.org/en/en_glossary.htm#searcheng) results up to date. A crawler may also be called a *bot* (short for *robot*) or*spider*. Crawlers within search engines perform a useful indexing function, but there are also crawlers or bots that have more sinister motives, such as gathering addresses to be targeted by spammers. See[Spam](http://www.ict4lt.org/en/en_glossary.htm#spam), [Spambot](http://www.ict4lt.org/en/en_glossary.htm#spambot), [Spyware](http://www.ict4lt.org/en/en_glossary.htm#spyware).

**CRT:**Abbreviation for [Cathode Ray Tube](http://www.ict4lt.org/en/en_glossary.htm#cathode).

**Ctrl Key:** The *Ctrl keys* can be found on either side of the space bar on a computer keyboard. They are used in conjunction with other keys as "shortcuts" for operations that would normally be carried out with a [Mouse](http://www.ict4lt.org/en/en_glossary.htm#mouse), e.g. Ctrl + S will save a file that you are working on. It is also possible to program the Ctrl keys to carry out operations that you specify yourself, e.g. for typing foreign characters. See[Section 5, Module 1.3](http://www.ict4lt.org/en/en_mod1-3.htm#forchars), headed *Typing foreign characters*.

**CSS:** Abbreviation for [Cascading Style Sheets](http://www.ict4lt.org/en/en_glossary.htm#cascading).

**CUI:**Abbreviation for [Character User Interface](http://www.ict4lt.org/en/en_glossary.htm#character).

**Cursor:** The pointer which appears on screen and is controlled by a *pointing device*, such as a *mouse*. The *cursor* usually has the shape of an arrow, but can also take other shapes: e.g. an*I-beam* in a document, an hourglass whilst an operation is under way, or the graphic image of a hand over a [Hyperlink](http://www.ict4lt.org/en/en_glossary.htm#hyperlink). See [I-Beam](http://www.ict4lt.org/en/en_glossary.htm#ibeam), [Mouse](http://www.ict4lt.org/en/en_glossary.htm#mouse), [Pointing Device](http://www.ict4lt.org/en/en_glossary.htm#pointing).

**Cyberspace:** William Gibson coined this phrase in his novel *Neuromancer*, first published in 1984 - some years before the World Wide Web was invented: "Cyberspace. A consensual hallucination experienced daily by billions of legitimate operators, in every nation, by children being taught mathematical concepts... A graphic representation of data abstracted from the banks of every computer in the human system. Unthinkable complexity. Lines of light ranged in the nonspace of the mind, clusters and constellations of data. Like city lights, receding..." Today the word *cyberspace* is used to refer to the world of the Internet, more specifically the World Wide Web. See [Internet](http://www.ict4lt.org/en/en_glossary.htm#internet), [World Wide Web](http://www.ict4lt.org/en/en_glossary.htm#wwweb).

**Cybersquatter:** A term normally used to describe someone who registers the name of a popular Web address - usually a company name - with the intent of selling it to its rightful owner at a high price. Cybersquatters also watch out for registered domain names that become available when the owner has no further use for them, goes bankrupt, or simply forgets to pay their registration renewal fees. This can lead to perfectly harmless and legitimate sites being transmogrified overnight into sites containing offensive material. See Graham Davies's article on "Dodgy links":<http://www.camsoftpartners.co.uk/DodgyLinks.htm>. See also [Linkrot](http://www.ict4lt.org/en/en_glossary.htm#linkrot).

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**D**

**Data:**Strictly speaking the plural of "datum",but now usually considered as a collective noun in the singular, with the plural form "data items" or "items of data". Data is information in a form which can be processed by a computer. It is usually distinguished from a *computer program*, which is a set of instructions that a computer carries out. Data can be text or sets of figures on which a computer program operates. See [Computer Program](http://www.ict4lt.org/en/en_glossary.htm#computerprog).

**Database:** A structured collection of data that can be used for a variety of purposes. Databases are usually stored on a [Hard Disc](http://www.ict4lt.org/en/en_glossary.htm#harddisc) inside your computer, on a CD-ROM, or at a website. A database may contain data relating to staff employed by a company or to students at an educational institution. Databases can also contain bibliographies, glossaries, vocab lists, etc. In order to set up and manage a database you need a database program such as [Microsoft Access](http://www.ict4lt.org/en/en_glossary.htm#access).

**Data Driven Learning (DDL):**An approach to language learning pioneered by Tim Johns, University of Birmingham, whereby learners of a foreign language gain insights into the language that they are learning by using concordance programs to locate authentic examples of language in use. In DDL the learning process is no longer based solely on the teacher's initiative, his/her choice of topics and materials and the explicit teaching of rules, but on the learner's own discovery of rules, principles and patterns of usage in the foreign language. In other words, learning is driven by authentic language data. See [Concordance Program](http://www.ict4lt.org/en/en_glossary.htm#concprog). See [Module 2.4](http://www.ict4lt.org/en/en_mod2-4.htm), *Using concordance programs in the Modern Foreign Languages classroom*, and [Module 3.4](http://www.ict4lt.org/en/en_mod3-4.htm), *Corpus linguistics*.

**Data Projector:** A device that enables the image displayed on a computer screen to be projected onto a wall screen or [Interactive Whiteboard](http://www.ict4lt.org/en/en_glossary.htm#iaw).

**DBMS:**Abbreviation for Database Management System. An [Application](http://www.ict4lt.org/en/en_glossary.htm#application) enabling the storage, modification, retrieval, and querying of data in a [Database](http://www.ict4lt.org/en/en_glossary.htm#database).

**DDL:**Abbreviation for [Data Driven Learning](http://www.ict4lt.org/en/en_glossary.htm#ddl).

**Debug:** To test a program and remove all the bugs. Permanent bugs that defy eradication are often referred to ironically as "features". See [Bug](http://www.ict4lt.org/en/en_glossary.htm#bug).

**Default:**A setting or value automatically assigned to a computer program or device in the absence of a choice made by the user. When you use a program for the first time, e.g. a [Browser](http://www.ict4lt.org/en/en_glossary.htm#browser) or [Word-processor](http://www.ict4lt.org/en/en_glossary.htm#wordproc), all the settings will have been preset to their *default values* - many of which can be changed to settings that you prefer, e.g. the *default* font type and size. The term *default route* is used in connection with Computer Assisted Language Learning, meaning the route that the teacher believes to be optimal for the learner to follow in a computer program or suite of programs - but which can be overridden by the learner if s/he wishes to follow his/her own route: see Section [3.4, Module 2.1](http://www.ict4lt.org/en/en_mod2-1.htm#sec3.4), headed*Modes of teaching and learning*.

**Defrag:** Short for *defragment*. A process run by a defragging program (usually supplied as part of *Microsoft Windows*) whereby parts of data files scattered around different segments of a computer hard disc are gathered together into continuous file segments. This makes applications run more efficiently and also frees up disc space.

**Desktop:**The main workspace in [Windows](http://www.ict4lt.org/en/en_glossary.htm#windows) is often referred to as a *desktop*, which is displayed on the screen that you see when *Windows* is started. This electronic desktop is a metaphor for the top of a real desktop, where jobs to be done are laid out in different folders symbolised by [Icons](http://www.ict4lt.org/en/en_glossary.htm#icon), i.e. small images. Users open and work with programs by clicking on the icons on the desktop, and they can also store shortcuts to documents or websites there. But see also next entry, [Desktop Computer](http://www.ict4lt.org/en/en_glossary.htm#desktopcomp).

**Desktop Computer:** A desktop computer is one that is designed to sit permanently on a desk, as opposed to a portable computer, e.g. [Laptop Computer](http://www.ict4lt.org/en/en_glossary.htm#laptop), [Netbook](http://www.ict4lt.org/en/en_glossary.htm#netbook), [Notebook Computer](http://www.ict4lt.org/en/en_glossary.htm#notebook) and [Tablet Computer](http://www.ict4lt.org/en/en_glossary.htm#tabletcomp), all of which can easily be carried around.

**Desktop Publishing (DTP):** An [Application](http://www.ict4lt.org/en/en_glossary.htm#application) for laying out text, graphics and pictures in order to produce a professional-looking publication. Most modern word-processors can now achieve what older DTP packages were capable of producing. Examples of DTP applications are *QuarkXpress* and *PageMaker*, which have probably become too complex and technical for the inexperienced user and are now aimed at the professional graphic designer or layout artist. See [Word-processor](http://www.ict4lt.org/en/en_glossary.htm#wordproc).

**Device Driver:** [Software](http://www.ict4lt.org/en/en_glossary.htm#software) that enables a computer to communicate with a hardware device such as a [Mouse](http://www.ict4lt.org/en/en_glossary.htm#mouse), [Printer](http://www.ict4lt.org/en/en_glossary.htm#printer) or [Scanner](http://www.ict4lt.org/en/en_glossary.htm#scanner). Hardware devices must each have the proper *device driver* installed in order to enable them to run. Most hardware devices are supplied with small programs that are installed onto your hard drive when you use them for the first time and tell the computer how to communicate with that specific device.

**Diacritic:** A mark such as an acute, grave or circumflex accent, a cedilla, or an umlaut, which is added to a letter to give it a special phonetic value. Characters with diacritics can be typed on standard computer keyboards by using the [Alt Key](http://www.ict4lt.org/en/en_glossary.htm#altkey) in combination with a sequence of numbers. [Section 5, Module 1.3](http://www.ict4lt.org/en/en_mod1-3.htm#forchars), headed *Typing foreign characters*.

**DIALANG:**See [Section 2.2.1, Module 4.1](http://www.ict4lt.org/en/en_mod4-1.htm#dialang), headed *The DIALANG diagnostic testing project*.

**Dial-up Modem:** An older type of [Modem](http://www.ict4lt.org/en/en_glossary.htm#modem) that connects a computer to the [Internet](http://www.ict4lt.org/en/en_glossary.htm#internet) via a standard telephone line. Typically a *dial-up modem*connects to the Internet at a very slow data transmission speed of only 56 Kbps, whereas a modern [Broadband](http://www.ict4lt.org/en/en_glossary.htm#broadband) modem connects to the Internet at 512 Kbps or much higher. Because dial-up access uses normal telephone lines, the quality of the connection is often poor. See [Kbps](http://www.ict4lt.org/en/en_glossary.htm#kbps).

**Digital:**The essential meaning of this term is "based on numbers". The modern computer is a typical example of digital technology, so are CD-ROMs, DVD-ROMs, audio CDs and video DVDs, on which numbers are coded as a string of tiny pits pressed into a plastic disc. When a CD audio recording or a DVD video recording is played back, using equipment incorporating a laser as a reading device, the exact numeric values are retrieved and converted into sound or images. Digital recording is relatively free from noise and interference and gives a very high quality of reproduction. Data (including audio and video) or programs stored on [CD-ROM](http://www.ict4lt.org/en/en_glossary.htm#cdrom) or [DVD](http://www.ict4lt.org/en/en_glossary.htm#dvd) can be read by a computer in a similar way. There are two major benefits to digital technology. Firstly, digital technology - because it is based on numbers - is more precise. Secondly, digital technology is becoming cheaper and more powerful. Digital technology is now used in radio and TV broadcasts. Digital recordings made from any source (audio- or videocassettes, television, radio, Internet, satellite TV, microphone or [Camcorder](http://www.ict4lt.org/en/en_glossary.htm#camcorder)) can be edited easily, then stored on a computer's [Hard Disc](http://www.ict4lt.org/en/en_glossary.htm#harddisc), [CD-ROM](http://www.ict4lt.org/en/en_glossary.htm#cdrom), [DVD](http://www.ict4lt.org/en/en_glossary.htm#dvd), [Flash Drive](http://www.ict4lt.org/en/en_glossary.htm#flashdrive), [Memory Stick](http://www.ict4lt.org/en/en_glossary.htm#memorystick), etc. They can be copied without quality loss and, more significantly, can be used by more than one learner at the same time. See the contrasting term [Analogue](http://www.ict4lt.org/en/en_glossary.htm#analogue).

**Digital Camera:**A camera used for taking still photographs - but some digital cameras can also record short sequences of moving images. A digital camera looks much the same as an ordinary camera but stores photographs in electronic format so that they can be *uploaded* computer via a [USB](http://www.ict4lt.org/en/en_glossary.htm#universal) cable to a computer. The more expensive digital cameras achieve better results than can be achieved by using an ordinary camera and a *scanner*. See [Camcorder](http://www.ict4lt.org/en/en_glossary.htm#camcorder), [Scanner](http://www.ict4lt.org/en/en_glossary.htm#scanner), [Upload](http://www.ict4lt.org/en/en_glossary.htm#upload).

**Digital Video Disc**or **Digital Versatile Disc (DVD):** A *Digital Video Disc* or *Digital Versatile Disc* is an [Optical Disc](http://www.ict4lt.org/en/en_glossary.htm#optdisc) that is capable of storing high-quality video as well as other forms of data, e.g. programs, text, still pictures and graphics. It is possible that DVDs will completely replace CD-ROMs in the not-too-distant future. DVDs can be read or written to on multimedia computers equipped with a DVD drive or [Combination Drive](http://www.ict4lt.org/en/en_glossary.htm#combodrive). See [CD-ROM,](http://www.ict4lt.org/en/en_glossary.htm#cdrom) See [Section 1.2.1, Module 1.2](http://www.ict4lt.org/en/en_mod1-2.htm#cdromdvd) and [Module 2.2](http://www.ict4lt.org/en/en_mod2-2.htm).

**Digitise / Digitize:**To translate into a digital form, i.e. numbers. For example, scanners *digitise* images by translating them into *bitmaps*, i.e. thousands of individual dots or *pixels*. It is also possible to digitise sound and video by [Sampling](http://www.ict4lt.org/en/en_glossary.htm#sampling) at discrete intervals. To digitise sound, for example, a device measures a sound wave's characteristics many times per second and converts them into numeric values which can then be recorded. See [Analogue](http://www.ict4lt.org/en/en_glossary.htm#analogue), [Bitmap](http://www.ict4lt.org/en/en_glossary.htm#bitmap), [Digital](http://www.ict4lt.org/en/en_glossary.htm#digital). [Pixel](http://www.ict4lt.org/en/en_glossary.htm#pixel).

**Directory:** A location on a disc containing a group of *files*and *subdirectories* grouped together for organisational purposes. The term is used synonymously with [Folder](http://www.ict4lt.org/en/en_glossary.htm#folder), which has become a more common term since the introduction of [Windows](http://www.ict4lt.org/en/en_glossary.htm#windows). Subdirectories are sometimes referred to as "child directories" of the "parent directory". The topmost directory on a computer, which is the parent of all directories on the disc, is known as the *root directory* and usually has the *pathname* C:\. See [File](http://www.ict4lt.org/en/en_glossary.htm#file), [Pathname](http://www.ict4lt.org/en/en_glossary.htm#pathname), [Root Directory](http://www.ict4lt.org/en/en_glossary.htm#root).

**Discussion List:** An electronic *discussion list* - also known as a [Forum](http://www.ict4lt.org/en/en_glossary.htm#forum) - is a way of sharing emails with the members of a group of people with a common interest. Members of a discussion list usually have to subscribe to the list by sending a message by email to the list server (the computer which manages the list), and thereafter they receive copies of all other messages sent to the list by other subscribers. The list administrator has control over list membership and, if necessary, the content of messages. The archives of discussion lists, i.e. previously posted messages, are usually made available at a website. See also [Blog](http://www.ict4lt.org/en/en_glossary.htm#blog), [Bulletin Board](http://www.ict4lt.org/en/en_glossary.htm#bulletin), [Forum](http://www.ict4lt.org/en/en_glossary.htm#forum), [Newsgroup](http://www.ict4lt.org/en/en_glossary.htm#newsgroup), [Wiki](http://www.ict4lt.org/en/en_glossary.htm#wiki). See [Section 12, Module 1.5](http://www.ict4lt.org/en/en_mod1-5.htm#anchordiscuss), headed *Discussion lists, blogs, wikis, social networking*.

**Disc:** Often spelt "disk", the alternative (mainly American) spelling. A *disc* may take several different forms and is used for the permanent or temporary storage of data that can be read by a computer. See[CD-ROM](http://www.ict4lt.org/en/en_glossary.htm#cdrom), [DVD](http://www.ict4lt.org/en/en_glossary.htm#dvd), [Floppy Disc](http://www.ict4lt.org/en/en_glossary.htm#floppy), [Hard Disc](http://www.ict4lt.org/en/en_glossary.htm#harddisc), [Storage Device](http://www.ict4lt.org/en/en_glossary.htm#storagedev).

**Disc Drive:** A device within or connected to a computer that enables data to be read from and written onto a disc. See [CD-ROM](http://www.ict4lt.org/en/en_glossary.htm#cdrom), [Disc](http://www.ict4lt.org/en/en_glossary.htm#disc), [DVD](http://www.ict4lt.org/en/en_glossary.htm#dvd), [Floppy Disc](http://www.ict4lt.org/en/en_glossary.htm#floppy), [Hard Disc](http://www.ict4lt.org/en/en_glossary.htm#harddisc). See [Section 1.1.5, Module 1.2](http://www.ict4lt.org/en/en_mod1-2.htm#discdrives)for further information on disc drives

**Display Screen:**The screen on which output from a computer is displayed. Also referred to as a [Monitor](http://www.ict4lt.org/en/en_glossary.htm#monitor). Older computers used a [Cathode Ray Tube](http://www.ict4lt.org/en/en_glossary.htm#cathode), which is essentially the same as that used in older domestic TV sets. Newer types of display screens are of the [LCD](http://www.ict4lt.org/en/en_glossary.htm#lcd)or [TFT](http://www.ict4lt.org/en/en_glossary.htm#tft) flat panel type - like many modern TV sets. They are much lighter, use less electricity and take up less room on your desk. See[Section 1.1.2, Module 1.2](http://www.ict4lt.org/en/en_mod1-2.htm#monitor) for further information and illustrations of different types of display screens.

**Disruptive Technology / Disruptive Innovation:**Terms that appear in Christensen C. (1997) *The innovator's dilemma*, Cambridge, Massachusetts: Harvard Business School Press and Christensen C. & Raynor M. (2003) *The innovator's solution,* Cambridge, Massachusetts: Harvard Business School Press. A disruptive technology is a technological innovation, product or service that eventually overturns the existing dominant technology in the market even though it may initially perform worse than its predecessors and cause a great deal of inconvenience in the course of adopting it. See<http://en.wikipedia.org/wiki/Disruptive_technology>

**Distance Learning:**A form of learning that takes place where the teachers and the students are in physically separate locations. *Distance learning* can be either [Asynchronous](http://www.ict4lt.org/en/en_glossary.htm#asynchron) or[Synchronous](http://www.ict4lt.org/en/en_glossary.htm#synchron). Traditional distance learning includes the mailing of printed materials, correspondence between teachers and students in writing, contact by telephone, and radio and television broadcasts. More recently, distance learning has included [E-learning](http://www.ict4lt.org/en/en_glossary.htm#elearn) and/or [Online Learning](http://www.ict4lt.org/en/en_glossary.htm#onlinelearn). The British Open University (OU) is one of the oldest established distance-learning establishments to have embraced existing technologies, i.e. radio and television, when it was set up in the 1960s. The OU continues to embrace new distance learning technologies as they become more widely available. See the OU Web page on [What is distance learning?](http://www8.open.ac.uk/study/explained/what-is-distance-learning) See also [Blended Learning](http://www.ict4lt.org/en/en_glossary.htm#blended), [Virtual Learning Environment (VLE)](http://www.ict4lt.org/en/en_glossary.htm#virtual).

**Dithering:** The technique of combining dots of primary colours to give the appearance of intermediate colours. Dots are combined in a square area, known as a *dither matrix,* to simulate a dot of an intermediate colour.

**DNS:**Abbreviation for [Domain Name Server](http://www.ict4lt.org/en/en_glossary.htm#domnameserve).

**DOC:**The standard three-letter [Extension](http://www.ict4lt.org/en/en_glossary.htm#extension) to a document file produced by *Microsoft Word*.

**Domain Name:** A unique name that identifies a [Website](http://www.ict4lt.org/en/en_glossary.htm#website). A domain name can be purchased from and registered by a *domain name* registration company, e.g. our name **ict4lt.org** was purchased from*Amenworld*: [http://www.amenworld.com](http://www.amenworld.com/). Such companies also provide a service that will check if a required name is available for purchase. Domain names always have two or more parts, separated by dots. The part on the left side is specific and the one one the right is more general. Our website's domain name is divided into two parts, **ict4lt** and **org**, the former part being our project name and the latter indicating what kind of body we are: **org** = "organisation". Our domain name is therefore **ict4lt.org**. Universities' domain names in the UK always end in **ac.uk**= "academic UK". UK-based companies can often be identified by **co.uk**. See [Section 6.1, Module 3.3](http://www.ict4lt.org/en/en_mod3-3.htm#domain), headed *Domain names*. See [Host Name](http://www.ict4lt.org/en/en_glossary.htm#hostname).

**Domain Name Server (DNS):** See [Domain Name](http://www.ict4lt.org/en/en_glossary.htm#domainname), [Name Server](http://www.ict4lt.org/en/en_glossary.htm#nameserver).

**DOS:**Short for [MS DOS](http://www.ict4lt.org/en/en_glossary.htm#msdos).

**Dot Matrix Printer:** An older type of printer that works by firing sets of pins in different combinations at an ink ribbon located against a sheet of paper. Such printers produce text that looks "ragged". Laser printers and ink-jet printers are now much more common.. See [Printer](http://www.ict4lt.org/en/en_glossary.htm#printer).

**Download:**To transfer a copy of data, a computer program, a text file, an image file, a sound file or video file from one computer to another computer. This is the main means of obtaining data and programs from the World Wide Web. See [Upload](http://www.ict4lt.org/en/en_glossary.htm#upload), [World Wide Web](http://www.ict4lt.org/en/en_glossary.htm#wwweb).

**Download Accelerator:** Downloading large files from the Web can be tedious. If you connect to the Internet via a slow [Dial-up Modem](http://www.ict4lt.org/en/en_glossary.htm#dialup) then you might as well make yourself a cup of coffee or take the dog for a walk while you are waiting. You may, however, find that the download process has been timed out or crashed before it has been completed. A *download accelerator* is therefore essential if you use a dial-up modem, and it can help manage and speed up the process of downloading if you have a [Broadband](http://www.ict4lt.org/en/en_glossary.htm#broadband) connection to the Internet. See Section[3.5.1, Module 2.3](http://www.ict4lt.org/en/en_mod2-3.htm#audiovidweb), headed*Delivering and receiving audio and video over the Internet*.

**dpi:** Abbreviation for **Dots Per Inch**. A measure of the of the quality of output, i.e. the number of dots per square inchproduced by a *printer* or *scanner*, also referred to as its *resolution*. A resolution of at least 300 dpi is considered reasonable for the production of high-quality output by a printer and 1200 dpi by a scanner, but modern printers and scanners can produce many more dots per square inch. The resolution of a scanner may also be expressed by two numbers. These are mostly the same, e.g. 1200 x 1200, but you may also see 1200 x 2400, which means that the number of horizontal dots is different from the number of vertical dots. See [Printer](http://www.ict4lt.org/en/en_glossary.htm#printer), [Resolution](http://www.ict4lt.org/en/en_glossary.htm#resolution), [Scanner](http://www.ict4lt.org/en/en_glossary.htm#scanner).

**DTP:**Abbreviation for [Desktop Publishing](http://www.ict4lt.org/en/en_glossary.htm#desktoppub).

**DVD:**Abbreviation for [Digital Video Disc](http://www.ict4lt.org/en/en_glossary.htm#dvd) or [Digital Versatile Disc](http://www.ict4lt.org/en/en_glossary.htm#dvd)

**Dynamic Microphone:** This type of microphone is often used in multimedia CALL programs when the learner has to record his/her own voice. The main drawback of this type of microphone is that it requires considerable amplification and may result in very faint playback on some systems. This type of microphone is often popularly referred to as a *karaoke microphone*. The other main type of microphone, the [Condenser Microphone](http://www.ict4lt.org/en/en_glossary.htm#condenser), provides a stronger signal. See [Microphone](http://www.ict4lt.org/en/en_glossary.htm#microphone),[Sound Card](http://www.ict4lt.org/en/en_glossary.htm#soundcard). See [Section 1.2.4, Module 1.2](http://www.ict4lt.org/en/en_mod1-2.htm#mic) for further information on microphones.

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**E**

**ECDL:**Abbreviation for [European Computer Driving Licence](http://www.ict4lt.org/en/en_glossary.htm#eurodrive).

**E-learning:***E-learning*(electronic learning) has become a buzzword in recent years, but it is widely misunderstood and often associated with a limited view of e-learning. Ask a dozen people what they understand by e-learning and most will probably say that it involves using a computer to access materials on the [Web](http://www.ict4lt.org/en/en_glossary.htm#wwweb) or to follow a distance-learning course using a [Virtual Learning Environment (VLE)](http://www.ict4lt.org/en/en_glossary.htm#virtual). Here is the definition given in the UK government's consultation document *Towards a unified e-learning strategy*, July 2003:

If someone is learning in a way that uses Information and Communications Technologies (ICTs), they are using e-learning. They could be a pre-school child playing an interactive game; they could be a group of pupils collaborating on a history project with pupils in another country via the Internet; they could be geography students watching an animated diagram of a volcanic eruption their lecturer has just downloaded; they could be a nurse taking her driving theory test online with a reading aid to help her dyslexia - it all counts as e-learning.

In other words, this is a catch-all definition relating to the use of ICT in teaching and learning: if you are using a computer to learn something then you are using e-learning. The whole of the ICT4LT website is, therefore, in this sense all about e-learning in the context of teaching and learning foreign languages, and this is one reason why you will not find a section headed specifically *E-learning* in the ICT4LT modules. Because of a lack of agreement on what e-learning is all about, it probably makes sense to use the term [Online Learning](http://www.ict4lt.org/en/en_glossary.htm#onlinelearn) when talking generally about distance learning on the Internet and to use[CALL](http://www.ict4lt.org/en/en_glossary.htm#call) as a catch-all term for the use of ICT in language teaching and learning. See also [Blended Learning](http://www.ict4lt.org/en/en_glossary.htm#blended), [Distance Learning](http://www.ict4lt.org/en/en_glossary.htm#distancelearn), [Virtual Learning Environment (VLE)](http://www.ict4lt.org/en/en_glossary.htm#virtual). See the entry under **E-learning** in[Section 1, Module 1.1](http://www.ict4lt.org/en/en_mod1-1.htm#elearning), headed *Definitions of terms*.

**Electronic Mail:**See [Email](http://www.ict4lt.org/en/en_glossary.htm#email).

**Electronic Whiteboard:**More commonly referred to as an [Interactive Whiteboard](http://www.ict4lt.org/en/en_glossary.htm#iaw) these days.

**Email:**Contraction of Electronic Mail. A system for creating, sending and receiving messages via the [Internet](http://www.ict4lt.org/en/en_glossary.htm#internet). In order to send and receive email messages you have to register with an [Internet Service Provider (ISP)](http://www.ict4lt.org/en/en_glossary.htm#internetserv) that provides an *email service* and have *email software* such as [Outlook](http://www.ict4lt.org/en/en_glossary.htm#outlook) or [Eudora](http://www.ict4lt.org/en/en_glossary.htm#eudora) installed on your computer. Many ISPs also offer a [Webmail](http://www.ict4lt.org/en/en_glossary.htm#webmail) facility, which provides an alternative means of creating, sending and receiving email messages using your Web [Browser](http://www.ict4lt.org/en/en_glossary.htm#browser). See [Section 14, Module 1.5](http://www.ict4lt.org/en/en_mod1-5.htm#compmedcomm), headed *Computer Mediated Communication (CMC)*.

**Encryption:**A system of coding that helps prevent access to private information on computer networks or on the Web.

**End-user:** The final user of a piece of [Software](http://www.ict4lt.org/en/en_glossary.htm#software) or [Hardware](http://www.ict4lt.org/en/en_glossary.htm#hardware), i.e. the individual person for whom the product is created, as distinct from the people who create and produce the product.

**EPS:** Abbreviation for Encapsulated Postscript. A file format that is used mainly for printing images on a [Postscript Printer](http://www.ict4lt.org/en/en_glossary.htm#postscriptprint). See also [BMP](http://www.ict4lt.org/en/en_glossary.htm#bmp), [GIF](http://www.ict4lt.org/en/en_glossary.htm#gif), [JPEG/JPG](http://www.ict4lt.org/en/en_glossary.htm#jpeg), [TIFF](http://www.ict4lt.org/en/en_glossary.htm#tiff), which are other image file formats.

**Error Diagnosis:**A feature of [CALL](http://www.ict4lt.org/en/en_glossary.htm#call) programs whereby the computer attempts to diagnose the nature of errors the learner makes and to branch to remedial exercises. This approach to CALL appears to have fallen out of fashion in recent years. See [Response Analysis](http://www.ict4lt.org/en/en_glossary.htm#responseanalysis), a term with a similar meaning.

**Eudora:**A popular [Email](http://www.ict4lt.org/en/en_glossary.htm#email) program. Available at [http://www.eudora.com](http://www.eudora.com/)

**EUROCALL:**The Europe-based professional association for CALL, founded in 1986: [http://www.eurocall-languages.org](http://www.eurocall-languages.org/)

[European Computer Driving Licence (ECDL)](http://www.bcs.org/category/14424" \t "_blank): An internationally recognised qualification in ICT. See also the [ECDL for Schools](http://www.educatorsecdl.com/), which is designed specifically to help teachers, support staff and ICT coordinators develop practical computing skills for teaching and learning in the classroom and leads to an internationally recognised level of certification.

**Excel:** The name of a [Spreadsheet](http://www.ict4lt.org/en/en_glossary.htm#spreadsheet) program forming part of the [*Microsoft Office*](http://www.ict4lt.org/en/en_glossary.htm#msoffice) suite of programs.

**Executable:** This describes a program which has been converted (compiled) into binary machine code. If you double-click on an executable program name in *Windows Explorer*, it will immediately*execute* itself - i.e. run. Executables usually have the [Extension](http://www.ict4lt.org/en/en_glossary.htm#extension) **.exe** or **.com**. See [Compiler](http://www.ict4lt.org/en/en_glossary.htm#compiler), [Machine Code](http://www.ict4lt.org/en/en_glossary.htm#machinecode).

**Expansion Slot:** A long, multi-pin socket on the computer's [Motherboard](http://www.ict4lt.org/en/en_glossary.htm#motherboard) into which an add-on card (such as a [Sound Card](http://www.ict4lt.org/en/en_glossary.htm#soundcard)) can be inserted to enhance the computer's capabilities.

**Extension:** In computer jargon an *extension* is an optional addition, usually consisting of a dot plus three or four letters, to the name of a [File](http://www.ict4lt.org/en/en_glossary.htm#file). The extension to the filename helps the computer (and the user) recognise what type of file it is and what it may contain, e.g. **.doc** is a *Word* document file, **.exe** is a computer program, **.jpg** or **.jpeg** is a picture file, and **.htm** or **.html** is a Web page file. See the following websites for further information on file extensions, what they mean, and links to sites offering utilities for managing and converting different types of files:

* **Dot What!?** [http://www.dotwhat.net](http://www.dotwhat.net/)
* **File Extensions:** [http://www.file-extensions.org](http://www.file-extensions.org/)
* **Fileinfo:**[http://www.fileinfo.com](http://www.fileinfo.com/)

[Top](http://www.ict4lt.org/en/en_glossary.htm#GlossTop)

**F**

**FAQ:** Abbreviation for Frequently Asked Question. The ICT4LT project's list of FAQs is located [here](http://www.ict4lt.org/en/en_faqs.htm).

**Favorites:** A facility within the *Internet Explorer* [Browser](http://www.ict4lt.org/en/en_glossary.htm#browser) that enables you to keep a record of Web pages that you have visited and may wish to visit again. Also known as *bookmarks*: see [Bookmark](http://www.ict4lt.org/en/en_glossary.htm#bookmark).*Favorites* are stored in a subdirectory of the [Windows](http://www.ict4lt.org/en/en_glossary.htm#windows) directory on your computer. Note the American spelling rather than British *Favourites*. This arose because *Internet Explorer* is a product of the American Microsoft Corporation.

**Feedback:**Feedback is an automatic response from a computer, which may take the form of text, image, audio, video or any combination of these, to a learner's input. Input from the learner may take various forms, e.g. (i) clicking with the mouse to select an answer in a multiple-choice exercise, (ii) typing an answer at the computer keyboard, or (iii) speaking an answer into a microphone. Feedback in interactive language learning materials should go beyond a "boing" (wrong) or "applause" (right) or "try again" message and attempt to mimic the "live" situation when using the language results in either a response from the other person or an action showing that the language used was appropriate. Feedback is often described as *intrinsic* (implicit) or *extrinsic* (explicit). See [Section 7.2 , Module 1.1](http://www.ict4lt.org/en/en_mod1-1.htm#7.2), headed *Feedback*, and [Section 8, Module 2.5](http://www.ict4lt.org/en/en_mod2-5.htm#feedback), headed *How to factor feedback into your authoring*, on the distinction between **intrinsic feedback** and **extrinsic feedback**.

**File:**A *file* in computer jargon can be used to describe many different things. It may be a [Computer Program](http://www.ict4lt.org/en/en_glossary.htm#computerprog), a document file created with a [Word-processor](http://www.ict4lt.org/en/en_glossary.htm#wordproc), an image file, an audio file, a video file, etc. Think of it in the same way as you would think of a file in a filing cabinet. A file has a name that describes what it is, and the file is stored in a place where you can easily find it. Files are usually grouped together on a computer's [Hard Disc](http://www.ict4lt.org/en/en_glossary.htm#harddisc) in *directories* or *folders* and, as well as their names, they usually have a three-letter [Extension](http://www.ict4lt.org/en/en_glossary.htm#extension) that tell you what their function is or what they contain, e.g. **fwtt.exe** is a program, **mystory.doc** is a *Word* document, **sally.jpg** is a picture, and **mydog.mpg** is a video file. Files may also be stored on [CD-ROMs](http://www.ict4lt.org/en/en_glossary.htm#cdrom), [DVDs](http://www.ict4lt.org/en/en_glossary.htm#dvd) and [Flash Drives](http://www.ict4lt.org/en/en_glossary.htm#flashdrive). See [Directory](http://www.ict4lt.org/en/en_glossary.htm#directory), [Extension](http://www.ict4lt.org/en/en_glossary.htm#extension), [Folder](http://www.ict4lt.org/en/en_glossary.htm#folder), .

**Filename:** The name of a [File](http://www.ict4lt.org/en/en_glossary.htm#file) on a computer.

**File Permissions:**Files stored on a computer usually have *permissions* governing which users are allowed to read, amend or execute them. This is particularly important in a a school, college or university network environment, where teachers and lecturers may have the permission to amend certain files, e.g. documents that they have created, but students are only allowed to read them. File permissions are usually determined by network managers.

**File Transfer Protocol:**See [FTP](http://www.ict4lt.org/en/en_glossary.htm#ftp).

**Firewall**: A *firewall* is a software package that sits between your computer and your Internet connection, keeping an eye on the traffic going to and fro. If anything suspicious appears, such as an unauthorised attempt from a remote computer to write information to your hard disc or to send information from your computer to a remote computer, it will block it and warn you. Firewalls have become essential these days because of the frequent attempts being made by *hackers* to grab confidential information from computers all around the world, e.g. your bank or credit card details, which may be stored in a file somewhere on your computer. Any computer is vulnerable while it is connected to the Internet. The author of this paragraph writes from personal experience: two attempts have been made by hackers to grab passwords from his computer. Both attempts were fortunately spotted by his Internet Service Provider and blocked, so no damage was done. If you access the Internet via a computer in a public or commercial organisation your ICT services department has almost certainly installed a firewall, but if you access the Internet via your personal computer then you should make sure that you install your own firewall. In addition you should install an *anti-virus package*. See [Hacker](http://www.ict4lt.org/en/en_glossary.htm#hacker), [Virus](http://www.ict4lt.org/en/en_glossary.htm#virus).

**Firewire:**A *firewire* is in essence a facility that allows you to transfer video recordings very quickly from one device to another, e.g. from a [Camcorder](http://www.ict4lt.org/en/en_glossary.htm#camcorder) to a computer, using a special cable that connects to the computer's fireware socket. Many modern computers already have a firewire socket built in. If your computer does not have a firewire socket then you have to buy a firewire card and slot it in. See[Section 2.2.3.4, Module 2.2](http://www.ict4lt.org/en/en_mod2-2.htm#videoed), headed *Video editing software*.

**Firmware:** Software that has been written to a ROM (Read Only Memory) chip by the manufacturers. See *ROM*, *Silicon Chip*.

**Flame:** *Flame* is a term used to describe language that is rude, sarcastic or condescending, especially the language used in a [Discussion List](http://www.ict4lt.org/en/en_glossary.htm#discussion), [Forum](http://www.ict4lt.org/en/en_glossary.htm#forum) or [Blog](http://www.ict4lt.org/en/en_glossary.htm#blog). See [Troll](http://www.ict4lt.org/en/en_glossary.htm#troll). See [Section 14.1.4, Module 1.5](http://www.ict4lt.org/en/en_mod1-5.htm#netiquette), headed *Netiquette*.

**Flash Drive:** A portable [Storage Device](http://www.ict4lt.org/en/en_glossary.htm#storagedev). Flash drives look like a small flat pen, around 3cm to 5cm long, and are easily carried in your pocket. Their storage capacity is impressive; 4GB to 8GB is not unusual these days. They are used to store data that you wish to carry around, e.g. a *PowerPoint* presentation, and they can be plugged into any computer with a [USB](http://www.ict4lt.org/en/en_glossary.htm#universal) socket. Flash drives are also commonly referred to as *pen drives*or *memory sticks*. See [Section 1.1.5.4, Module 1.2](http://www.ict4lt.org/en/en_mod1-2.htm#flashdrive), which contains an illustration of a flash drive.

**Flash Player:** Software produced by Adobe for the development and viewing of animated and interactive sequences on the Web. See [Plug-in](http://www.ict4lt.org/en/en_glossary.htm#plugin). See also [Section 6.8, Module 1.5](http://www.ict4lt.org/en/en_mod1-5.htm#plug), headed*Do you need plug-ins?*

**FLV:**Abbreviation for Flash Video, a proprietary file format used to deliver video over the Web using the Adobe[Flash Player](http://www.ict4lt.org/en/en_glossary.htm#flash). See [FLV.com.](http://www.flv.com/)

**Floppy Disc:** A plastic disc covered in magnetisable material, enclosed in a case, on which data is stored magnetically. A typical 3.5-inch floppy disc can store up to 1.44MB of data. Floppy discs are used for carrying small amounts of data around from one location to another, e.g. a *Word* document or a *PowerPoint* presentation,, but they are now virtually obsolete and have been replaced by [CD-ROMs](http://www.ict4lt.org/en/en_glossary.htm#cdrom),[DVDs](http://www.ict4lt.org/en/en_glossary.htm#dvd) and [Flash Drives](http://www.ict4lt.org/en/en_glossary.htm#flashdrive).

**Folder:** An alternative word for a *directory* and which has become more common since the introduction of [Windows](http://www.ict4lt.org/en/en_glossary.htm#windows). It describes a location on a disc which contains a set of related files. A folder can be divided into sub-folders. See [Directory](http://www.ict4lt.org/en/en_glossary.htm#directory), [Pathname](http://www.ict4lt.org/en/en_glossary.htm#pathname).

**Font:**The terms *font* (also spelt *fount*) and *typeface* are often confused or interchanged. *Font* refers to a complete collection of letters, numerals, symbols and punctuation marks that have common characteristics, including their style and size. The two commonest fonts are Times New Roman, a [Serif](http://www.ict4lt.org/en/en_glossary.htm#serif) font, which is characterised by cross-lines that finish off the stroke of each letter, and Arial, a [Sans Serif](http://www.ict4lt.org/en/en_glossary.htm#sansserif) font that has no cross-lines. *Typeface* is the name given to the style of a particular set of letters, numerals, symbols and punctuation marks.

**Formatting:** The process of preparing a writeable disc for use. Formatting creates a structure on the disc which enables it to hold data.

**Forum:**Often used synonymously with [Discussion List](http://www.ict4lt.org/en/en_glossary.htm#discussion). An electronic forum on the Internet or an intranet enables users to post messages by email or via the Web for other users to read and respond to. See also [Blog](http://www.ict4lt.org/en/en_glossary.htm#blog), [Bulletin Board](http://www.ict4lt.org/en/en_glossary.htm#bulletin), [Newsgroup](http://www.ict4lt.org/en/en_glossary.htm#newsgroup), [Wiki](http://www.ict4lt.org/en/en_glossary.htm#wiki). See [Section 12, Module 1.5](http://www.ict4lt.org/en/en_mod1-5.htm#anchordiscuss), headed *Discussion lists, blogs, wikis, social networking*.

**Fourth Generation Language (4GL):** A programming language of a higher level than 3GLs such as C or Pascal - that is, the program code is closer to English, and a 4GL function might be the equivalent of many 3GL functions. 4GLs are used for writing software for specialised tasks, such as querying databases. See [Programming Language](http://www.ict4lt.org/en/en_glossary.htm#proglang).

**Frame:** A area in a Web page that scrolls independently of the rest of the Web page. A Web page can be divided into multiple frames. For example, a frame can include a navigation bar - as at the ICT4LT website - that always stays on the screen as the user moves around the other pages of the site.

**Freeware:** Software that can be copied and used without payment to the author(s), although there may be some restrictions on distribution. See [Shareware](http://www.ict4lt.org/en/en_glossary.htm#shareware).

**FTP:** Abbreviation for File Transfer Protocol. This is the method, i.e. a software standard, used for tranferring files from one computer to another via the [Internet](http://www.ict4lt.org/en/en_glossary.htm#internet). FTP is also used as a verb in the sense "to transfer" (a file). See [Anonymous FTP](http://www.ict4lt.org/en/en_glossary.htm#anon)..

**Fuzzy Matching:**A matching technique which is used in programs when allowances have to be made for inaccuracies in spelling on the part of the learner. A good fuzzy-matching routine would enable a computer to recognise the learner's input of "sichiatriste" as "psychiatrist". This technique is incorporated into spelling checkers and [Search Engines](http://www.ict4lt.org/en/en_glossary.htm#searcheng) such as [Google](http://www.ict4lt.org/en/en_glossary.htm#google), and it can be useful in [CALL](http://www.ict4lt.org/en/en_glossary.htm#call) programs where a broad interpretation of the user's input is necessary. See [Matching](http://www.ict4lt.org/en/en_glossary.htm#matching), [Partial Matching](http://www.ict4lt.org/en/en_glossary.htm#partial). See [Section 1.2, Module 1.4](http://www.ict4lt.org/en/en_mod1-4.htm#interactivity), headed *Interactivity*.

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**G**

**Gap-filler / Gap-filling program:**Still as popular as ever in [CALL](http://www.ict4lt.org/en/en_glossary.htm#call). Not to be confused with [Cloze](http://www.ict4lt.org/en/en_glossary.htm#cloze), which involves an automatic word deletion procedure. Gap-fillers are more flexible than Cloze programs. Gap-filling programs often consist of two parts: a teacher's program which allows the teacher to input a text and specify words, parts of words, or phrases that are to disappear, and a student's program which enables the learner to interact with the computer by filling in the gaps. See [Authoring Package](http://www.ict4lt.org/en/en_glossary.htm#authoringt), [Text Manipulation](http://www.ict4lt.org/en/en_glossary.htm#textmanip). See Section [8.2.3, Module 1.4](http://www.ict4lt.org/en/en_mod1-4.htm#gapfill), headed *Gap-filling*. See [Module 2.5](http://www.ict4lt.org/en/en_mod2-5.htm),*Introduction to CALL authoring programs*. See Section [5.2, Module 3.2](http://www.ict4lt.org/en/en_mod3-2.htm#gap), *headed Gap-filling exercises*.

**Gateway:** See [Portal](http://www.ict4lt.org/en/en_glossary.htm#portal).

**GB:**Abbreviation for [Gigabyte](http://www.ict4lt.org/en/en_glossary.htm#gigabyte).

**Geek:**A colloquial term describing someone who is obsessed with computers and uses them at every opportunity in their free time, mainly for "social" purposes, e.g. communication via email and blogs, playing multi-user games, etc. See also [Anorak](http://www.ict4lt.org/en/en_glossary.htm#anorak), [Nerd](http://www.ict4lt.org/en/en_glossary.htm#nerd), [Techie](http://www.ict4lt.org/en/en_glossary.htm#techie), [Trainspotter](http://www.ict4lt.org/en/en_glossary.htm#train).

**Generic CALL**: This term is normally used to describe an [Authoring Package](http://www.ict4lt.org/en/en_glossary.htm#authoringt) designed to cover all aspects of [CALL](http://www.ict4lt.org/en/en_glossary.htm#call) program authoring and interaction, from simple gap-filling and multiple-choice exercises to exercises incorporating interactive multimedia, e.g. the **MALTED** authoring package as described by Paul Bangs in [Module 2.5](http://www.ict4lt.org/en/en_mod2-5.htm).

**Generic Software / Generic Application:** This term normally refers to general-purpose software applications that are not designed for use in a specific subject area, e.g. a word-processor (e.g. *Word*), spreadsheet package (e.g. *Excel*), presentation software (e.g. *PowerPoint*) or database package (e.g. *Access*). See previous entry, *Generic CALL*.

**GHz:**Abbreviation for [GigaHertz](http://www.ict4lt.org/en/en_glossary.htm#gigahertz).

**GIF:** Abbreviation for Graphic Interchange Format. A file format used for storing simple graphics. GIF files use a palette of 256 colours, which makes them practical for almost all graphics except photographs. Generally, GIF files should be used for logos, line drawings, icons, etc, i.e. images that don't contain a rich range of colours. A GIF file containing a small number of colours tends to be quite small, but it will be big if the image has a wide range of colours, e.g. a photograph.GIF files are commonly used for storing images on the Web. GIF files are also suitable for storing animated (i.e. moving) images. See [BMP](http://www.ict4lt.org/en/en_glossary.htm#bmp), [EPS](http://www.ict4lt.org/en/en_glossary.htm#eps), [JPEG/JPG](http://www.ict4lt.org/en/en_glossary.htm#jpeg), [TIFF](http://www.ict4lt.org/en/en_glossary.htm#tiff). See also [Section 2.2.3.1, Module 2.2](http://www.ict4lt.org/en/en_mod2-2.htm#imageed), headed *Image editing software*.

**Gigabyte:**Usually abbreviated to *GB*,or*gig* in common computer parlance. A unit of measurement of computer memory or disc capacity = 1,073,741,824 bytes. See the entry on [Measurement Units](http://www.ict4lt.org/en/en_glossary.htm#measure). See [Bit](http://www.ict4lt.org/en/en_glossary.htm#bit), [Byte](http://www.ict4lt.org/en/en_glossary.htm#byte), [Kilobyte](http://www.ict4lt.org/en/en_glossary.htm#kilobyte), [Megabyte](http://www.ict4lt.org/en/en_glossary.htm#megabyte).

**GigaHertz:**Usually abbreviated to *GHz*. A unit of measurement relating to the [Clock Speed](http://www.ict4lt.org/en/en_glossary.htm#clocksp)of a computer or, put simply, a measurement of how fast its [Central Processing Unit (CPU)](http://www.ict4lt.org/en/en_glossary.htm#centproc) runs. Typical clock speeds of modern computers range from 500 [MegaHertz](http://www.ict4lt.org/en/en_glossary.htm#megahertz) (500MHz) upwards. Faster clock speeds are normally expressed in GigaHertz (= 1000MHz). See [Hertz](http://www.ict4lt.org/en/en_glossary.htm#hertz), [Microprocessor](http://www.ict4lt.org/en/en_glossary.htm#microproc).

**Google:**A popular [Search Engine](http://www.ict4lt.org/en/en_glossary.htm#searcheng). Probably the most widely used search engine on the Web. You can also use Google to find definitions of words. Call up Google at <http://www.google.co.uk/> and in the search box: type **define:** immediately in front of the word you would like to be defined. Google will then locate definitions of that word on the Web, e.g. try **define:bandwidth** or **define:ADSL**. If your term consists of two or more elements, e.g. *blended learning*, encase it in inverted commas, thus: **define:"blended learning"**. [Blended Learning](http://www.ict4lt.org/en/en_glossary.htm#blended) is also defined in this Glossary. See [Section 4, Module 1.5](http://www.ict4lt.org/en/en_mod1-5.htm#anchorsearch), headed *Search engines: How to find materials on the Web*. "To Google" is even used as a verb in the sense "to carry out a search on the Web". As well as offering a search facility, Google offers much more: maps, news, shopping, translation services, document sharing, etc.

**Gopher:** A pre-worldwide-Web method of presenting information on the Internet. Gopher servers present a hierarchical set of menus, descending from one main menu, which lead to files and documents. The spectacular rise of the World Wide Web is driving the gopher into extinction. See [Internet](http://www.ict4lt.org/en/en_glossary.htm#internet), [World Wide Web](http://www.ict4lt.org/en/en_glossary.htm#wwweb).

**Graphical User Interface (GUI):** An [Interface](http://www.ict4lt.org/en/en_glossary.htm#interface), i.e. a software package, that enables human beings to control what happens on their computers. A GUI consists of graphical elements known as *icons*and enables the user to run programs and to carry out other operations such as copying information from one [Folder](http://www.ict4lt.org/en/en_glossary.htm#folder) to another, deleting files, etc by clicking on these *icons*, opening and shutting *windows*and dragging and dropping with a *mouse*. *Microsoft Windows* and the much older Apple Mac interface are GUIs. Contrasted with [Character User Interface (CUI)](http://www.ict4lt.org/en/en_glossary.htm#character), an older type of interface which required the user to control the computer by typing commands at the [Keyboard](http://www.ict4lt.org/en/en_glossary.htm#keyboard). See [Icon](http://www.ict4lt.org/en/en_glossary.htm#icon), [Mouse](http://www.ict4lt.org/en/en_glossary.htm#mouse), [Operating System](http://www.ict4lt.org/en/en_glossary.htm#opsys),[Window](http://www.ict4lt.org/en/en_glossary.htm#window), [Windows](http://www.ict4lt.org/en/en_glossary.htm#windows).

**Graphics Card:**An alternative name for a [Video Card](http://www.ict4lt.org/en/en_glossary.htm#vidcard).

**GUI:** Abbreviation for [Graphical User Interface](http://www.ict4lt.org/en/en_glossary.htm#graphuser).

[Top](http://www.ict4lt.org/en/en_glossary.htm#GlossTop)

**H**

**Hacker**: A person who spends their time trying to gain access to information stored on other people's computers all around the world. Some hackers are just harmless browsing types, but other have more invidious aims such as grabbing details of your credit cards or bank account, which may be stored in a file somewhere on your computer. If you access the Internet regularly you should consider installing a[Firewall](http://www.ict4lt.org/en/en_glossary.htm#firewall) to protect yourself against hackers.

**Hardcopy**or **Hard Copy:**Printed output from a computer, as opposed to output on screen.

**Hard Disc:** A *hard disc* consists of a single rigid magnetic disc or a set of such discs enclosed within a metal case, i.e. a *hard disc drive*, which is mounted internally in your computer and is used for storing the computer programs and data that it needs in order to work. External hard disc drives can also be obtained for additional storage capacity or backup storage. Hard discs can contain vast amounts of data, usually measured in *gigabytes*. See[CD-ROM](http://www.ict4lt.org/en/en_glossary.htm#cdrom),[DVD](http://www.ict4lt.org/en/en_glossary.htm#dvd),[Floppy Disc](http://www.ict4lt.org/en/en_glossary.htm#floppy), [Gigabyte](http://www.ict4lt.org/en/en_glossary.htm#gigabyte), [Storage Device](http://www.ict4lt.org/en/en_glossary.htm#storagedev). See [Section 1.1.5.1, Module 1.2](http://www.ict4lt.org/en/en_mod1-2.htm#harddrive) for further information.

**Hardware:**The physical elements of a computer system - the bits you can see, touch, drop, kick or fall over. Contrasted with [Software](http://www.ict4lt.org/en/en_glossary.htm#software). See [Section 1, Module 1.2](http://www.ict4lt.org/en/en_mod1-2.htm#hardware), which contains descrptions and images of many different *hardware* items.

**HDD:**Abbreviation for Hard Disc Drive. See [Hard Disc](http://www.ict4lt.org/en/en_glossary.htm#harddisc).

**Hertz:**Usually abbreviated to *Hz*. A unit of measurement relating to the number of times something is repeated per second. In computer jargon this normally refers to the [Clock Speed](http://www.ict4lt.org/en/en_glossary.htm#clocksp) of a computer, i.e. in simple terms how fast the computer runs. One Hertz is one cycle per second. Computer clock speeds are normally expressed in [MegaHertz](http://www.ict4lt.org/en/en_glossary.htm#megahertz) (*MHz*) or [GigaHertz](http://www.ict4lt.org/en/en_glossary.htm#gigahertz) (*GHz*). Named after the physicist and mathematician Heinrich Hertz (1857-1894), the discoverer of radio waves. The frequency of radio waves is also expressed in Hertz. You will also find the term *Hertz* used in connection with programs for producing digital audio recordings, where Hertz refers to the [Sampling Frequency](http://www.ict4lt.org/en/en_glossary.htm#sampfreq) (also called *sampling rate*) at which the recording is made or stored. See [Section 2.2.3.3, Module 2.2](http://www.ict4lt.org/en/en_mod2-2.htm#sounded), headed *Sound recording and editing software*.

**Hexadecimal:** A number system used in computers in which numbers are composed of combinations of 16 digits, using 0-9 then the letters A-F to represent 10-15. Hex allows binary numbers to be expressed in a more compact and comprehensible form. For example, 255 = FF (hex) = 11111111 (binary). See [Binary](http://www.ict4lt.org/en/en_glossary.htm#binary).

**Hit:**A colloquial term which is often used to refer to a successful search for information on the Web, e.g. using a [Search Engine](http://www.ict4lt.org/en/en_glossary.htm#searcheng), or the number of visits a site receives.

**HLT:** Abbreviation for [Human Language Technologies](http://www.ict4lt.org/en/en_glossary.htm#hlt).

**Homepage**or **Home Page:** This is the main Web page of a business, organisation or school, or of a personal website. From this page links are made to other pages on the same site and to external sites. Most people usually set up their [Browser](http://www.ict4lt.org/en/en_glossary.htm#browser) to open with this page when it starts up. See [Website](http://www.ict4lt.org/en/en_glossary.htm#website), [World Wide Web](http://www.ict4lt.org/en/en_glossary.htm#wwweb). See [Section 5.2, Module 3.3](http://www.ict4lt.org/en/en_mod3-3.htm#5.2), headed *Homepage*.

**Host:** Short for *host computer*. Any computer that provides services to other computers that are linked to it, via a local network or via the [Internet](http://www.ict4lt.org/en/en_glossary.htm#internet).

**Host Name**or**Hostname:** A *host name* is the unique name of a computer on the Internet, which is normally written as a series of letters, for example **www.hull.ac.uk**. A *host name*is the human-friendly form of the host's numerical [IP address](http://www.ict4lt.org/en/en_glossary.htm#ipadd), i.e. it's an alias for the "real" Internet address of the host computer, e.g. **150.237.176.24**. See [Domain Name](http://www.ict4lt.org/en/en_glossary.htm#domainname), [Host](http://www.ict4lt.org/en/en_glossary.htm#host), [Internet](http://www.ict4lt.org/en/en_glossary.htm#internet), [URL](http://www.ict4lt.org/en/en_glossary.htm#url), [Website](http://www.ict4lt.org/en/en_glossary.htm#website).

**Housekeeping:** This could be interpreted as going round with the feather duster and keeping your computer equipment free of dust, but in computer jargon it refers to organising and managing the software installed on your computer system.

**HTML:**Abbreviation for Hypertext Markup Language. The coding system used for creating pages on the [World Wide Web](http://www.ict4lt.org/en/en_glossary.htm#wwweb). HTML enables the author to control how the page appears and to insert[Hypertext](http://www.ict4lt.org/en/en_glossary.htm#hypertext) links within one Web page or to other pages anywhere on the Web. Nowadays most Web authors and designers use an [Authoring Tool](http://www.ict4lt.org/en/en_glossary.htm#authoringt) such as *Front Page* or *Dreamweaver* to create World Wide Web pages. Web page files end with the [Extension](http://www.ict4lt.org/en/en_glossary.htm#extension) **.htm**. or **.html**. See [Anchor](http://www.ict4lt.org/en/en_glossary.htm#anchor), [Hyperlink](http://www.ict4lt.org/en/en_glossary.htm#hyperlink), [URL](http://www.ict4lt.org/en/en_glossary.htm#url), [World Wide Web](http://www.ict4lt.org/en/en_glossary.htm#wwweb). See [Module 3.3](http://www.ict4lt.org/en/en_mod3-3.htm), *Creating a World Wide Web site*.

**HTTP:** Abbreviation for Hypertext Transfer Protocol. The transfer method (*protocol*) used by the World Wide Web to transmit and receive Web pages. This abbreviation normally precedes the name of a website, e.g. **http://www.ict4lt.org**, to tell your computer that this is the way in which you wish to communicate with other computers on the [Internet](http://www.ict4lt.org/en/en_glossary.htm#internet). In practice, however, you can usually miss out the prefix **http://** as it is assumed to be the norm. See [HTML](http://www.ict4lt.org/en/en_glossary.htm#html), [Hyperlink](http://www.ict4lt.org/en/en_glossary.htm#hyperlink), [Hypertext](http://www.ict4lt.org/en/en_glossary.htm#hypertext), [Protocol](http://www.ict4lt.org/en/en_glossary.htm#protocol), [World Wide Web](http://www.ict4lt.org/en/en_glossary.htm#wwweb).

**Hub:** A common connection point for networked computers and other devices. Hubs are used to connect devices in a Local Area Network (LAN). See [LAN](http://www.ict4lt.org/en/en_glossary.htm#lan).

**Human Language Technologies (HLT):**Since January 1999 this has been the European Commission's official term for what used to be described as *Language Engineering*. The term covers a range of applications of advanced technology to human languages, e.g. [Automatic Speech Recognition (ASR)](http://www.ict4lt.org/en/en_glossary.htm#asr), [Machine Translation (MT)](http://www.ict4lt.org/en/en_glossary.htm#mat), etc. See [Module 3.5](http://www.ict4lt.org/en/en_mod3-5.htm), *Human Language Technologies*. See [Natural Language Processing](http://www.ict4lt.org/en/en_glossary.htm#natlang).

**Hyperlink:** A contraction of *hypertext link*, the essence of [Hypertext](http://www.ict4lt.org/en/en_glossary.htm#hypertext) and the [HTML](http://www.ict4lt.org/en/en_glossary.htm#html) language used for creating pages on the [World Wide Web](http://www.ict4lt.org/en/en_glossary.htm#wwweb). In a Web document a *hyperlink* can be a sequence of letters or an image. By clicking on the area designated as a *hyperlink* by the person who created the Web page, it is possible to jump quickly to another part of the page, a different page on the same website, or to a completely different website. See[Hypermedia](http://www.ict4lt.org/en/en_glossary.htm#hypermedia). See [Section 2, Module 1.5](http://www.ict4lt.org/en/en_mod1-5.htm#theweb),*headed What is the World Wide Web?* Hyperlinks can also be inserted into a *Word* document, enabling the reader to jump from one point in the document to another, or out of the document to a website. See [Anchor](http://www.ict4lt.org/en/en_glossary.htm#anchor).

**Hypermedia:** The extension of the *hypertext* concept to *multimedia*, describing the combination of multimedia information (text, images, audio, video, etc) in a meaningful configuration, which is especially useful for teaching and learning. See [Hyperlink](http://www.ict4lt.org/en/en_glossary.htm#hyperlink), [Hypertext](http://www.ict4lt.org/en/en_glossary.htm#hypertext), [Multimedia](http://www.ict4lt.org/en/en_glossary.htm#multimedia). See [Module 2.2](http://www.ict4lt.org/en/en_mod2-2.htm), *Introduction to multimedia CALL*.

**Hypertext:** A system for the non-sequential presentation of text, the fundamental concept of the [World Wide Web](http://www.ict4lt.org/en/en_glossary.htm#wwweb), whereby the user can jump from one part of a text to another, from one Web page to another, or from one website to another, by clicking on highlighted (and usually underlined) *hyperlinks*. The concept of *hypertext* predates the Web by many years. Vannevar Bush is credited with inventing the concept of *hypertext* in his article "As we may think", which was written as early as 1945 and describes an imaginary machine called "Memex" - essentially a hypertext device that takes account of the way the human mind associates ideas and follows a variety of different paths rather than moving on sequentially. See [Hyperlink](http://www.ict4lt.org/en/en_glossary.htm#hyperlink), [Hypermedia](http://www.ict4lt.org/en/en_glossary.htm#hypermedia), [HTML](http://www.ict4lt.org/en/en_glossary.htm#html). See [Section 2, Module 1.5](http://www.ict4lt.org/en/en_mod1-5.htm#theweb),headed*What is the World Wide Web?*

[Top](http://www.ict4lt.org/en/en_glossary.htm#GlossTop)

**I**

**I-Beam:**The form that the [Cursor](http://www.ict4lt.org/en/en_glossary.htm#cursor) takes when a document is being edited, e.g. in *Microsoft Word*. It looks a bit like a large letter I.

**IC:**Abbreviation for [Integrated Circuit](http://www.ict4lt.org/en/en_glossary.htm#intcirc).

**ICALL (Intelligent CALL):**An approach to [CALL](http://www.ict4lt.org/en/en_glossary.htm#call) that makes use of sophisticated programming techniques that mimic human intelligence. See [Module 3.5](http://www.ict4lt.org/en/en_mod3-5.htm), *Human Language Technologies (HLT)*, especially [Section 6](http://www.ict4lt.org/en/en_mod3-5.htm#hlt_call), headed *Human Language Technologies and CALL*, and [Section 8](http://www.ict4lt.org/en/en_mod3-5.htm#parser_call) on *Parser-based CALL*. See [Artificial Intelligence (AI)](http://www.ict4lt.org/en/en_glossary.htm#artificial).

**Icon:**A small symbol or picture used in a [Graphical User Interface (GUI)](http://www.ict4lt.org/en/en_glossary.htm#graphuser). The icons on the computer screen represent programs or files, e.g. a picture of a painter's palette might represent a program used for drawing and editing pictures, and a picture of a book with a question mark on its cover might represent the text of a manual or a help file. In a GUI the [Mouse](http://www.ict4lt.org/en/en_glossary.htm#mouse) is used to move the [Cursor](http://www.ict4lt.org/en/en_glossary.htm#cursor) so that it locates over an icon. Clicking a button on the mouse then causes the program that the icon represents to run or a file to be displayed.

**ICT:**Abbreviation for Information and Communications Technology. What the ICT4LT project is all about. See also [C&IT](http://www.ict4lt.org/en/en_glossary.htm#candit) and [IT](http://www.ict4lt.org/en/en_glossary.htm#it). ICT is the term that is currently favoured by most businesses and educational institutions. The "C" reflects the important role that computers now play in *communications*, e.g. by email, the Web, by satellite and cellphone (mobile phone). We always insist on the "s" at the end of *communications*, which is a term that predates computer technology and was originally associated with morse code, radio, etc and often abbreviated to *comms*.

**ILS:**Abbreviation for [Integrated Learning System](http://www.ict4lt.org/en/en_glossary.htm#intlearn).

**ILT:**Abbreviation for Information and Learning Technology. A term that has recently come into vogue, stressing the *learning* aspect rather than the *communications* aspect, as in [ICT](http://www.ict4lt.org/en/en_glossary.htm#ict).

**Ink Jet Printer:** A type of [Printer](http://www.ict4lt.org/en/en_glossary.htm#printer) that fire little jets of ink at the page in order to form the characters and graphics. One of the commonest forms of printers currently in use and capable of producing high-quality output in black and white and in full colour.

**Input:**Anything that goes into a computer in order to be processed and/or stored. Also used as a verb. See [Output](http://www.ict4lt.org/en/en_glossary.htm#output).

**Input Device:**Any device that is capable of inputting information into a computer system, e.g. a [Keyboard](http://www.ict4lt.org/en/en_glossary.htm#keyboard), [Microphone](http://www.ict4lt.org/en/en_glossary.htm#microphone), [Mouse](http://www.ict4lt.org/en/en_glossary.htm#mouse) or [Scanner](http://www.ict4lt.org/en/en_glossary.htm#scanner).

**Input Validation:**Many programs contain *input validation* routines which prevent the user doing something silly while entering data at the keyboard. A good input validation routine will ensure that the computer sifts out the important information and does any necessary conversion work, e.g. eliminating spaces or unwanted characters, or converting letters to upper or lower case.

**Install:**A verb used to describe the process of *installing* or *setting up* a computer program or suite of computer programs on the computer's hard disc for first-time use. Programs are normally supplied on [CD-ROM](http://www.ict4lt.org/en/en_glossary.htm#cdrom) or [DVD](http://www.ict4lt.org/en/en_glossary.htm#dvd), but they may also be downloaded from the Web, either free of charge or on payment of a fee.

**Install Program**or**Installation Program:** A program that enables the user to *install* or *set up* a program or suite of computer programs on the computer's hard disc for first-time use. Also known as[Setup Program](http://www.ict4lt.org/en/en_glossary.htm#setup). See [Install](http://www.ict4lt.org/en/en_glossary.htm#install), [Uninstall](http://www.ict4lt.org/en/en_glossary.htm#uninstall), [Uninstall Program](http://www.ict4lt.org/en/en_glossary.htm#uninstallprog).

**Integrated Circuit:**An electronic circuit etched onto a small piece of silicon which has been subjected, using photo-masking processes, to controlled "doping" with certain impurities. Particular areas of the chip can then be made to act like electronic components such as diodes, capacitors and resistors. See [Microchip](http://www.ict4lt.org/en/en_glossary.htm#microchip), [Silicon Chip](http://www.ict4lt.org/en/en_glossary.htm#silicon).

**Integrated Learning System (ILS):**A computer-driven system of learning in which the content is presented in tutorial format and which monitors and records the progress of the learner. See[OILS](http://www.ict4lt.org/en/en_glossary.htm#oils).

**Intel:**The name of a manufacturer of *microprocessors* used in personal computers. Other companies make Intel-compatible microprocessors. See [Microprocessor](http://www.ict4lt.org/en/en_glossary.htm#microproc).

**Intelligent CALL:** See [ICALL (Intelligent CALL)](http://www.ict4lt.org/en/en_glossary.htm#icall).

**Interactive Video (IV):**A system consisting of a computer connected to a 12-inch *videodisc player*, allowing the presentation of still images or video clips combined with some kind of interactivity, e.g. carrying out a set of exercises linked to the images or to the video clips. Very popular in the 1980s but now technically obsolete and replaced by integrated multimedia computers incorporating DVD or CD-ROM drives. One of the best known educational interactive videodiscs was the *Domesday* videodisc, created by the BBC in 1986 to commemorate the 900th anniversary of the creation of the original Domesday Book. Now the BBC has re-launched the Domesday project online at <http://www.bbc.co.uk/history/domesday>. See [CD-ROM](http://www.ict4lt.org/en/en_glossary.htm#cdrom), [Digital Video Disc](http://www.ict4lt.org/en/en_glossary.htm#dvd), [Multimedia Personal Computer (MPC)](http://www.ict4lt.org/en/en_glossary.htm#multimedpc), [Videodisc](http://www.ict4lt.org/en/en_glossary.htm#videodisc). See [Section 1.2, Module 2.2](http://www.ict4lt.org/en/en_mod2-2.htm#1.2), headed *A brief history of multimedia*.

**Interactive Whiteboard (IWB):** Often abbreviated to IWB. A touch-sensitive projection screen that allows the teacher to control a computer directly by touching the screen, i.e. the whiteboard, rather than using a [Keyboard](http://www.ict4lt.org/en/en_glossary.htm#keyboard) or [Mouse](http://www.ict4lt.org/en/en_glossary.htm#mouse). A [Data Projector](http://www.ict4lt.org/en/en_glossary.htm#dataproj) has to be connected to the teacher's computer in order to project the image onto the interactive whiteboard and special software has to be installed on the computer in order for the whiteboard to become active and sensitive to touch - which may require the use of an "electronic pen" or it may work in reaction to one's finger or hand. See [Section 1.3.4, Module 1.2](http://www.ict4lt.org/en/en_mod1-2.htm#whiteboard) for further information and an illustration of an interactive whiteboard. See [Section 4, Module 1.4](http://www.ict4lt.org/en/en_mod1-4.htm#iwbs), headed *Whole-class teaching and interactive whiteboards*.

**Interface:** An *interface* in computer jargon is a connection between two systems. It can be [Hardware](http://www.ict4lt.org/en/en_glossary.htm#hardware) or [Software](http://www.ict4lt.org/en/en_glossary.htm#software). It may take the form of a plug, cable or socket, or all three, for example where a[Printer](http://www.ict4lt.org/en/en_glossary.htm#printer) or [Scanner](http://www.ict4lt.org/en/en_glossary.htm#scanner) is connected to a computer, and then it's a hardware interface. There are also software interfaces that enable one program to link with another, passing across data and variables. The term *interface*, also known as *user interface*, also describes the software that is used to enable human beings to communicate with a computer, for example *Microsoft Windows*, which is a [Graphical User Interface (GUI)](http://www.ict4lt.org/en/en_glossary.htm#graphuser) in common use on personal computers. See [Windows](http://www.ict4lt.org/en/en_glossary.htm#windows).

**Internet:**The *Internet*, or simply "the Net", is a computer network connecting millions of computers all over the world. It provides communications to governments, businesses, universities, schools and homes. Any modern computer can be connected to the Internet using existing communications systems. Schools and universities normally access the Internet via their own educational networks, but private individuals usually have to take out a subscription with an [Internet Service Provider (ISP)](http://www.ict4lt.org/en/en_glossary.htm#internetserv). Although the Internet is in fact a network of networks, it appears to users as a network of individual computers. The Internet dates back to the group of interconnected networks that evolved from the ARPANET of the late 60's and early 70's. It has grown from a handful of interconnected networks into a huge network of millions of computers. The main Internet services of interest to language teachers are [Email](http://www.ict4lt.org/en/en_glossary.htm#email) and [World Wide Web](http://www.ict4lt.org/en/en_glossary.htm#wwweb). See also [Blog](http://www.ict4lt.org/en/en_glossary.htm#blog), [Discussion List](http://www.ict4lt.org/en/en_glossary.htm#discussion), [Forum](http://www.ict4lt.org/en/en_glossary.htm#forum), [Podcast](http://www.ict4lt.org/en/en_glossary.htm#podcast). The World Wide Web is only part of the Internet, but many people treat both terms as synonyms. See [Module 1.5](http://www.ict4lt.org/en/en_mod1-5.htm), *Introduction to the Internet*, [Module 2.3](http://www.ict4lt.org/en/en_mod2-3.htm), *Exploiting* *World Wide Web resources online and offline*, [Module 3.3](http://www.ict4lt.org/en/en_mod3-3.htm), *Creating a World Wide Web site*.

**Internet Explorer:**A [Browser](http://www.ict4lt.org/en/en_glossary.htm#browser) produced by the Microsoft Corporation and supplied together with the [Windows](http://www.ict4lt.org/en/en_glossary.htm#windows) operating system.

**Internet Service Provider (ISP):** A company that provides a subscription service to enable you to access the [Internet](http://www.ict4lt.org/en/en_glossary.htm#internet). An ISP has a network of computers permanently linked to the Internet. When you take out a subscription with an ISP they link your computer to their network, usually via an existing telephone line, but dedicated lines are also provided by some ISPs. ISPs also give you an [Email](http://www.ict4lt.org/en/en_glossary.htm#email) address and space on the [World Wide Web](http://www.ict4lt.org/en/en_glossary.htm#wwweb) for setting up your own website.

**Interpreter:** Software which converts the human-readable [Source Code](http://www.ict4lt.org/en/en_glossary.htm#source) of a program which has been written in a high-level programming language such as BASIC, one statement at a time, into machine instructions as the application is run. Interpreted applications need to be distributed with runtime programs and function libraries. See [Compiler](http://www.ict4lt.org/en/en_glossary.htm#compiler), [Machine Code](http://www.ict4lt.org/en/en_glossary.htm#machinecode).

**Intranet:** A private network inside a company or educational organisation and used over its [LAN (Local Area Network)](http://www.ict4lt.org/en/en_glossary.htm#lan). A sort of local Internet. Contrasted with [Internet](http://www.ict4lt.org/en/en_glossary.htm#internet), which is publicly available.

**I/O:**Abbreviation for Input/Output. See [Input](http://www.ict4lt.org/en/en_glossary.htm#input), [Output](http://www.ict4lt.org/en/en_glossary.htm#output).

**IP Address:**Short for Internet Protocol Address. The unique numerical address of a computer on the [Internet](http://www.ict4lt.org/en/en_glossary.htm#internet), expressed as four sets of numbers (maximum 3 digits each) separated by dots: e.g.**150.237.176.24** for one of the computers at the University of Hull - where the ICT4LT website is located. Computers on the Internet are nearly always referred to by more memorable *domain names*, which are mapped onto their *IP addresses* by special Internet computers known as *name servers*. See [Domain Name](http://www.ict4lt.org/en/en_glossary.htm#domainname), [Host](http://www.ict4lt.org/en/en_glossary.htm#host),[Host Name](http://www.ict4lt.org/en/en_glossary.htm#hostname), [Name Server](http://www.ict4lt.org/en/en_glossary.htm#nameserver).

**iPod:** The name of a portable (mobile) [Media Player](http://www.ict4lt.org/en/en_glossary.htm#mediaplay) designed and marketed by Apple. The **iPod** first appeared in 2001. As well as being capable of storing and playing back audio recordings, newer models can also record and play back video. The iPod has become popular for storing recordings, mainly music, downloaded from the Web or transferred from audio CD to a computer and then moved across to an iPod using a software package known as [iTunes](http://www.apple.com/itunes/). See [Section 2.2.1, Module 2.2](http://www.ict4lt.org/en/en_mod2-2.htm#mediaplay), headed *Media Players*.

**ISDN:** Abbreviation for Integrated Services Digital Network. A type of digital telephone service, used for transferring large chunks of data to and from the Internet without a [Modem](http://www.ict4lt.org/en/en_glossary.htm#modem). Gradually falling out of use these days with the introduction of ADSL broadband services. ISDN lines normally operate at 128 Kbps, which is faster than a standard 56Kbps [Dial-up Modem](http://www.ict4lt.org/en/en_glossary.htm#dialup) but slower than an ADSL connection, which runs at a speed of at least 1Mbps. See [ADSL](http://www.ict4lt.org/en/en_glossary.htm#adsl), [Broadband](http://www.ict4lt.org/en/en_glossary.htm#broadband), [Kbps](http://www.ict4lt.org/en/en_glossary.htm#kbps), [Leased Line](http://www.ict4lt.org/en/en_glossary.htm#leased).

**ISP:** Abbreviation for [Internet Service Provider](http://www.ict4lt.org/en/en_glossary.htm#internetserv).

**IT:** Abbreviation for Information Technology. Essentially, technology relating to information processing, i.e. computer technology, but see also [ICT](http://www.ict4lt.org/en/en_glossary.htm#ict), [C&IT](http://www.ict4lt.org/en/en_glossary.htm#candit), both of which describe the converging of information technology and communications technology. The term IT is rapidly being replaced by ICT in order to reflect the important role that information technology plays in communications by email, the Web, satellites and mobile phones.

**IV:**Abbreviation for [Interactive Video](http://www.ict4lt.org/en/en_glossary.htm#ivideo).

**IWB:**Abbreviation for [Interactive Whiteboard](http://www.ict4lt.org/en/en_glossary.htm#iaw).

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**J**

**JANET:**Acronym for Joint Academic Network. All further and higher education organisations in the UK are connected to the JANET network.

**Java:**A programming language, invented by Sun Microsystems, that is specifically designed for writing programs that can be downloaded to your computer through the Internet and immediately executed. Using small Java programs, called *applets*, Web pages can include functions such as animations, interactive sequences, etc. You need to set up your browser to enable it to interpret and run the Java applets. Java is similar to a programming language known as C++ but it has been considerably simplified. Not to be confused with [Javascript](http://www.ict4lt.org/en/en_glossary.htm#javascript). See [Applet](http://www.ict4lt.org/en/en_glossary.htm#applet).

**Javascript:** *Javascript* is a script language, a system of programming codes that can be embedded into the HTML code of a Web page to add functionality, e.g. interactive sequences, questionnaires, etc. Although it shares many of the features and structures of the full [Java](http://www.ict4lt.org/en/en_glossary.htm#java) language, Javascript is essentially quite different and was developed independently.

**JISC:**Acronym for Joint Information Systems Committee. The Joint Information Systems Committee supports further and higher education in the UK by providing strategic guidance, advice and opportunities to use Information and Communications Technology (ICT) in teaching, learning, research and administration. JISC is funded by all the UK post-16 and higher education funding councils:[http://www.jisc.ac.uk](http://www.jisc.ac.uk/)

**Joystick:**A device that looks a bit like a gear lever in a car. This is connected to a computer and is used mainly for controlling the [Cursor](http://www.ict4lt.org/en/en_glossary.htm#cursor) in fast action games.

**JPEG**or **JPG:** Abbreviation for Joint Photographic Expert Group. Pronounced "Jaypeg". A file format used for storing images. The JPEG/JPG format uses a palette of millions of colours and is primarily intended for photographic images. The internal compression algorithm of the JPEG/JPG format, unlike the GIF format, actually throws out superfluous information, which is why JPEG/JPG files containing photographic images end up smaller than GIF files containing photographic images. If you store an image, say, of a flag containing just three colours in JPEG/JPG format it may end up bigger than a GIF file containing the same image, but not necessarily a lot bigger - it depends on the type and range of colours it contains. JPEG/JPG files containing photographic images are normally smaller than GIF files containing photographic images. JPEG/JPG files are commonly used for storing images on the Web. See [BMP](http://www.ict4lt.org/en/en_glossary.htm#bmp), [EPS](http://www.ict4lt.org/en/en_glossary.htm#eps), [GIF](http://www.ict4lt.org/en/en_glossary.htm#gif), [TIFF](http://www.ict4lt.org/en/en_glossary.htm#tiff). See also [Section 2.2.3.1, Module 2.2](http://www.ict4lt.org/en/en_mod2-2.htm#imageed), headed *Image editing software*.

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**K**

**Kb:**Abbreviation for [Kilobit](http://www.ict4lt.org/en/en_glossary.htm#kilobit).

**KB:** Abbreviation for [Kilobyte](http://www.ict4lt.org/en/en_glossary.htm#kilobyte). The single letter *K* is also used.

**Kbps:**Abbreviation for *kilobits per second*. A unit of measurement of data transmission speed, e.g. via a [Modem](http://www.ict4lt.org/en/en_glossary.htm#modem). See [Bit](http://www.ict4lt.org/en/en_glossary.htm#bit),[Megabit](http://www.ict4lt.org/en/en_glossary.htm#megabit).

**Karaoke Microphone:** A popular name for a type of microphone that is more accurately described as a [Dynamic Microphone](http://www.ict4lt.org/en/en_glossary.htm#dynamic). See [Microphone](http://www.ict4lt.org/en/en_glossary.htm#microphone). See [Section 1.2.4, Module 1.2](http://www.ict4lt.org/en/en_mod1-2.htm#mic) for further information on microphones.

**Keyboard:**The keyboard of a computer is used to enter information which the computer displays or processes. It looks much the same as a typewriter keyboard, but has a few additional keys that have special functions. See [Section 1.1.3, Module 1.2](http://www.ict4lt.org/en/en_mod1-2.htm#keyboard), which contains an illustration of a computer keyboard.

**Key Word In Context (KWIC):**A type of search carried out with a [Concordance Program](http://www.ict4lt.org/en/en_glossary.htm#concprog). See [Module 2.4](http://www.ict4lt.org/en/en_mod2-4.htm), *Using concordance programs in the Modern Foreign Languages classroom*.

**Kilobit:**Usually abbreviated to *Kb*. A unit of measurement consisting of 1,024 *bits*, mainly relating to data transmission speed. See [Bit](http://www.ict4lt.org/en/en_glossary.htm#bit), [Megabit](http://www.ict4lt.org/en/en_glossary.htm#megabit).

**Kilobyte:** Usually abbreviated to *K or KB*. A unit of measurement of computer memory or disc capacity = 1,024 *bytes*. See entry on [Measurement Units](http://www.ict4lt.org/en/en_glossary.htm#measure). See [Bit](http://www.ict4lt.org/en/en_glossary.htm#bit), [Byte](http://www.ict4lt.org/en/en_glossary.htm#byte)*,* [Megabyte](http://www.ict4lt.org/en/en_glossary.htm#megabyte), [Gigabyte](http://www.ict4lt.org/en/en_glossary.htm#gigabyte).

**KWIC:**Acronym for [Key Word In Context](http://www.ict4lt.org/en/en_glossary.htm#keywordcont).

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**L**

**LAN:** Abbreviation for Local Area Network. A [Network](http://www.ict4lt.org/en/en_glossary.htm#network) of computers at one site that provides services to other computers connected to it. A *LAN* is usually limited to an immediate area, for example the floor of a building, a single building or a campus. The most important part of a LAN is the [Server](http://www.ict4lt.org/en/en_glossary.htm#server) that delivers software to the computers (also known as *workstations* or *clients*) that are connected to it. The *server* is usually the most powerful computer in the network Users of computers connected to a LAN can access their own files remotely and exchange information with the server and other users connected to the network. See [Client](http://www.ict4lt.org/en/en_glossary.htm#client), [MAN](http://www.ict4lt.org/en/en_glossary.htm#man), [WAN](http://www.ict4lt.org/en/en_glossary.htm#wan), [Web Server](http://www.ict4lt.org/en/en_glossary.htm#webserve).

**Language Aptitude Testing (LAT):**See the entry under [Modern Language Aptitude Testing (MLAT)](http://www.ict4lt.org/en/en_glossary.htm#mlat).

**Language Engineering:** The older term for a range of technologically advanced applications of ICT to natural (i.e. human languages), including [Automatic Speech Recognition (ASR)](http://www.ict4lt.org/en/en_glossary.htm#asr) and [Machine Translation (MT)](http://www.ict4lt.org/en/en_glossary.htm#mat). Since January 1999 the European Commission has favoured a new term, [Human Language Technologies (HLT)](http://www.ict4lt.org/en/en_glossary.htm#hlt). See [Module 3.5](http://www.ict4lt.org/en/en_mod3-5.htm), *Human Language Technologies (HLT)*.

**Laptop Computer:** A *laptop computer* is a computer that is light and can easily be carried around. Contrasted with [Desktop Computer](http://www.ict4lt.org/en/en_glossary.htm#desktopcomp). See also [Netbook](http://www.ict4lt.org/en/en_glossary.htm#netbook), [Notebook Computer](http://www.ict4lt.org/en/en_glossary.htm#notebook) and [Tablet Computer](http://www.ict4lt.org/en/en_glossary.htm#tabletcomp).

**Laser Printer:** A type of [Printer](http://www.ict4lt.org/en/en_glossary.htm#printer) that works by firing a laser at a rotating drum. Laser printers produce high-quality output at a reasonable speed.

**LAT:** Abbreviation for [Language Aptitude Testing](http://www.ict4lt.org/en/en_glossary.htm#langapt).

**LCD:**Abbreviation for Liquid Crystal Display. A technology used for producing a type of flat panel computer [Display Screen](http://www.ict4lt.org/en/en_glossary.htm#display), which is replacing the older type of [Cathode Ray Tube](http://www.ict4lt.org/en/en_glossary.htm#cathode) display screen. A more advanced form of technology for producing flat panel display screens is known as [TFT (Thin Film Transistor)](http://www.ict4lt.org/en/en_glossary.htm#tft). LCD and TFT screens are also used in *digital cameras* and *camcorders*. See[Camcorder](http://www.ict4lt.org/en/en_glossary.htm#camcorder), [Digital Camera](http://www.ict4lt.org/en/en_glossary.htm#digitalcam).

**Learning Management System (LMS):** See [Virtual Learning Environment (VLE)](http://www.ict4lt.org/en/en_glossary.htm#virtual).

**Learning Object:**A self-contained piece of learning material with an associated learning objective. Essentially, a *learning object* should be capable of being reused in a variety of applications and may be described as a [Reusable Learning Object (RLO)](http://www.ict4lt.org/en/en_glossary.htm#reusable). Examples include interactive sequences made up of different combinations of texts, images, audio and video clips, and self-contained exercises that might be incorporated into a website or [Courseware](http://www.ict4lt.org/en/en_glossary.htm#courseware) created with the aid of an [Authoring Tool](http://www.ict4lt.org/en/en_glossary.htm#authoringt), or a [Virtual Learning Environment (VLE)](http://www.ict4lt.org/en/en_glossary.htm#virtual). See David Wiley, *The instructional use of learning objects*:<http://reusability.org/read/>

**Learning Platform:** A term used to describe the software and systems that are used to deliver [E-learning](http://www.ict4lt.org/en/en_glossary.htm#elearn). Some confusion surrounds this term: sometimes it is used synonymously with [Virtual Learning Environment (VLE)](http://www.ict4lt.org/en/en_glossary.htm#virtual) and sometimes with [Managed Learning Environment (MLE)](http://www.ict4lt.org/en/en_glossary.htm#mle). Many people use it as a catch-all term to describe software and systems designed to manage, deliver and provide access to E-learning materials.

**Learning Support System (LSS):**See [Virtual Learning Environment (VLE)](http://www.ict4lt.org/en/en_glossary.htm#virtual).

**Leased Line:** Also known as a *private circuit*, is a dedicated communications link between two sites. It is separate from the public telephone network and reserved exclusively for the use of the owner, usually at a fixed tariff regardless of usage levels. Leased lines are commonly used where there is high inter-site traffic, where there is a requirement for high [Bandwidth](http://www.ict4lt.org/en/en_glossary.htm#bandwidth), or where reliability and availability are critical considerations. See [ADSL](http://www.ict4lt.org/en/en_glossary.htm#adsl), [Broadband](http://www.ict4lt.org/en/en_glossary.htm#broadband) and [ISDN](http://www.ict4lt.org/en/en_glossary.htm#isdn).

**Linkrot:**Linkrot describes the tendency of [Hypertext](http://www.ict4lt.org/en/en_glossary.htm#hypertext) links from one website to another to die as other sites cease to exist or remove or restructure their Web pages. Large companies, educational institutions and government organisations appear to be among the worst offenders. They are forever restructuring and leaving no indication of where the old pages have gone. Pages created by students, for example, often no longer work after the student graduates. *Linkrot* is a growing disease. It is estimated that over 25% of the links on the Web are dead! See the state of the Web survey at *All Things Web*:<http://www.pantos.org/atw/35654.html>. - a figure that is still increasing. There is a worrying new trend too: websites that die can be transmogrified overnight into sites containing offensive material. See[Cybersquatter](http://www.ict4lt.org/en/en_glossary.htm#cybersq). See [Section 9.1, Module 1.5](http://www.ict4lt.org/en/en_mod1-5.htm#linkrot), headed *Dead links - linkrot*, and Section [6.3.3, Module 3.3](http://www.ict4lt.org/en/en_mod3-3.htm#6.3.3), headed *Checking for broken links - linkrot*.

**Linux:** A Unix-type [Operating System](http://www.ict4lt.org/en/en_glossary.htm#opsys), similar to [Windows](http://www.ict4lt.org/en/en_glossary.htm#windows) and the Apple Mac operating system. Linux was originally created by Linus Torvalds with the assistance of developers around the world. The[Source Code](http://www.ict4lt.org/en/en_glossary.htm#source) for Linux is freely available to everyone. See [Unix](http://www.ict4lt.org/en/en_glossary.htm#unix).

**Liquid Crystal Display (LCD):**See [LCD](http://www.ict4lt.org/en/en_glossary.htm#lcd).

**LMS:**Abbreviation for [Learning Management System](http://www.ict4lt.org/en/en_glossary.htm#learnman).

**Local Area Network (LAN):** See [LAN](http://www.ict4lt.org/en/en_glossary.htm#lan).

**LSS:** Abbreviation for [Learning Support System](http://www.ict4lt.org/en/en_glossary.htm#learnsupp)

**Lurker:**Mainly used in connection with a [Discussion List](http://www.ict4lt.org/en/en_glossary.htm#discussion), [Forum](http://www.ict4lt.org/en/en_glossary.htm#forum) or [Blog](http://www.ict4lt.org/en/en_glossary.htm#blog). This term describes someone who prefers to read other people's messages rather than posting their own views. Discussion lists, forums and blogs often have thousands of readers but only a handful regularly post messages. The rest prefer to keep quiet and just *lurk* on the sideline.

**LWULT Languages:**The EC's official term for what many people called Minority Languages. It stands for Least Widely Used and Least Taught Languages. There is a website for European Minority Languages, some of which you may have never heard of before, e.g. Casubian and Nenets: <http://www.smo.uhi.ac.uk/saoghal/mion-chanain/en/>. How about Ulster Scots (Ullans): "Laird Laird, Heich Executive o tha Ulster-Scotch Agencie, said Juin at he trows tha role o tha Agencie is uphauldan Ulster-Scotch feks, an no takan thaim owre. He eikit 'Ulster-Scotch maun be an inclusiv cultur, no an exclusiv. Bein inclusiv is whit bein Scotch-Airis bes'". Got it? Have a look at the website of the [University of Arizona's Critical Languages Series](http://www.criticallanguagesseries.org/) and the [Linguanet Worldwide](http://www.linguanet-worldwide.org/) website if you are looking for learning and teaching materials.

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**M**

**Machine Assisted Translation (MAT):**The use of computers to assist human beings in the process of translating natural language. MAT systems are normally used as only aids for human translators who have to intervene in the process of translation by machine, making corrections and amendments as necessary. Contrasted with [Machine Translation (MT)](http://www.ict4lt.org/en/en_glossary.htm#mat), which normally describes a fully automatic process. See [Translation Memory (TM)](http://www.ict4lt.org/en/en_glossary.htm#tranmem). See [Section 3, Module 3.5](http://www.ict4lt.org/en/en_mod3-5.htm#machinetrans),headed*Machine Translation*.

**Machine Code:** The machine-readable form of a computer program, produced by conversion of the human-written program (source code) into binary code by a *compiler* or *interpreter*. See [Compiler](http://www.ict4lt.org/en/en_glossary.htm#compiler),[Interpreter](http://www.ict4lt.org/en/en_glossary.htm#interpreter), [Source Code](http://www.ict4lt.org/en/en_glossary.htm#source).

**Machine Translation (MT):**The use of computers to translate natural language. A related term is [Machine Assisted Translation (MAT)](http://www.ict4lt.org/en/en_glossary.htm#machineass), which normally implies that the computer does part of the job and human beings correct and amend the text that it produces. See [Translation Memory (TM)](http://www.ict4lt.org/en/en_glossary.htm#tranmem). See [Section 3, Module 3.5](http://www.ict4lt.org/en/en_mod3-5.htm#machinetrans),headed*Machine Translation*.

**Macro:** A sort of mini-program that can be incorporated into other programs, comprising a series of keystrokes that you may wish to use over and over again. For example, if you perform a task repeatedly in *Microsoft Word*, you can automate the task using a *macro*. A macro is a series of commands and instructions that you group together as a single command to accomplish a task automatically. Instead of manually performing a series of time-consuming, repetitive actions, you can create and run a single macro - in effect, a custom command that carries out the task for you. A macro can be saved and called up whenever you need it. A degree of caution needs to be exercised if you are given or sent a file, e.g. a *Word* [DOC](http://www.ict4lt.org/en/en_glossary.htm#doc) file, containing a macro, as macros can harbour *viruses*. Make sure you know where the file comes from. See [RTF](http://www.ict4lt.org/en/en_glossary.htm#rtf), [Virus](http://www.ict4lt.org/en/en_glossary.htm#rtf).

**Mainframe Computer:** Loosely speaking, a very large computer which can serve many users at remote terminals. See [Microcomputer](http://www.ict4lt.org/en/en_glossary.htm#microcomp), [Minicomputer](http://www.ict4lt.org/en/en_glossary.htm#mincomp).

**Main Menu Bar:** The *main menu bar* is normally located at the top of the screen when you are using an application such as a word-processor or [Browser](http://www.ict4lt.org/en/en_glossary.htm#browser), consisting of a set of names of *drop-down menus* that enable a variety of different tasks to be carried out. See [Menu Bar](http://www.ict4lt.org/en/en_glossary.htm#menubar).

**MALL:**Abbreviation for[Mobile Assisted Language Learning](http://www.ict4lt.org/en/en_glossary.htm#mobileassistedll). See [Section 5, Module 2.3](http://www.ict4lt.org/en/en_mod2-3.htm#mall), for further information on MALL.

**MAN:** Abbreviation for Metropolitan Area Network. A network of computers located at different sites within a large fixed area, such as a city. See [LAN](http://www.ict4lt.org/en/en_glossary.htm#lan), [WAN](http://www.ict4lt.org/en/en_glossary.htm#wan).

**Mashup**: A *mashup* is a Web page that brings together data from two or more Web services and combines the data into a new application with added functionality. Mashups are typical manifestations of[Web 2.0](http://www.ict4lt.org/en/en_glossary.htm#web2). For further information on mashups see [Section 2.1, Module 1.5](http://www.ict4lt.org/en/en_mod1-5.htm#WEB2), headed *What is Web 2.0?*

**MAT:**Abbreviation for [Machine Assisted Translation](http://www.ict4lt.org/en/en_glossary.htm#machineass).

**Matching:** In CALL programs, matching is the process of comparing the learner's inputs at the keyboard with what is stored in the computer. See [Fuzzy Matching](http://www.ict4lt.org/en/en_glossary.htm#fuzzy), [Partial Matching](http://www.ict4lt.org/en/en_glossary.htm#partial). See [Section 1.2, Module 1.4](http://www.ict4lt.org/en/en_mod1-4.htm#interactivity), headed *Interactivity*.

**Maze:***Mazes*, also known as *action mazes* and *text mazes*, have been used by language teachers for many years for reading and comprehension activities and to stimulate conversation in the classroom. See, for example, Berer M. & Rinvolucri M., *Mazes: a problem-solving reader*, published by Heinemann in1981 and subsequently converted (with Heinemann's permission) into a BBC microcomputer program. An action maze is a collection of short pieces of text, each of which poses a problem and a set of alternative solutions. The learner can follow different paths through the maze but may end up in loops and blind alleys. The onus is therefore on the learner to read the texts carefully and to assess the situation accurately. Mazes are ideal for group work. Computerised versions of mazes can be written very easily in [HTML](http://www.ict4lt.org/en/en_glossary.htm#html) or with a suitable [Authoring Tool](http://www.ict4lt.org/en/en_glossary.htm#authoringt), e.g. the *Quandary* package at <http://www.halfbakedsoftware.com/quandary.php>. Mazes can be run online and offline. See [Adventure Game](http://www.ict4lt.org/en/en_glossary.htm#adventure),[Simulation](http://www.ict4lt.org/en/en_glossary.htm#simulation).

**Mb:**Abbreviation for [Megabit](http://www.ict4lt.org/en/en_glossary.htm#megabit).

**MB:**Abbreviation for [Megabyte](http://www.ict4lt.org/en/en_glossary.htm#megabyte)*.*

**Mbps:** Abbreviation for *megabits per second*. A unit of measurement of data transmission speed, e.g. via a [Modem](http://www.ict4lt.org/en/en_glossary.htm#modem). A typical [Broadband](http://www.ict4lt.org/en/en_glossary.htm#broadband) connection to the Internet transmits data at 1 Mbps to 8 Mbps. See [Bit](http://www.ict4lt.org/en/en_glossary.htm#bit), [Kilobit](http://www.ict4lt.org/en/en_glossary.htm#kilobit).

**MC:**Abbreviation for Multiple Choice, as in [Multiple Choice Exercise](http://www.ict4lt.org/en/en_glossary.htm#multichoice).

**MCQ:** Abbreviation for Multiple Choice Question. See [Multiple Choice Exercise](http://www.ict4lt.org/en/en_glossary.htm#multichoice).

**Measurement Units:**There is still a good deal of confusion about what the terms [Kilobyte](http://www.ict4lt.org/en/en_glossary.htm#kilobyte), [Megabyte](http://www.ict4lt.org/en/en_glossary.htm#megabyte), [Gigabyte](http://www.ict4lt.org/en/en_glossary.htm#gigabyte), etc mean. Traditionally, the terms *kilobyte*, *megabyte* and *gigabyte* are used to express the binary multiples of 1,024, 1,048,576 and 1,073,741,824 bytes but, because people are used to thinking decimal rather than binary, the International Electrotechnical Commission (IEC:[http://www.iec.ch](http://www.iec.ch/)) approved in December 1998 a new standard for names and symbols for use in the fields of data processing and data transmission. This was adopted in January 1999 by the Institute of Electrical and Electronics Engineers (IEEE: [http://www.ieee.org](http://www.ieee.org/)). Thus *kilobyte*, *megabyte* and *gigabyte* should now be used to express the decimal multiples 1,000, 1,000,000 and 1,000,000,000 bytes. New terms, *kibibyte*, *mebibyte* and *gibibyte*, were approved to be used to express the binary multiples 1,024, 1,048,576 and 1,073,741,824 bytes, but these still have not caught on among the general public. See <http://physics.nist.gov/cuu/Units/binary.html>. We are grateful to Daniel Thibault for drawing our attention to these changes.

**Media (pl.)** / **Medium (sing.):** In computer jargon this term has two main senses: (1) [Storage Media](http://www.ict4lt.org/en/en_glossary.htm#storagemed), e.g. [CD-ROMs](http://www.ict4lt.org/en/en_glossary.htm#cdrom), [DVDs](http://www.ict4lt.org/en/en_glossary.htm#dvd), [Flash Drives](http://www.ict4lt.org/en/en_glossary.htm#flashdrive), etc - also referred to as [Storage Devices](http://www.ict4lt.org/en/en_glossary.htm#storagedev), (2) *Media* in the sense of audio and video recordings in [Digital](http://www.ict4lt.org/en/en_glossary.htm#digital) format that can be played back on a [Media Player](http://www.ict4lt.org/en/en_glossary.htm#mediaplay). See [Multimedia](http://www.ict4lt.org/en/en_glossary.htm#multimedia) and [Module 2.2](http://www.ict4lt.org/en/en_mod2-2.htm), *Introduction to multimedia CALL*.

**Media Player:** Used in two main senses: (1) a program that enables your computer to record, store and play back audio and video recordings; (2) a device such as the portable [iPod](http://www.ict4lt.org/en/en_glossary.htm#ipod) *media player*that is also used to record, store and play back recordings. See [Section 2.2.1, Module 2.2](http://www.ict4lt.org/en/en_mod2-2.htm#mediaplay), headed *Media players*.

**Megabit:** Usually abbreviated to *Mb*. 1,024 *kilobits* or 1,048,576 *bits*, a unit of measurement, usually relating to data trasnmission speed. See [Bit](http://www.ict4lt.org/en/en_glossary.htm#bit), [Kilobit](http://www.ict4lt.org/en/en_glossary.htm#kilobit).

**Megabyte:**Usually abbreviated to *MB*. 1,024 *kilobytes* or 1,048,576 *bytes*. A unit of measurement of computer memory or disc capacity. Roughly 180,000 words of text - an average-sized novel. See entry on [Measurement Units](http://www.ict4lt.org/en/en_glossary.htm#measure). See [Bit](http://www.ict4lt.org/en/en_glossary.htm#bit), [Byte](http://www.ict4lt.org/en/en_glossary.htm#byte),[Kilobyte](http://www.ict4lt.org/en/en_glossary.htm#kilobyte),[Gigabyte](http://www.ict4lt.org/en/en_glossary.htm#gigabyte).

**MegaHertz:** Usually abbreviated to *MHz*. A unit of measurement relating to the [Clock Speed](http://www.ict4lt.org/en/en_glossary.htm#clocksp)of a computer or, put simply, a measurement of how fast its[Central Processing Unit (CPU)](http://www.ict4lt.org/en/en_glossary.htm#centproc) runs. Typical clock speeds of modern computers range from 500MHz upwards. Faster clock speeds are normally expressed in [GigaHertz](http://www.ict4lt.org/en/en_glossary.htm#gigahertz) or *GHz* (= 1000MHz). See [Hertz](http://www.ict4lt.org/en/en_glossary.htm#hertz), [Microprocessor](http://www.ict4lt.org/en/en_glossary.htm#microproc).

**Memory:** Most people use this term to refer to a computer's temporary internal main memory or [RAM](http://www.ict4lt.org/en/en_glossary.htm#ram). Memory may also refer to [ROM](http://www.ict4lt.org/en/en_glossary.htm#rom) (Read Only Memory), which is permanent and part of a a computer system as supplied by the manufacturer.

**Memory Stick:**A small electronic card, also known as a *memory card*, which is inserted into a [Digital Camera](http://www.ict4lt.org/en/en_glossary.htm#digitalcam) or [Camcorder](http://www.ict4lt.org/en/en_glossary.htm#camcorder) for storing photographs or movie files that can then uploaded to a computer. This term is also used as an alternative to [Flash Drive](http://www.ict4lt.org/en/en_glossary.htm#flashdrive).

**Menu:** A list of options from which a computer user makes a selection in order to determine the course of events in a program. This usually involves keying in a single letter or number, or selecting text or an [Icon](http://www.ict4lt.org/en/en_glossary.htm#icon) with a [Mouse](http://www.ict4lt.org/en/en_glossary.htm#mouse). See [Main Menu](http://www.ict4lt.org/en/en_glossary.htm#mainmenu), [Menu Bar](http://www.ict4lt.org/en/en_glossary.htm#menubar), [Toolbar](http://www.ict4lt.org/en/en_glossary.htm#toolbar).

**Menu Bar:** Most computer programs display a *menu bar* or set of menu bars at the top of the screen, from which choices can be made by the user to carry out certain operations, e.g. saving a [File](http://www.ict4lt.org/en/en_glossary.htm#file), printing a document, or setting up the program in different ways. See [Main Menu Bar](http://www.ict4lt.org/en/en_glossary.htm#mainmenu), [Menu](http://www.ict4lt.org/en/en_glossary.htm#menu), [Toolbar](http://www.ict4lt.org/en/en_glossary.htm#toolbar).

**MFL:** Abbreviation for Modern Foreign Languages. A term used mainly in the UK to describe foreign languages that are commonly taught in schools, e.g. French, Spanish and German - as well as more exotic languages such as Chinese and Arabic.

**MHz:** Abbreviation for [MegaHertz](http://www.ict4lt.org/en/en_glossary.htm#megahertz).

**Microblogging:**An approach to [Blogging](http://www.ict4lt.org/en/en_glossary.htm#blog) in which very short texts are posted containing snippets of information about events, websites and other information. See JISC's **Web2practice** video on **Blip TV**: <http://web2practice.jiscinvolve.org/microblogging/>. [Twitter](http://www.ict4lt.org/en/en_glossary.htm#twitter) is an example of a popular microblogging facility.

**Microchip:** Also referred to as [Chip](http://www.ict4lt.org/en/en_glossary.htm#chip)or[Silicon Chip](http://www.ict4lt.org/en/en_glossary.htm#silicon). Invented in 1958 by Jack St. Clair Kilby, while he was working at Texas Instruments, Dallas, Texas:<http://www.ti.com/corp/docs/kilbyctr/jackstclair.shtml>. An electronic circuit etched on to a small piece of silicon which has been subjected, using photo-masking processes, to controlled "doping" with certain impurities. Particular areas of the chip can then be made to act like electronic components such as diodes, capacitors and resistors. See [Integrated Circuit](http://www.ict4lt.org/en/en_glossary.htm#intcirc).

**Microcomputer:** A generic name for a class of computers distinct from bigger mainframe computers and minicomputers. Two of the defining characteristics of a *microcomputer* are that it should be built around one [Microprocessor](http://www.ict4lt.org/en/en_glossary.htm#microproc) and that it should be standalone, i.e. capable of operating independently from any other computer or computer [Network](http://www.ict4lt.org/en/en_glossary.htm#network) to which it might be connected. Modern [Desktop Computers](http://www.ict4lt.org/en/en_glossary.htm#desktopcomp) and [Laptop Computers](http://www.ict4lt.org/en/en_glossary.htm#laptop) computers fall into this category. See [Mainframe Computer](http://www.ict4lt.org/en/en_glossary.htm#mainframe), [Minicomputer](http://www.ict4lt.org/en/en_glossary.htm#mincomp).

**Microphone:** Essential for making sound recordings in multimedia CALL programs. Microphones used in multimedia applications are much the same as those used with standard audiocassette devices. Choosing the right kind of microphone is vital. See [Condenser Microphone](http://www.ict4lt.org/en/en_glossary.htm#condenser), [Dynamic Microphone](http://www.ict4lt.org/en/en_glossary.htm#dynamic). See [Section 1.2.4, Module 1.2](http://www.ict4lt.org/en/en_mod1-2.htm#mic) for further information on microphones. See also [Module 2.2](http://www.ict4lt.org/en/en_mod2-2.htm),*Introduction to multimedia CALL*.

**Microprocessor:** The *microprocessor* is the [Central Processing Unit (CPU)](http://www.ict4lt.org/en/en_glossary.htm#centproc) of a computer, where all the data processing and calculations are carried out. It's a single silicon chip containing millions of transistors etched on to its surface, connected to the [Motherboard](http://www.ict4lt.org/en/en_glossary.htm#motherboard) by an array of pins at its base. See [Silicon Chip](http://www.ict4lt.org/en/en_glossary.htm#silicon).

**Microsoft Office:**A suite of programs produced by Microsoft Corporation, comprising a [Word-processor](http://www.ict4lt.org/en/en_glossary.htm#wordproc) (*Word*), a [Spreadsheet](http://www.ict4lt.org/en/en_glossary.htm#spreadsheet) (*Excel*), a [Presentation Program](http://www.ict4lt.org/en/en_glossary.htm#present) (*PowerPoint*), an [Emai](http://www.ict4lt.org/en/en_glossary.htm#email)l package (*Outlook*), a [Database](http://www.ict4lt.org/en/en_glossary.htm#database) program (*Access*), and a [Desktop Publishing](http://www.ict4lt.org/en/en_glossary.htm#desktoppub) package (*Publisher*).

**Microsoft Windows:** See [Windows](http://www.ict4lt.org/en/en_glossary.htm#windows).

**MIDI:**Abbreviation for Musical Instrument Digital Interface. A format for synthesised music. Music in MIDI format is created and played through the use of synthesisers, unlike "real" music which is normally recorded in [MP3](http://www.ict4lt.org/en/en_glossary.htm#mp3), [WMA](http://www.ict4lt.org/en/en_mod2-2.htm) or [WAV](http://www.ict4lt.org/en/en_glossary.htm#wav) format.

**Millennium Bug:**A flaw in computer programs which was thought likely to cause a breakdown in computer systems worldwide following the commencement of the Year 2000 - or Y2K in computer jargon. The Millennium Bug arose as a result of year dates having been stored in older computer programs as two digits, e.g. 89 instead of 1989. The bug was most likely to arise when one year date was compared with another, when 00 (instead of 2000) was perceived as older than 89 (instead of 1989). The Millennium Bug proved to be far less of a problem than was anticipated, but it did manifest itself in computerised stock control systems, resulting in batches of canned food with sell-by dates after 2000 being accidentally scrapped before their time. See [Bug](http://www.ict4lt.org/en/en_glossary.htm#bug), [Debug](http://www.ict4lt.org/en/en_glossary.htm#debug).

**Minicomputer:** Smaller than a [Mainframe Computer](http://www.ict4lt.org/en/en_glossary.htm#mainframe) and bigger than a [Microcomputer](http://www.ict4lt.org/en/en_glossary.htm#microcomp). Small businesses often rely on minis. Minis can handle many users at once. Today's minis are much more powerful than yesterday's mainframes.

**Minority Languages:** See [LWULT Languages](http://www.ict4lt.org/en/en_glossary.htm#lwult).

**MLAT:**Abbreviation for [Modern Language Aptitude Testing (MLAT)](http://www.ict4lt.org/en/en_glossary.htm#mlat).

**MLE:**Abbreviation for Managed Learning Environment. The totality of information systems in an educational institution, which may embrace a [Virtual Learning Environment (VLE)](http://www.ict4lt.org/en/en_glossary.htm#virtual) or [Course Management System (CMS)](http://www.ict4lt.org/en/en_glossary.htm#courseman).

**MMOG:** Abbreviation for Massively Multiplayer Online Game, a shortened version of [MMORPG](http://www.ict4lt.org/en/en_glossary.htm#mmorpg).

**MMORPG:**Abbreviation for Massively Multiplayer Online Role Playing Game, a type of [Virtual World](http://www.ict4lt.org/en/en_glossary.htm#virtualworld) in which players adopt amazing characters to explore fantasy worlds. See [MUVE](http://www.ict4lt.org/en/en_glossary.htm#muve). Often shortened to **MMOG** (see previous entry). See Wikipedia: <http://en.wikipedia.org/wiki/MMORPG>

**Mobile Assisted Language Learning (MALL):**See [Section 5, Module 2.3](http://www.ict4lt.org/en/en_mod2-3.htm#mall), for further information on MALL.

**Moblog:**A contraction of *mobile* and *blog*. A [Blog](http://www.ict4lt.org/en/en_glossary.htm#blog) featuring posts sent mainly by mobile phone (cellphone) or [PDA](http://www.ict4lt.org/en/en_glossary.htm#pda). Moblogs are often set up to enable people to post messages and photographs on the Web while they are travelling. See <http://moblog.net/home/>

**Modem:**Short for modulator/demodulator. A device which converts computer data to a signal that can be transmitted over a standard telephone line. It can also reconvert a signal coming into a computer via a telephone line so that it can be understood by the computer. Modems are used to connect computers with the [Internet](http://www.ict4lt.org/en/en_glossary.htm#internet). See Section [1.3.2, Module 1.2](http://www.ict4lt.org/en/en_mod1-2.htm#modem) for further information and an illustration of a modem.

**Modern Language Aptitude Testing (MLAT):** A type of testing that aims to predict how well an individual can learn a foreign language in a given amount of time and under given conditions. See[Section 6, Module 4.1](http://www.ict4lt.org/en/en_mod4-1.htm#mlat), headed *Modern Language Aptitude Testing (MLAT)*.

**Monitor:** The screen on which output from a computer is displayed. Also referred to as [Display Screen](http://www.ict4lt.org/en/en_glossary.htm#display). See [Section 1.1.2, Module 1.2](http://www.ict4lt.org/en/en_mod1-2.htm#monitor) for further information and illustrations of different types of display screens.

**MOO:** MOO stands for *Multi-User-Domain Object Oriented* and derives from the earlier [MUD](http://www.ict4lt.org/en/en_glossary.htm#mud). A MOO is an object-oriented database housed on a remote server. Users from around the world can log into a MOO to communicate with other MOO users or players, either *synchronously* (i.e. in real time) or *asynchronously*, and build their own landscape and objects within the MOO. MOOs are beginning to play a role in language learning. (See [Asynchronous](http://www.ict4lt.org/en/en_glossary.htm#asynchron) and [Synchronous](http://www.ict4lt.org/en/en_glossary.htm#synchron)). See [Adventure Game](http://www.ict4lt.org/en/en_glossary.htm#adventure) and [MUVE](http://www.ict4lt.org/en/en_glossary.htm#muve), a [Virtual World](http://www.ict4lt.org/en/en_glossary.htm#virtualworld) which can be considered a further development of the MOO concept. See [Section 14.2, Module 1.5](http://www.ict4lt.org/en/en_mod1-5.htm#14.2) under the heading *Chat rooms, MUDs, MOOs and MUVEs*.

**Moodle:**A [Virtual Learning Environment (VLE)](http://www.ict4lt.org/en/en_glossary.htm#virtual), also described as a [Course Management System (CMS)](http://www.ict4lt.org/en/en_glossary.htm#courseman). The Moodle website is at [http://moodle.org](http://moodle.org/). Moodle is [Open Source](http://www.ict4lt.org/en/en_glossary.htm#opensource) software, which means you are free to download it, use it, modify it and even distribute it. Moodle has its own Moodle for Language Teaching Community: <http://moodle.org/course/view.php?id=31>

**Motherboard:** The main electronic circuit board of a microcomputer, to which other circuit boards (also known as *cards*) can be connected in order to fulfil special functions, e.g. a [Sound Card](http://www.ict4lt.org/en/en_glossary.htm#soundcard) or [Video Card](http://www.ict4lt.org/en/en_glossary.htm#vidcard). Typically, the motherboard contains the [BIOS](http://www.ict4lt.org/en/en_glossary.htm#bios), [CPU](http://www.ict4lt.org/en/en_glossary.htm#cpu), [RAM](http://www.ict4lt.org/en/en_glossary.htm#ram), [ROM](http://www.ict4lt.org/en/en_glossary.htm#rom) and all the controllers required to control standard peripheral devices, such as the [Display Screen](http://www.ict4lt.org/en/en_glossary.htm#display), [Keyboard](http://www.ict4lt.org/en/en_glossary.htm#keyboard) and disc drives.

**Mouse:**A *pointing device* that is used by moving it around on your desk and pressing (clicking) a button. Most mice have two buttons (left and right) but some have three. Apple Mac computers use a mouse with just one button. Moving the mouse causes a pointer or [Cursor](http://www.ict4lt.org/en/en_glossary.htm#cursor) to move around the the screen, and clicking a mouse button once or twice when the pointer is hovering over an icon or word activates a command, e.g. starts a computer program or initiates an action inside another program such as *Microsoft Word*. A mouse is used with computers that use a [Graphical User Interface (GUI)](http://www.ict4lt.org/en/en_glossary.htm#graphuser). See [Pointing Device](http://www.ict4lt.org/en/en_glossary.htm#pointing). See [Section 1.1.4, Module 1.2](http://www.ict4lt.org/en/en_mod1-2.htm#mouse), which contains an illustration of a mouse.

**MOV:** The format for storing and playing back audio and video files using the [QuickTime](http://www.ict4lt.org/en/en_glossary.htm#quicktime) media player on the Apple Macintosh, but also available for the multimedia PC. Economical in terms of storage space. See [ASF](http://www.ict4lt.org/en/en_glossary.htm#asf), [AVI](http://www.ict4lt.org/en/en_glossary.htm#avi), [MPEG](http://www.ict4lt.org/en/en_glossary.htm#mpeg), [RM](http://www.ict4lt.org/en/en_glossary.htm#rmreal), which are alternative video file formats. See [Section 2.2.3.4, Module 2.2](http://www.ict4lt.org/en/en_mod2-2.htm#videoed), headed *Video editing software*.

**MP3:** Abbreviation for MPEG Layer 3: see [MPEG](http://www.ict4lt.org/en/en_glossary.htm#mpeg). MP3 is a file format for storing high-quality audio files that can be played back on computers and portable *media players* such as the [iPod](http://www.ict4lt.org/en/en_glossary.htm#ipod). MP3 has the advantage of taking up far less storage space than the [WAV](http://www.ict4lt.org/en/en_glossary.htm#wav) format without loss of quality. See also [WMA](http://www.ict4lt.org/en/en_glossary.htm#wma), which is and alternative audio file format. See [Media Player](http://www.ict4lt.org/en/en_glossary.htm#mediaplay). See [Section 2.2.3.3, Module 2.2](http://www.ict4lt.org/en/en_mod2-2.htm#sounded), headed *Sound recording and editing software*. See [MP4](http://www.ict4lt.org/en/en_glossary.htm#mp4).

**MP4:**Abbreviation for the MPEG-4 file format. There are two basic types of MP4: **MP4 AAC (Advanced Audio Coding)** and **MP4 AVC (Advanced Video Coding)**. The MP4 AAC file format is used to store audio files in a more manageable size without affecting the quality. MP4 AAC's best known use is as the default audio format of Apple's **iPhone**, **iPod** and **iTunes Media Player**:<http://www.apple.com/itunes/>. The MP4 AVC file format is used to store video files in a more manageable size wihout affecting the quality. It is also increasingly being used for storing video on iPods and similar portable devices. See [MPEG](http://www.ict4lt.org/en/en_glossary.htm#mpeg).

**MPC:**Abbreviation for [Multimedia Personal Computer](http://www.ict4lt.org/en/en_glossary.htm#multimedpc).

**MPEG**or**MPG:** Abbreviation for Motion Picture Expert Group. Pronounced "Empeg". A standard file format for storing movies in digital format and high-quality audio files in a variation known as [MP3](http://www.ict4lt.org/en/en_glossary.htm#mp3). Video files stored MPEG format can be recognised by the [Extension](http://www.ict4lt.org/en/en_glossary.htm#extension) **.mpg** or **.mpeg**. MP3 audio files can be recognised by the [Extension](http://www.ict4lt.org/en/en_glossary.htm#extension) **.mp3**. A newer file format is [MP4](http://www.ict4lt.org/en/en_glossary.htm#mp4). MP4 files that can be recognised by the [Extension](http://www.ict4lt.org/en/en_glossary.htm#extension) **.mp4**. See [ASF](http://www.ict4lt.org/en/en_glossary.htm#asf), [AVI](http://www.ict4lt.org/en/en_glossary.htm#avi), [MOV](http://www.ict4lt.org/en/en_glossary.htm#movqt), [RM](http://www.ict4lt.org/en/en_glossary.htm#rmreal), which are alternative video file formats. See [Section 2.2.3.4, Module 2.2](http://www.ict4lt.org/en/en_mod2-2.htm#videoed), headed *Video editing software*. See [http://www.mpeg.org](http://www.mpeg.org/), a reference site for MPEG, with explanations of different MPEG formats and links to sources of media players.

**MPG:** A contracted form of [MPEG](http://www.ict4lt.org/en/en_glossary.htm#mpeg).

**MS DOS:** Abbreviation for Microsoft Disc Operating System. An *operating system* for the personal computer, written by Microsoft Corporation, but now superseded by *Microsoft Windows*. MS DOS is a character-based system, whereby the user has to type commands at a prompt. See [Character User Interface](http://www.ict4lt.org/en/en_glossary.htm#character), [Operating System](http://www.ict4lt.org/en/en_glossary.htm#opsys), [Windows](http://www.ict4lt.org/en/en_glossary.htm#windows).

**MT:** Abbreviation for [Machine Translation](http://www.ict4lt.org/en/en_glossary.htm#mat).

**MUD:**MUD is an abbreviation for *Multi User Domain* or *Multi User Dungeon*. A MUD is a type of real-time Web environment in which users not only email one another but also move around and manipulate objects in an imaginary world. MUDs were originally developed as role-playing adventure games to be engaged in across computer networks but they have developed into a facility for collaboration and education, including language learning. See [Adventure Game](http://www.ict4lt.org/en/en_glossary.htm#adventure) and [MOO](http://www.ict4lt.org/en/en_glossary.htm#moo). See also [MUVE](http://www.ict4lt.org/en/en_glossary.htm#muve), a [Virtual World](http://www.ict4lt.org/en/en_glossary.htm#virtualworld) which can be considered a further development of the MOO concept. See[Section 14.2, Module 1.5](http://www.ict4lt.org/en/en_mod1-5.htm#14.2) under the heading *Chat rooms, MUDs, MOOs and MUVEs*.

**Multimedia:** The integration of two or more types of information (text, images, audio, video, animation, etc.) in a single application. See [Hypermedia](http://www.ict4lt.org/en/en_glossary.htm#hypermedia), [Media](http://www.ict4lt.org/en/en_glossary.htm#mediaplay). See [Module 2.2](http://www.ict4lt.org/en/en_mod2-2.htm), *Introduction to multimedia CALL*.

**Multimedia Personal Computer (MPC):** An enhanced [Personal Computer](http://www.ict4lt.org/en/en_glossary.htm#personalc) that is able to play sound and video and allows the user to make sound and video recordings. MPCs are virtually a standard nowadays. See [Section 1.2 Module 1.2](http://www.ict4lt.org/en/en_mod1-2.htm#mpc) for further information on the MPC. See also [Module 2.2](http://www.ict4lt.org/en/en_mod2-2.htm), *Introduction to multimedia CALL*.

**Multiple Choice Exercise:**See [Module 2.5](http://www.ict4lt.org/en/en_mod2-5.htm), *Introduction to CALL authoring programs*, See [Section 5.1, Module 3.2](http://www.ict4lt.org/en/en_mod3-2.htm#mc), headed *Multiple-choice exercises*.

**Multitasking:** The execution of more than one program, apparently at the same time, on a computer. In reality, however, the computer rapidly switches its attention from one program to another, thus dividing its time. *Multitasking* makes it possible, for example, to print one word-processed document while working on another. Another form of multitasking allows you to open several different *windows*in which different programs can be run, but only one window is the *active window*. See [Window](http://www.ict4lt.org/en/en_glossary.htm#window) and [Windows](http://www.ict4lt.org/en/en_glossary.htm#windows).

**Munge:**The act of disguising your email address so it cannot be deciphered or cannot easily be deciphered by a [Spammer](http://www.ict4lt.org/en/en_glossary.htm#spam). Normally used as a verb, "to munge". From MUNG: Mangle Until No Good.

**MUVE:** An abbreviation for Multi User Virtual Environment, also known as a [Virtual World](http://www.ict4lt.org/en/en_glossary.htm#virtualworld). This is a a further development of the [MUD](http://www.ict4lt.org/en/en_glossary.htm#mud) concept. [Second Life](http://www.ict4lt.org/en/en_glossary.htm#secondlife) is an example of a MUVE that allows undreds of simultaneous users to interact in a virtual world in which they each adopt a chosen character or [Avatar](http://www.ict4lt.org/en/en_glossary.htm#avatar). See [MMORPG](http://www.ict4lt.org/en/en_glossary.htm#mmorpg). See [Section 14.2, Module 1.5](http://www.ict4lt.org/en/en_mod1-5.htm#14.2) under the heading *Chat rooms, MUDs, MOOs and MUVEs*. MUVEs are closely associated with [Web 2.0](http://www.ict4lt.org/en/en_glossary.htm#web2) applications

[Top](http://www.ict4lt.org/en/en_glossary.htm#GlossTop)

**N**

**Name Server**or **Nameserver:** Also known in full as [Domain Name Server](http://www.ict4lt.org/en/en_glossary.htm#domainname). A special type of Internet computer which converts a website's *domain name* into a unique numerical *IP Address* that identifies the computer where the website is stored. When you try to connect to a website with a domain name such as **hull.ac.uk** (University of Hull), a request is first made to a *name server* to resolve this name into an *IP address*, which is then used to locate the computer where the website is stored and to establish a connection with it. See [Domain Name](http://www.ict4lt.org/en/en_glossary.htm#domainname), [Host Name](http://www.ict4lt.org/en/en_glossary.htm#hostname), [IP Address](http://www.ict4lt.org/en/en_glossary.htm#ipadd).

**Narrowband:** A term used to describe a slow-speed connection to the [Internet](http://www.ict4lt.org/en/en_glossary.htm#internet), normally via a [Modem](http://www.ict4lt.org/en/en_glossary.htm#modem) and less than or equal to 64 Kbps. Contrasted with [Broadband](http://www.ict4lt.org/en/en_glossary.htm#broadband). See [Kbps](http://www.ict4lt.org/en/en_glossary.htm#kbps).

**National Grid for Learning (NGfL):**An initiative by the UK Government’s Department for Education and Employment..The aims of this initiative were set out in a consultation paper, *Connecting the Learning Society*, October 1997. The *NGfL* was designated as a provider of information and resources for all schools, colleges and universities in the UK, but it developed into a rather cumbersome website that users found difficult to [Navigate](http://www.ict4lt.org/en/en_glossary.htm#navigate). The NGfL website closed in April 2006.

**Natural Language Processing (NLP):** A general term used to describe the use of computers to process information expressed in natural (i.e. human) languages. See [Human Language Technologies](http://www.ict4lt.org/en/en_glossary.htm#hlt). See [Module 3.5](http://www.ict4lt.org/en/en_mod3-5.htm), *Human Language Technologies (HLT)*.

**Navigation:** This describes the process of finding your way, i.e. *navigating*, around a series of menus within a computer program or finding your way around the [World Wide Web](http://www.ict4lt.org/en/en_glossary.htm#wwweb) by means of a[Browser](http://www.ict4lt.org/en/en_glossary.htm#browser).

**Nerd:** A colloquial term describing a computer boffin. Unlike other terms such as [Anorak](http://www.ict4lt.org/en/en_glossary.htm#anorak), [Geek](http://www.ict4lt.org/en/en_glossary.htm#geek), [Techie](http://www.ict4lt.org/en/en_glossary.htm#techie) and [Trainspotter](http://www.ict4lt.org/en/en_glossary.htm#train), the term *nerd* has acquired mainly positive connotations in recent times, as in the 1996 TV series "Triumph of the Nerds: the Rise of Accidental Empires", which tells the history of the rise of the computer boffins such as Microsoft's Bill Gates and Apple's Steve Jobs, both of whom are described as *nerds*: see <http://www.pbs.org/nerds/>

**Netbook:**A netbook is a small, lightweight computer, smaller than a [Laptop Computer](http://www.ict4lt.org/en/en_glossary.htm#laptop), with a long battery life and ideal for travelling. Netbook computers have built in [Wifi](http://www.ict4lt.org/en/en_glossary.htm#wifi) and are optimized for browsing the [Web](http://www.ict4lt.org/en/en_glossary.htm#wwweb) and [Email](http://www.ict4lt.org/en/en_glossary.htm#email).

**Netiquette:**Etiquette on the [Internet](http://www.ict4lt.org/en/en_glossary.htm#internet). An code of behaviour for people communicating by email via the Internet. There are several useful publications relating to *netiquette*. See [Section 14.1.4, Module 1.5](http://www.ict4lt.org/en/en_mod1-5.htm#netiquette), headed*Netiquette*.

**Netizen:** Derived from the term citizen, referring to a citizen of the [Internet](http://www.ict4lt.org/en/en_glossary.htm#internet), or someone who uses networked resources. The term connotes civic responsibility and participation.

**Netscape:** An early Web [Browser](http://www.ict4lt.org/en/en_glossary.htm#browser), which first appeared in 1994, shortly after the World Wide Web went public.

**Network:** A group of computers connected together, either by physical connections such as cables, or by wireless connnections (see [Wifi](http://www.ict4lt.org/en/en_glossary.htm#wifi)). The [Internet](http://www.ict4lt.org/en/en_glossary.htm#internet) is a worldwide network of computers to which virtually any computer can be connected. See [Intranet](http://www.ict4lt.org/en/en_glossary.htm#intranet), [LAN](http://www.ict4lt.org/en/en_glossary.htm#lan), [MAN](http://www.ict4lt.org/en/en_glossary.htm#man), [WAN](http://www.ict4lt.org/en/en_glossary.htm#wan), [World Wide Web](http://www.ict4lt.org/en/en_glossary.htm#wwweb). See [Section 3, Module 1.2](http://www.ict4lt.org/en/en_mod1-2.htm#networks).

**Newsgroup:** A type of public online *forum* which anyone can read and contribute to. All users of a *newsgroup* can post messages, and every user can read all the messages that have been posted. Many newsgroups are distributed worldwide by the Usenet system: [http://www.usenet.org.uk](http://www.usenet.org.uk/). Newsgroups have now been superseded to a large extent by blogs and electronic discussion lists. See [Blog](http://www.ict4lt.org/en/en_glossary.htm#blog),[Discussion List](http://www.ict4lt.org/en/en_glossary.htm#discussion), [Forum](http://www.ict4lt.org/en/en_glossary.htm#forum).

**NGfL:**Abbreviation for [National Grid for Learning](http://www.ict4lt.org/en/en_glossary.htm#natgrid).

**Ning:** A platform that enables you to create your own [Social Network](http://www.ict4lt.org/en/en_glossary.htm#socialnet). A Ning enables anyone to create a network focusing on a particular topic or catering for a specific membership, for example a group of teachers working together on an educational project. Typically, a Ning includes blogs, announcements of events, a forum, live chat and facilities for uploading photographs and video clips. Examples of educational Nings include EUROCALL/CALICO Virtual Worlds Special Interest Group, AVALON and NIFLAR: see [Section 14.2.1 (iii), Module 1.5](http://www.ict4lt.org/en/en_mod1-5.htm#lltsl). The word "Ning" derives from the Chinese word for "peace": <http://www.ning.com/>. [Section 12.4, Module 1.5](http://www.ict4lt.org/en/en_mod1-5.htm#socnet), headed *Social networking*.

**NLP:** Abbreviation for [Natural Language Processing](http://www.ict4lt.org/en/en_glossary.htm#natlang).

**Notebook Computer:** A type of [Laptop Computer,](http://www.ict4lt.org/en/en_glossary.htm#laptop) but lighter and thinner - and therefore easy to carry around. See [Netbook](http://www.ict4lt.org/en/en_glossary.htm#netbook), an even smaller and lighter computer.

[Top](http://www.ict4lt.org/en/en_glossary.htm#GlossTop)

**O**

**OCR:**Abbreviation for [Optical Character Recognition](http://www.ict4lt.org/en/en_glossary.htm#optchar).

**Offline:**Not connected to a computer or network of computers. Often used in the sense of working with software stored on a stand-alone computer. For example, if you use a package such as*Microsoft Word* you are working with *offline* software, and if you use learning materials stored on [CD-ROM](http://www.ict4lt.org/en/en_glossary.htm#cdrom) you are also working *offline*. Constrasted with [Online](http://www.ict4lt.org/en/en_glossary.htm#online). See [Section 1, Module 2.3](http://www.ict4lt.org/en/en_mod2-3.htm#onoroff), headed*What is the difference between online and offline?*

**OILS:**Abbreviation for [Open and Integrated Learning System](http://www.ict4lt.org/en/en_glossary.htm#openint).

**Online**: Connected to a computer or network of computers, especially the [World Wide Web](http://www.ict4lt.org/en/en_glossary.htm#wwweb). Often used in the sense of working with software stored at a remote location. For example, if you use learning materials stored at a website you are working *online*. Constrasted with [Offline](http://www.ict4lt.org/en/en_glossary.htm#offline). See [Section 1, Module 2.3,](http://www.ict4lt.org/en/en_mod2-3.htm#onoroff) headed *What is the difference between online and offline?*

**Online Learning:** The use of the [Internet](http://www.ict4lt.org/en/en_glossary.htm#internet) to follow a course that usually results in the award of a diploma or certificate. Closely associated with the concept of [E-learning](http://www.ict4lt.org/en/en_glossary.htm#elearn), which often - but not necessarily - implies some form of *online learning*, i.e. using [Email](http://www.ict4lt.org/en/en_glossary.htm#email) and the [World Wide Web](http://www.ict4lt.org/en/en_glossary.htm#wwweb). E-learning, i.e. electronic learning, is a broader term, embracing the use of ICT in general in teaching and learning as well as online learning. See also [Blended Learning](http://www.ict4lt.org/en/en_glossary.htm#blended), [Distance Learning](http://www.ict4lt.org/en/en_glossary.htm#distancelearn).

**Open and Integrated Learning System (OILS):**A variant of [Integrated Learning System](http://www.ict4lt.org/en/en_glossary.htm#intlearn). The word *Open* adds an extra dimension, indicating that the user can access the system freely and leave it at any time.

**Open Source:**Used to describe [Software](http://www.ict4lt.org/en/en_glossary.htm#software) that is provided free of charge, along with the original [Source Code](http://www.ict4lt.org/en/en_glossary.htm#source) used to create it so that anyone modify it to improve it and work in ways that reflect their own preferences. [Moodle](http://www.ict4lt.org/en/en_glossary.htm#moodle) is a typical example of open source software.

**Operating System (OS):** A suite of programs that starts up when you switch on your computer and manages and runs all the other programs installed on the computer. *Windows* is the *operating system*developed and produced by the Microsoft Corporation. See [*Windows*](http://www.ict4lt.org/en/en_glossary.htm#windows).

**Optical Character Recognition (OCR):** OCR software is used conjunction with a *scanner* to convert printed text into digital format. For example, a page from a printed book can be placed on the scanner and the OCR software will be used by the scanner to detect the individual words from which it is made up and then convert them into a form that can be stored on a computer, e.g. a *Word*document. A great time-saver! See [Scanner](http://www.ict4lt.org/en/en_glossary.htm#scanner).

**Optical Disc:** The generic name for a type of computer disc which uses a laser to read and write data. See [CD-ROM](http://www.ict4lt.org/en/en_glossary.htm#cdrom), [Digital Video Disc](http://www.ict4lt.org/en/en_glossary.htm#dvd), [Videodisc](http://www.ict4lt.org/en/en_glossary.htm#videodisc), all of which are *optical discs*.

**OS:**Abbreviation for [Operating System](http://www.ict4lt.org/en/en_glossary.htm#opsys).

**Outlook:**A popular [Email](http://www.ict4lt.org/en/en_glossary.htm#email) program, part of the [*Microsoft Office*](http://www.ict4lt.org/en/en_glossary.htm#msoffice) suite of programs.

**Output:**Anything that comes out of a computer after being processed. Also used as a verb. See [Input](http://www.ict4lt.org/en/en_glossary.htm#input).

[Top](http://www.ict4lt.org/en/en_glossary.htm#GlossTop)

**P**

**Package:** Loosely speaking, a program or suite of programs such as *Microsoft Office*, but often has the sense of a set of programs designed to be used by people who wish to use the package in different ways.

**Partial Matching:**In [CALL](http://www.ict4lt.org/en/en_glossary.htm#call), a form of matching in which a character-by-character comparison of the learner's input at the keyboard is made with what is stored in the computer. This enables errors to be pinpointed with greater accuracy. See [Fuzzy Matching](http://www.ict4lt.org/en/en_glossary.htm#fuzzy), [Matching](http://www.ict4lt.org/en/en_glossary.htm#matching). See [Section 1.2, Module 1.4](http://www.ict4lt.org/en/en_mod1-4.htm#interactivity), headed *Interactivity*.

**Pathname:** The pathname of a [File](http://www.ict4lt.org/en/en_glossary.htm#file) on a computer specifies exactly its position on disc, and consists of at least three parts: (i) drive letter, (ii) directory, and (iii) filename, e.g. **c:\windows\user.exe**. One or more subdirectories may also be included in a pathname, e.g. **c:\windows\system\user.exe**. See [Directory](http://www.ict4lt.org/en/en_glossary.htm#directory), [Folder](http://www.ict4lt.org/en/en_glossary.htm#folder).

**PC:**Abbreviation for[Personal Computer](http://www.ict4lt.org/en/en_glossary.htm#personalc).

**PCB:** Abbreviation for [Printed Circuit Board](http://www.ict4lt.org/en/en_glossary.htm#printedcirc).

**PDA:**Abbreviation for Personal Digital Assistant. A handheld device that combines computing, audio communication, browsing and networking features and serves as an organiser for personal information.

**PDF:** An abbreviation for Portable Document Format. This is a file type created by Adobe that allows fully formatted, documents to be transmitted across the Internet and viewed on any computer that has Adobe *Acrobat Reader* software - a proprietary software viewing program available for free at the Adobe website: <http://www.adobe.com/uk/>. Businesses and educational institutions often use PDF-formatted files to display the original look of their brochures or for publishing a complete magazine in electronic format. Using the full Adobe *Acrobat* software package, it is possible to create a high-quality piece of artwork or a brochure which preserves the look of the original, complete with fonts, colours, images, and formatting. Documents in PDF format can be published on the Web without having to be converted into [HTML](http://www.ict4lt.org/en/en_glossary.htm#html). PDF files can be distributed via *email*, *CD-ROMs* and *local area networks*. They can also contain *hyperlinks*, [QuickTime](http://www.ict4lt.org/en/en_glossary.htm#quicktime) movies and sound clips. See [Hyperlink](http://www.ict4lt.org/en/en_glossary.htm#hyperlink).

**Pen Drive:** An alternative term for [Flash Drive](http://www.ict4lt.org/en/en_glossary.htm#flashdrive).

**Pentium:** A generic name for a faster type of [Personal Computer](http://www.ict4lt.org/en/en_glossary.htm#personalc) that superseded the earlier 486 range of slower computers. Essential for running modern multimedia software and accessing the [Internet](http://www.ict4lt.org/en/en_glossary.htm#internet).

**Peripheral Device:** Often abbreviated to *peripheral*. Virtually any device which can be connected to a computer. This term includes modems, printers, scanners, interactive whiteboards, etc. See[Interactive Whiteboard](http://www.ict4lt.org/en/en_glossary.htm#iaw), [Modem](http://www.ict4lt.org/en/en_glossary.htm#modem), [Printer](http://www.ict4lt.org/en/en_glossary.htm#printer), [Scanner](http://www.ict4lt.org/en/en_glossary.htm#scanner). See [Section 1.3, Module 1.2](http://www.ict4lt.org/en/en_mod1-2.htm#peripherals) for further information on peripheral devices.

**Personal Computer:** The generic term for IBM-compatible microcomputers. See [Microcomputer](http://www.ict4lt.org/en/en_glossary.htm#microcomp), [Multimedia Personal Computer](http://www.ict4lt.org/en/en_glossary.htm#multimedpc).

**Personal Digital Assistant:** A handheld device that combines computing, audio communication, browsing and networking features and serves as an organiser for personal information.Usually abbreviated to **PDA**.

**Personal Learning Environment (PLE):** A PLE, unlike a [Virtual Learning Environment (VLE)](http://www.ict4lt.org/en/en_glossary.htm#virtual), is an approach to using new technologies that enables learners to develop and control their own learning environment using a range of [Social Networking](http://www.ict4lt.org/en/en_glossary.htm#socialnet) tools. It may also be described as a **Personal Learning Network (PLN)**. A PLE or PLN does not preclude the presence of teachers, who may play the role of providing support for learners in setting their own goals and targets and helping them manage the content and process of learning. See the **ICT4LT blog** under the topic headed [The VLE is dead. Long live the PLE!](http://ictforlanguageteachers.blogspot.com/2009/07/vle-is-dead-long-live-ple.html) (July 2009). See also [Section 12.4, Module 1.5](http://www.ict4lt.org/en/en_mod1-5.htm#socnet), headed *Social networking*.

**Pixel:** A contraction of *picture element*. What you see on a computer [Display Screen](http://www.ict4lt.org/en/en_glossary.htm#display) is made up of thousands of coloured *pixels* or small dots, which can be set according to the user's choice to produce either low-resolution output, medium-resolution output or high-resolution output, the usual combinations of pixels across each line of the screen (horizontal pixels) and down each line of the screen (vertical pixels) being 640 x 480, 800 x 600, 1024 x 768, 1280 x 1024. Thus, the more pixels on the screen the higher the *resolution* (i.e. producing a finer, sharper image) and the greater the variety of colours that can be displayed. See [Bitmap](http://www.ict4lt.org/en/en_glossary.htm#bit), [Resolution](http://www.ict4lt.org/en/en_glossary.htm#resolution), [Vektor Graphic](http://www.ict4lt.org/en/en_glossary.htm#vector).

**Platform:** Often used as an alternative term for a computer system, including both the hardware and the software. Essentially this term describes something that is used to build something else. The term*platform-independent* - used to describe software - means that the software can be run on any computer. The term *learning platform* refers to the technology used to provide a single online location at which course resources can be made available to learners These resources can include course materials, communications tools such as [Email](http://www.ict4lt.org/en/en_glossary.htm#email) and [Conferencing](http://www.ict4lt.org/en/en_glossary.htm#confer), and a storage area for learners' work. The term [Virtual Learning Environment (VLE)](http://www.ict4lt.org/en/en_glossary.htm#virtual) may also be used synonymously with the term [Learning Platform](http://www.ict4lt.org/en/en_glossary.htm#learningplat).

**PLE:** Abbreviation for [Personal Learning Environment](http://www.ict4lt.org/en/en_glossary.htm#ple).

**PLN:**Abbreviation for Personal Learning Network. See [Personal Learning Environment](http://www.ict4lt.org/en/en_glossary.htm#ple).

**Plug-in:**An extra piece of software that a Web [Browser](http://www.ict4lt.org/en/en_glossary.htm#browser) needs to run certain elements of a Web page. Web pages incorporating multimedia files often need to use [Flash Player](http://www.ict4lt.org/en/en_glossary.htm#flash), [QuickTime](http://www.ict4lt.org/en/en_glossary.htm#quicktime), [RealPlayer](http://www.ict4lt.org/en/en_glossary.htm#realplayer) or[Shockwave Player](http://www.ict4lt.org/en/en_glossary.htm#shockwave) as *plug-ins*. Sites that require a plug-in usually provide a link to a site from which the essential plug-in can be downloaded. See [Section 6.8, Module 1.5](http://www.ict4lt.org/en/en_mod1-5.htm#plug), headed*Do you need plug-ins?*

**Podcast:**A *podcast* is a broadcast digital audio recording, made available via the [Web](http://www.ict4lt.org/en/en_glossary.htm#wwweb) in a way that allows the recording to be downloaded for listening at the user's convenience. Cf. [Vodcast](http://www.ict4lt.org/en/en_glossary.htm#vodcast), which is often used to describe a downloadable broadcast digital video recording. Many broadcasting stations now offer podcasts and vodcasts, e.g. the BBC: [http://www.bbc.co.uk](http://www.bbc.co.uk/). The term *podcast* takes its name from a combination of [iPod](http://www.ict4lt.org/en/en_glossary.htm#ipod) (Apple's portable digital [Media Player](http://www.ict4lt.org/en/en_glossary.htm#mediaplay)) and *broadcasting*, but podcasts do not necessarily require the use of an *iPod* or similar device. Podcasts can simply be downloaded to a computer and played using a standard [Media Player](http://www.ict4lt.org/en/en_glossary.htm#mediaplay) program. See [Section 3.5.2, Module 2.3](http://www.ict4lt.org/en/en_mod2-3.htm#podcast), headed *Podcasting*. See [RSS (Really Simple Syndication)](http://www.ict4lt.org/en/en_glossary.htm#rss).

**Pointing Device:** A device which allows the user to control the position of the [Cursor](http://www.ict4lt.org/en/en_glossary.htm#cursor) on a computer screen by physical manipulation of the device in different directions. See [Joystick](http://www.ict4lt.org/en/en_glossary.htm#joystick), [Mouse](http://www.ict4lt.org/en/en_glossary.htm#mouse)*,* [Trackball](http://www.ict4lt.org/en/en_glossary.htm#trackball), all of which are pointing devices.

**Pop-up:**A small [Window](http://www.ict4lt.org/en/en_glossary.htm#window) that appears within a program or over the top of a Web page to deliver additional information. Pop-ups on the Web can be annoying as they are often used for unwanted advertising material.

**Portal:**A Web page, website or service that acts as link or entrance to other websites on the [Internet](http://www.ict4lt.org/en/en_glossary.htm#internet). Typically, a portal includes an annotated catalogue of websites and may also include a [Search Engine](http://www.ict4lt.org/en/en_glossary.htm#searcheng), [Email](http://www.ict4lt.org/en/en_glossary.htm#email) facilities, a [Forum](http://www.ict4lt.org/en/en_glossary.htm#forum) and other services. Also known as a [Gateway](http://www.ict4lt.org/en/en_glossary.htm#gateway).

**Postscript Printer:** A type of [Printer](http://www.ict4lt.org/en/en_glossary.htm#printer) which is compatible with the Postscript language, a Page Description Language (PDL) favoured by the printing profession for the production of high-quality printed publications..

**Powered Microphone:** See [Condenser Microphone](http://www.ict4lt.org/en/en_glossary.htm#condenser). See [Section 1.2.4, Module 1.2](http://www.ict4lt.org/en/en_mod1-2.htm#mic) for further information on microphones.

**PowerPoint:**The name of a [Presentation Program](http://www.ict4lt.org/en/en_glossary.htm#present) forming part of the [Microsoft Office](http://www.ict4lt.org/en/en_glossary.htm#msoffice) suite of programs. See [Section 7, Module 1.3](http://www.ict4lt.org/en/en_mod1-3.htm#ppwc), headed *Using PowerPoint*, and [Section 4, Module 1.4](http://www.ict4lt.org/en/en_mod1-4.htm#iwbs), headed*Whole-class teaching and interactive whiteboards*.

**PPM:**Abbreviation for Pages Per Minute. A measure of the output speed of printers.

**PPP:**Abbreviation for [Presentation Practice Production](http://www.ict4lt.org/en/en_glossary.htm#presentation).

**Presentation Practice Production (PPP):** A long-established approach to language teaching, consisting of three main phases: (i) the **presentation** phase, in which the teacher presents new language (e.g. vocabulary and grammar) to the students; (ii) the **practice** phase, in which the students demonstrate that they understand how to use the new language correctly (e.g. through controlled oral or written activities) with feedback from the teacher; (iii) the **production** phase, in which the students produce new utterances using what they have learnt.

**Presentation Program / Presentation Software:** Used to describe software such as [PowerPoint](http://www.ict4lt.org/en/en_glossary.htm#powerpoint), part of the [Microsoft Office](http://www.ict4lt.org/en/en_glossary.htm#msoffice) suite of programs. *Presentation Software* is used in conjunction with a[Data Projector](http://www.ict4lt.org/en/en_glossary.htm#dataproj) and a wall screen or [Interactive Whiteboard](http://www.ict4lt.org/en/en_glossary.htm#iaw) in order to display a series of slides relating to a business presentation, a lesson or lecture. See[Section 7, Module 1.3](http://www.ict4lt.org/en/en_mod1-3.htm#ppwc), headed *Using PowerPoint*, and [Section 4, Module 1.4](http://www.ict4lt.org/en/en_mod1-4.htm#iwbs), headed *Whole-class teaching and interactive whiteboards*.

**Printed Circuit Board (PCB):** A thin ceramic plate on which electronic components are fixed by solder and connected via metal strips. PCs contain several PCBs, of which the most important is the[Motherboard](http://www.ict4lt.org/en/en_glossary.htm#motherboard).

**Printer:** More or less self-explanatory. An external device attached to a computer for device for producing printed output or [Hardcopy](http://www.ict4lt.org/en/en_glossary.htm#hardcopy). See [Dot Matrix Printer](http://www.ict4lt.org/en/en_glossary.htm#dotmatrix), [Ink Jet Printer](http://www.ict4lt.org/en/en_glossary.htm#inkjet), [Laser Printer](http://www.ict4lt.org/en/en_glossary.htm#laserprint), [Postscript Printer](http://www.ict4lt.org/en/en_glossary.htm#postscriptprint). See [Section 1.3.1, Module 1.2](http://www.ict4lt.org/en/en_mod1-2.htm#printer) for an illustration of a printer.

**Printout:**Anything produced on a printer after being processed by a computer program. See [Hardcopy](http://www.ict4lt.org/en/en_glossary.htm#hardcopy).

**Processor:** See [Central Processing Unit (CPU)](http://www.ict4lt.org/en/en_glossary.htm#centproc), [Microprocessor](http://www.ict4lt.org/en/en_glossary.htm#microproc).

**Program:** The American spelling is standard in computer jargon, enabling a useful distinction to be made in British English between a *computer program* and a *programme* in the sense of a *programme of study*. A talk with the title "Turning programmes into programs" (or maybe it was the other way round) was presented by a British Council officer at the annual TESOL conference in the USA in 1987 - which puzzled the American audience but made sense to the British participants. See [Computer Program](http://www.ict4lt.org/en/en_glossary.htm#computerprog).

**Programmed Learning:** Also referred to as *programmed instruction*. A teaching method involving a pre-constructed sequence of steps and associated feedback, based to a large extent on the behaviourist ideas of B.F. Skinner. The steps in the learning process are usually self-administered and self-paced, the learner being presented with information in small manageable pieces and only progressing to the next piece of information when s/he has successfully demonstrated that the current piece of information has been understood. Early [Computer Assisted Instruction (CAI)](http://www.ict4lt.org/en/en_glossary.htm#cai) was based to a large extent on programmed learning.

**Programming Language:** A formal, structured, English-like language in which computer programs are written. The instructions, known as *code*, are converted into binary machine instructions via a*compiler* or an *interpreter*. C++, Pascal, and BASIC, are examples of popular programming languages. See [Compiler](http://www.ict4lt.org/en/en_glossary.htm#compiler), [Interpreter](http://www.ict4lt.org/en/en_glossary.htm#interpreter). Distinguished from [Authoring Package](http://www.ict4lt.org/en/en_glossary.htm#authoringt), which enables a non-programmer to write [CALL](http://www.ict4lt.org/en/en_glossary.htm#call) materials. See also [Module 2.5](http://www.ict4lt.org/en/en_mod2-5.htm), *Introduction to CALL authoring programs*, and [Module 3.2](http://www.ict4lt.org/en/en_mod3-2.htm), *CALL software design and implementation*.

**Projector:**See [Data Projector](http://www.ict4lt.org/en/en_glossary.htm#dataproj).

**Protocol:** In [Internet](http://www.ict4lt.org/en/en_glossary.htm#internet) terminology *protocol* usually refers to a set of rules that define an exact format for communication between systems. For example the *HTTP* protocol defines the format for communication between Web *browsers* and Web *servers*. See also [Browser](http://www.ict4lt.org/en/en_glossary.htm#browser), [FTP](http://www.ict4lt.org/en/en_glossary.htm#ftp), [HTTP](http://www.ict4lt.org/en/en_glossary.htm#http), [Server](http://www.ict4lt.org/en/en_glossary.htm#server).

**Public Domain:** Material that is copyright free, whose copyright has expired, or which cannot be copyrighted. Many people think that because something is on the Web it must be in the public domain. This is not so. A work is in the public domain only if it is explicitly stated to be so. You may be lucky to find material on the Web that is stated to be copyright-free or in the public domain, and then the terms of using it are much more liberal. Look for a clear statement saying "The materials on this website are in the public domain" or something similar. If you wish to use materials from someone else's website, check the terms of use, which you will usually find at the bottom of the Web page or via a clickable link at the bottom of the page. See [Copyright](http://www.ict4lt.org/en/en_glossary.htm#copyright).

**PVP:** Abbreviation for Portable Video Player. A hand-held device for storing and playing back movies.

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**Q**

|  |  |
| --- | --- |
| **QR Code:**Short for Quick Response Code. A QR Code is a two-dimensional barcode that can store a variety of different types of information, e.g. text, a website URL, a telephone number, an SMS message, an email address, an email message, contact details, information about an event, a [Google Maps](http://maps.google.co.uk/) location, your social media profile ([Facebook](http://www.facebook.com/), [Twitter](http://twitter.com/), etc), an [iTunes](http://www.apple.com/itunes/) link, a [YouTube](http://www.ict4lt.org/en/en_glossary.htm#youtube) link, etc. QR Codes can be read by barcode readers and[Smartphone](http://www.ict4lt.org/en/en_glossary.htm#smartphone) cameras. Instead of writing down the information relating to a website URL or map location etc, you just take a photo of the QR Code. QR Codes can be used in education to send students direct to a wesbite or they may be used as clues in a [Webquest](http://www.ict4lt.org/en/en_glossary.htm#webquest) or to contain the answers to a test, which the student reveals having completed the test. The image on the right is the QR Code for the ICT4LT website. It was generated with the aid of the QR Stuff website: <http://www.qrstuff.com/>. See the ICT4LT blog, [QR codes in education: Why all the fuss?](http://ictforlanguageteachers.blogspot.com/2011/07/qr-codes-in-education-why-all-fuss.html) (July 2011). | http://www.ict4lt.org/images/ICT4LT_QR_Code.png |

**QuickTime:** Software used for viewing movies and listening to audio recordings: <http://www.apple.com/quicktime/>. **QuickTime** is often needed as a [Plug-in](http://www.ict4lt.org/en/en_glossary.htm#plugin), when you are accessing audio or video materials on the Web. See [Section 6.8, Module 1.5](http://www.ict4lt.org/en/en_mod1-5.htm#plug), headed*Do you need plug-ins?*

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**R**

**RAM:**An acronym for Random Access Memory, referring to the dynamic memory in the silicon chips in a computer. RAM chips are the memory chips used as the temporary working area for running and developing programs. Data in RAM can be read and written to (i.e. changed) in microseconds, as opposed to the much slower data access times for discs, but RAM's contents disappear the moment the computer is switched off. The more RAM a computer has, the more flexibility the user has. RAM used to be measured in *kilobytes (KB)* butnow it is usually expressed in*megabytes*(*MB*) and even*gigabytes (GB)*. The amount of RAM a PC has could crudely be thought of as its "mental capacity". See [Gigabyte](http://www.ict4lt.org/en/en_glossary.htm#gigabyte), [Kilobyte](http://www.ict4lt.org/en/en_glossary.htm#kilobyte), [Megabyte](http://www.ict4lt.org/en/en_glossary.htm#megabyte). See [ROM](http://www.ict4lt.org/en/en_glossary.htm#rom). See [Section 1.1.1.2, Module 1.2](http://www.ict4lt.org/en/en_mod1-2.htm#ramrom) on RAM on ROM.

**Random Access Memory (RAM):** See [RAM](http://www.ict4lt.org/en/en_glossary.htm#ram).

**RGB:**Abbreviation for Red Green Blue. The name given to the [Additive Colour](http://www.ict4lt.org/en/en_glossary.htm#additive) system that is used to display colours on computer screens, where red, green and blue light of varying intensities is combined to produce millions of other colours. See [CMY](http://www.ict4lt.org/en/en_glossary.htm#cmy), [Cathode Ray Tube](http://www.ict4lt.org/en/en_glossary.htm#cathode), [Substractive Colour](http://www.ict4lt.org/en/en_glossary.htm#substractive).

**Read Only Memory (ROM):**See [ROM](http://www.ict4lt.org/en/en_glossary.htm#rom).

**RealPlayer:**A [Media Player](http://www.ict4lt.org/en/en_glossary.htm#mediaplay) used for listening to audio and video clips. See [Plug-in](http://www.ict4lt.org/en/en_glossary.htm#plugin). See also [Section 6.8, Module 1.5](http://www.ict4lt.org/en/en_mod1-5.htm#plug), headed*Do you need plug-ins?*

**Relative Link:**A term used mainly by Web authors. In an [HTML](http://www.ict4lt.org/en/en_glossary.htm#html) document a *relative link* indicates the location of a file relative to the document, whereas an [Absolute Link](http://www.ict4lt.org/en/en_glossary.htm#absolute) specifies the full URL. For example, the relative link of this Glossary to the ICT4LT homepage is **../en/en\_glossary.htm** whereas it's [Absolute Link](http://www.ict4lt.org/en/en_glossary.htm#absolute) is <http://www.ict4lt.org/en/en_glossary.htm>. It's generally better for Web authors to link to files within the same website using relative links rather than absolute links, as this makes site and file maintenance easier. See [Section 5.4, Module 3.3](http://www.ict4lt.org/en/en_mod3-3.htm#5.4), headed *Shared resources*.

**Repurpose:**To reuse content in a different way from that which was originally intended, e.g. materials for training French native skills in business management might be *repurposed* for teaching non-native speakers advanced level French. An example of repurposing is described here: Davies G. (1989) "Repurposing a videodisc for French language teaching". In Kйcskйs I. & Agуcs L. (eds.) *New tendencies in CALL*, Debrecen, Hungary: Kossuth University. Available as a *Word* document: [Debrecen.doc](http://www.ict4lt.org/en/Debrecen.doc)

**Response Analysis:**A feature of [CALL](http://www.ict4lt.org/en/en_glossary.htm#call) programs whereby the computer attempts to diagnose the nature of errors the learner makes and to branch to remedial exercises. This approach to CALL appears to have fallen out of fashion in recent years. See [Error Diagnosis](http://www.ict4lt.org/en/en_glossary.htm#errordiag), an alternative term with a similar meaning.

**Resolution:** A measure of the number of *pixels* or small dots displayed on a computer *display screen*, *printer* or *scanner*. One normally talks in terms of the quality of resolution, using the expression*low-resolution*, *medium-resolution*and *high-resolution*. The resolution of a computer *display screen*is normally expressed as two numbers representing the horizontal and vertical resolution, i.e. dots across each line of the screen and down each line of the screen: e.g. 640 x 480, 1024 x 768, etc. The resolution of a [Printer](http://www.ict4lt.org/en/en_glossary.htm#printer) is normally referred to by the number of *dots per inch (dpi)*- i.e. square inch. See [Bitmap](http://www.ict4lt.org/en/en_glossary.htm#bitmap),[Colour Depth](http://www.ict4lt.org/en/en_glossary.htm#colourdep), [Display Screen](http://www.ict4lt.org/en/en_glossary.htm#display), [dpi](http://www.ict4lt.org/en/en_glossary.htm#spi), [Pixel](http://www.ict4lt.org/en/en_glossary.htm#pixel), [Scanner](http://www.ict4lt.org/en/en_glossary.htm#scanner), [Vektor Graphic](http://www.ict4lt.org/en/en_glossary.htm#vector).

**Reusable Learning Object (RLO):**A self-contained piece of learning material with an associated learning objective and which is capable of being reused in a variety of applications. See [Learning Object](http://www.ict4lt.org/en/en_glossary.htm#learningobj).

**Rip:**To extract or copy data from one format to another. The most common example is found in the phrase "to rip a CD", which means to copy audio tracks from an audio CD and save them to hard disc as [WAV](http://www.ict4lt.org/en/en_glossary.htm#wav), [MP3](http://www.ict4lt.org/en/en_glossary.htm#mp3) or other audio files, which can then be played, edited or written back to another CD.

**RLO:** Abbreviation for [Reusable Learning Object](http://www.ict4lt.org/en/en_glossary.htm#reusable).

**RM:**A file format used for playing *streaming audio* and *streaming video*using the [RealPlayer](http://www.ict4lt.org/en/en_glossary.htm#realplayer) software. See [Streaming](http://www.ict4lt.org/en/en_glossary.htm#streaming). RM format enables content to be delivered as a continuous flow of data with little wait time before playback begins. This means that you do not have to wait for your audio and video files to fully downloaded before starting to view them. See [ASF](http://www.ict4lt.org/en/en_glossary.htm#asf), [AVI](http://www.ict4lt.org/en/en_glossary.htm#avi), [MOV](http://www.ict4lt.org/en/en_glossary.htm#movqt), [MPEG](http://www.ict4lt.org/en/en_glossary.htm#mpeg), which are alternative video file formats. See [Media Player](http://www.ict4lt.org/en/en_glossary.htm#mediaplay). See [Section 2.2.3.4, Module 2.2](http://www.ict4lt.org/en/en_mod2-2.htm#videoed), *Video editing software*.

**Robot:**See [Crawler](http://www.ict4lt.org/en/en_glossary.htm#crawler).

**ROM:**Acronym for Read Only Memory. ROM chips in a computer contain data and programs as supplied by the manufacturer that can be accessed but not changed, i.e. they are *read-only*. ROM is also used to describe [CD-ROMs](http://www.ict4lt.org/en/en_glossary.htm#cdrom). Originally CD-ROMs contained data and programs that could not be changed or erased, and new data and programs could not be stored on them, but modern CD-ROM and [DVD](http://www.ict4lt.org/en/en_glossary.htm#dvd) drives allow certain types of CDs and DVDs to be *written to* as well as *read* - so the term has become a misnomer in this respect. See also [RAM](http://www.ict4lt.org/en/en_glossary.htm#ram) and [Section 1.1.1 (iii), Module 1.2](http://www.ict4lt.org/en/en_mod1-2.htm#ramrom) on the difference between RAM and ROM.

**Root Directory:** The topmost directory in the directory hierarchy, from which all other directories are descended. On a PC's hard disc this has the pathname C:\. See [Directory](http://www.ict4lt.org/en/en_glossary.htm#directory).

**Router:** A hardware device that connects computers to a [Network](http://www.ict4lt.org/en/en_glossary.htm#network) or that connects one network with another network. *Routers* are now available at low prices and can be used for connecting two or more computers together in home networks, so that data can be exchanged between the computers on the network and so that all the computers in the network can access the [Internet](http://www.ict4lt.org/en/en_glossary.htm#internet).

**RSS (Really Simple Syndication):** *RSS* is a development in Internet technology that enables users to subscribe to websites that change or add content regularly, for example news sites (such as the BBC) and sites containing [Blogs](http://www.ict4lt.org/en/en_glossary.htm#blog), [Nings](http://www.ict4lt.org/en/en_glossary.htm#ning), [Podcasts](http://www.ict4lt.org/en/en_glossary.htm#podcast) and [Wikis](http://www.ict4lt.org/en/en_glossary.htm#wiki). RSS makes use of software that presents new additions to a website as list of subject headings or the first line or two of a news item, with a clickable link to the full article, blog posting or podcast. Thus, instead of the user having to browse websites for new information in which s/he is interested, an update of what is available is made available directly to the user, an *RSS feed* or *news feed.* An application known as an *aggregator* or *feed reader* (e.g. [Google Reader](http://www.google.co.uk/reader/)) can check RSS-enabled websites and display any updated information that it finds. See [Section 12.5, Module 1.5](http://www.ict4lt.org/en/en_mod1-5.htm#rssfeeds) and [Section 3.5.4, Module 2.3](http://www.ict4lt.org/en/en_mod2-3.htm#rssfeeds) for further information.

**RTF:**Abbreviation for Rich Text Format, an alternative way of storing a document created with a [Word-processor](http://www.ict4lt.org/en/en_glossary.htm#wordproc). RTF-formatted files can be moved relatively easily between different computer systems. RTF format is also recommended when transmitting an [Attachment](http://www.ict4lt.org/en/en_glossary.htm#attach) by [Email](http://www.ict4lt.org/en/en_glossary.htm#email) as it is much safer than the *Microsoft Word* [DOC](http://www.ict4lt.org/en/en_glossary.htm#doc) format, which can harbour *Word* [Macro](http://www.ict4lt.org/en/en_glossary.htm#macro) viruses. RTF files preserve most of the formatting contained in DOC-formatted files. See [Virus](http://www.ict4lt.org/en/en_glossary.htm#virus).

**RTFM:**Abbreviation for Read The Friendly/Fine/Fantastic Manual - but if you do a search via [Google](http://www.ict4lt.org/en/en_glossary.htm#google) you'll find a much ruder interpretation of the abbreviation. Enter **define:RTFM** in Google's search box and you'll see what we mean!

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**S**

**Sampling:**This term refers to taking the value of a waveform (e.g. a sound wave or video signal) at one instant, and recording the amplitude, or height, of the wave at that instant as a number so that a digital recording can be produced. This is the way in which audio files in digital format are produced. You will probably come across this term when using software for creating or editing sound files. See[MP3](http://www.ict4lt.org/en/en_glossary.htm#mp3), [Sampling Frequency](http://www.ict4lt.org/en/en_glossary.htm#sampfreq), [WAV](http://www.ict4lt.org/en/en_glossary.htm#wav), [WMA](http://www.ict4lt.org/en/en_glossary.htm#wma). See [Section 2.2.3.3, Module 2.2](http://www.ict4lt.org/en/en_mod2-2.htm#sounded), headed *Sound recording and editing software*.

**Sampling Frequency**or **Sampling Rate:**The number of times a waveform is *sampled* per second, usually expressed in *kiloHertz* (kHz). You will probably come across this term when using software for creating or editing sound files. The *sampling frequency* measurement usually ranges from 8kHz (a telephone quality recording) to 48kHz (CD quality recording or higher). The sampling frequency measurement is combined with another measurement, the *bit size* (usually 16 bits nowadays), to determine how much space an audio file consumes on a hard disc as well as how much processing time is required to play it. The higher the figure in kHz the better the quality of recording and how much space the recording occupies. Speech can be recorded adequately at 22.05kHz, but music is better recorded at 44.1kHz or higher. See [Hertz](http://www.ict4lt.org/en/en_glossary.htm#hertz), [MP3](http://www.ict4lt.org/en/en_glossary.htm#mp3), [Sampling](http://www.ict4lt.org/en/en_glossary.htm#sampling), [WAV](http://www.ict4lt.org/en/en_glossary.htm#wav), [WMA](http://www.ict4lt.org/en/en_glossary.htm#wma). See [Section 2.2.3.3, Module 2.2](http://www.ict4lt.org/en/en_mod2-2.htm#sounded), headed *Sound recording and editing software*.

**Sans Serif:**A type of [Font](http://www.ict4lt.org/en/en_glossary.htm#font), e.g. Arial, that is characterised by an absence of cross-lines (twiddly bits) on the ends of its letters and symbols. See [Serif](http://www.ict4lt.org/en/en_glossary.htm#serif).

**Scanner:**A device used to convert hard copy, e.g. a printed page, photograph or photographic negative, into a form that can be stored on a computer. See [Section 1.3.3, Module 1.2](http://www.ict4lt.org/en/en_mod1-2.htm#scanner) for further information and an illustration. See [Optical Character Recognition (OCR)](http://www.ict4lt.org/en/en_glossary.htm#optchar).

**SCORM:** Acronym for Shareable Content Object Reference Model. SCORM is a suite of technical standards that enable Web-based learning systems to find, import, share, reuse, and export learning content in a standardised way. Essentially, SCORM is a standard that ensures that when you buy a new piece of software it can easily be incorporated into your existing Web-based learning materials or VLE - which will probably remain a vain hope for the foreseeable future, at least until VLEs become compatible with one another. SCORM-compliance is, however, only essential if you are particularly interested in tracking students' performance. See this Web page created by Philip Dodds: <http://adlcommunity.net/mod/resource/view.php?id=458>

**Screen:** See [Display Screen](http://www.ict4lt.org/en/en_glossary.htm#display), [Monitor](http://www.ict4lt.org/en/en_glossary.htm#monitor).

**Scroll:**To move up and down or from side to side through a document or a [Window](http://www.ict4lt.org/en/en_glossary.htm#window) to view or access all of its contents

**Search Engine:** A search facility provided at a number of sites on the *World Wide Web*. Search engines enable the user to search the whole of the Web for key words and phrases and to locate related websites. This is a useful facility for locating information. See [Section 4, Module 1.5](http://www.ict4lt.org/en/en_mod1-5.htm#anchorsearch), headed *Search engines: How to find materials on the Web*.

**Second Life:** One of the fastest growing "virtual worlds" on the Web. See the entry in this Glossary under [MUVE](http://www.ict4lt.org/en/en_glossary.htm#muve) and see [Section 14.2.1, Module 1.5](http://www.ict4lt.org/en/en_mod1-5.htm#secondlife). The Second Life website is at:[http://secondlife.com](http://secondlife.com/). See also [SLURL](http://www.ict4lt.org/en/en_glossary.htm#slurl).

**Semantic Web:** The *Semantic Web* is not a new type of Web, but rather an extension of the Web whereby data available in different locations on the Web is linked together in a way that allows the user to search the Web in a more sophisticated way, e.g. by requesting information in forms such as "Tell me where I can find information about 21st-century writers who live within 50 miles of my home town":<http://www.w3.org/RDF/FAQ>. Listen to Sir Tim Berners-Lee on the BBC **Today** programme, 9 July 2008, talking about the Semantic Web:<http://news.bbc.co.uk/today/hi/today/newsid_7496000/7496976.stm>

**Serif:** A type of [Font](http://www.ict4lt.org/en/en_glossary.htm#font), e.g. Times News Roman, that is characterised by the presence of cross-lines (twiddly bits) on the ends of its letters and symbols. See [Sans Serif](http://www.ict4lt.org/en/en_glossary.htm#sansserif).

**SEN:**Abbreviation for Special Educational Needs. See David Ritchie Wilson's website, which has a substantial section on teaching Modern Foreign Languages to SEN children:[http://www.specialeducationalneeds.com](http://www.specialeducationalneeds.com/)

**SENDA:**Abbreviation for the Special Educational Needs and Disability Act (2001), which has a vital role in improving accessiblity for a wide range of computer users with special needs and obliges designers of educational websites "to make reasonable adjustments to ensure that people who are disabled are not put at a substantial disadvantage compared to people who are not disabled." See JISC's website on disability legislation: <http://www.jisclegal.ac.uk/disability/accessibility.htm>. See [Accessibility](http://www.ict4lt.org/en/en_glossary.htm#accessibility), [Assistive Technology](http://www.ict4lt.org/en/en_glossary.htm#assistive), [Text To Speech (TTS)](http://www.ict4lt.org/en/en_glossary.htm#textosp).

**Server:** A computer which provides services to other computers, which are known as *clients*. For example, when you click on a link in a Web page your [Browser](http://www.ict4lt.org/en/en_glossary.htm#browser) sends a request to a remote computer, known as a [Web Server](http://www.ict4lt.org/en/en_glossary.htm#webserve), that *serves* the requested page to your browser, which then displays it on your computer screen. A [Local Area Network (LAN)](http://www.ict4lt.org/en/en_glossary.htm#lan) has a *server* that delivers software to the computers (also known as workstations) that are connected to it. It is usually the most powerful computer in the network Users connected to a LAN can access their own files remotely and exchange information with the server and other users connected to the network. See [Client](http://www.ict4lt.org/en/en_glossary.htm#client), [Web Server](http://www.ict4lt.org/en/en_glossary.htm#webserve).

**Setup Program:** A program that enables the user to set up a program or suite of programs on the computer's hard disc. Also known as [Install Program](http://www.ict4lt.org/en/en_glossary.htm#installprog)or[Installation Program](http://www.ict4lt.org/en/en_glossary.htm#installprog).

**Shareware:** Try before you buy software. A Shareware application can be freely copied and used without payment to the author(s), but you are encouraged to pay a registration fee if you use it regularly. Shareware is often a cut-down copy of the fully-featured application, which can only be obtained by paying the registration fee. See [Freeware](http://www.ict4lt.org/en/en_glossary.htm#freeware).

**Shockwave Player:**Software developed by Adobe that enables Web pages containing interactive multimedia materials to be played on the Web. Such materials may contain games, product demonstrations and online learning applications. See [Plug-in](http://www.ict4lt.org/en/en_glossary.htm#plugin). See also [Section 6.8, Module 1.5](http://www.ict4lt.org/en/en_mod1-5.htm#plug), headed*Do you need plug-ins?*

**Silicon Chip:**An encased piece of extremely pure silicon on to which electronic circuits are etched. The circuitry of modern computers is based on silicon chips that perform a vast range of different tasks. See [Chip](http://www.ict4lt.org/en/en_glossary.htm#chip), [Microchip](http://www.ict4lt.org/en/en_glossary.htm#microchip), [Microprocessor](http://www.ict4lt.org/en/en_glossary.htm#microproc).

**Simulation:**A type of program that simulates a real-life situation, allowing the user to carry out experiments which could have dangerous consequences or which are impractical in a normal learning environment. An early example of a simulation for language language purposes was *Granville*, a program dating back to the 1980s in which the learner was asked to imagine that he/she had won a holiday in Granville, France, and had to survive for a number of days on a limited budget. The border line between simulations and *adventure games* is rather fuzzy. The latter tend to be set in fantasy worlds, whereas the former are more down-to-earth. See[Adventure Game](http://www.ict4lt.org/en/en_glossary.htm#adventure),[Maze](http://www.ict4lt.org/en/en_glossary.htm#maze).

**SLURL:**Second Life [URL](http://www.ict4lt.org/en/en_glossary.htm#url). A special type of URL that enables you to find a location quickly in [Second Life](http://www.ict4lt.org/en/en_glossary.htm#secondlife), simply by pasting the SLURL into your [Browser](http://www.ict4lt.org/en/en_glossary.htm#browser). It is assumed that you have already downloaded and installed the Second Life software on your computer.

**Smartphone:** A *smartphone* is an advanced mobile phone that offers a wide range of appications. In addition to functioning as a mobile phone smartphones can be used as a media player, a camera, a GPS navigation device and a Web browser - and in many other ways. Apple's **iPhone** is a typical example of a smartphone, using a touchscreen for typing and to run applications.

**Social Media:**Term used to describe a variety of Web 2.0 applications that enable people to share images, audio recordings and video recordings via the Web and to initiate discussions about them. See JISC's **Web2practice** video on **Blip TV**: <http://web2practice.jiscinvolve.org/social-media/>

**Social Networking:** A term applied to a type of website where people can seek other people who share their interests, find out what's going on in their areas of interest, and share information one another. See [Section 12.4, Module 1.5](http://www.ict4lt.org/en/en_mod1-5.htm#socnet), headed *Social networking*.

**Software:** The opposite to [Hardware](http://www.ict4lt.org/en/en_glossary.htm#hardware). A generic term describing all kinds of computer programs, applications and operating systems. Software is not tangible, being a set of instructions written in a[Programming Language](http://www.ict4lt.org/en/en_glossary.htm#proglang) comprising a set of instructions that the computer executes. See [Application](http://www.ict4lt.org/en/en_glossary.htm#application), [Computer Program](http://www.ict4lt.org/en/en_glossary.htm#computerprog). See [Section 2, Module 1.2](http://www.ict4lt.org/en/en_mod1-2.htm#software).

**Sound Card**or **Soundcard:** A *card*, i.e. an electronic circuit board, inside a computer that controls output to speakers or headphones and sound input from a [Microphone](http://www.ict4lt.org/en/en_glossary.htm#microphone) or other source. A sound card is essential for multimedia applications. Also known as [Audio Card](http://www.ict4lt.org/en/en_glossary.htm#audiocard). See [Section 1.2.2, Module 1.2](http://www.ict4lt.org/en/en_mod1-2.htm#soundcard) for further information on sound cards.

**Source Code:**The human-readable form of a *computer program*, which is converted into binary computer instructions by a *compiler* or *interpreter*. See [Compiler](http://www.ict4lt.org/en/en_glossary.htm#compiler), [Computer Program](http://www.ict4lt.org/en/en_glossary.htm#computerprog), [Interpreter](http://www.ict4lt.org/en/en_glossary.htm#interpreter),[Machine Code](http://www.ict4lt.org/en/en_glossary.htm#machinecode).

**Spam:** Unsolicited email advertisements, the Internet equivalent of junk mail.A *spammer* is someone who sends out spam. A spammer can email an advertisement to millions of email addresses, newsgroups, and discussion lists at very little cost in terms of money or time. The term *spam* comes from a sketch in the *Monty Python's Flying Circus* TV series. See [Adware](http://www.ict4lt.org/en/en_glossary.htm#adware), [Spambot](http://www.ict4lt.org/en/en_glossary.htm#spambot), [Spyware](http://www.ict4lt.org/en/en_glossary.htm#spyware). See<http://www.camsoftpartners.co.uk/bugs.htm>.

**Spambot:**A *spambot* is a program designed to collect email addresses from the Internet in order to build mailing lists for sending [Spam](http://www.ict4lt.org/en/en_glossary.htm#spam). A spambot is a type of Web [Crawler](http://www.ict4lt.org/en/en_glossary.htm#crawler) that can gather email addresses from websites, discussion list and forum postings, and chat-room conversations.

**Speech Recognition:** A branch of [Human Language Technologies (HLT)](http://www.ict4lt.org/en/en_glossary.htm#hlt) devoted to developing programs and devices that enable computers to recognise, analyse and transcribe human speech. See[Automatic Speech Recognition (ASR)](http://www.ict4lt.org/en/en_glossary.htm#asr), [Speech Synthesis](http://www.ict4lt.org/en/en_glossary.htm#speechsyn). See [Section 4, Module 3.5](http://www.ict4lt.org/en/en_mod3-5.htm#speechtech), headed *Speech technologies*.

**Speech Synthesis:**A branch of [Human Language Technologies (HLT)](http://www.ict4lt.org/en/en_glossary.htm#hlt) devoted to developing programs and devices that enable computers to generate human speech.. See [Speech Recognition](http://www.ict4lt.org/en/en_glossary.htm#speechrec). See[Section 4, Module 3.5](http://www.ict4lt.org/en/en_mod3-5.htm#speechtech), headed *Speech technologies*.

**Spellchecker**or **Spell-checker:** An electronic dictionary, usually part of a [Word-processor](http://www.ict4lt.org/en/en_glossary.htm#wordproc), which scans the text entered by the user and highlights any word that it does not recognise. The author of the text is then given the option to correct, ignore or add any highlighted word to the dictionary. Spellcheckers can be set to accommodate different varietes of a language, e.g. British or American English, and many other languages. Many email packages also include a spellchecker. See [Section 6.1, Module 1.3](http://www.ict4lt.org/en/en_mod1-3.htm#6.1), headed *Spellcheckers, grammar checkers and style checkers*.

**Spider:**See [Crawler](http://www.ict4lt.org/en/en_glossary.htm#crawler).

**Splog:**A contraction of *spam* *blog*. See [Spam](http://www.ict4lt.org/en/en_glossary.htm#spam) and [Blog](http://www.ict4lt.org/en/en_glossary.htm#blog). The splog site creator (splogger) begins by finding a subject that attracts lots of visitors. Then the splogger sets up a blog which plagiarises content from other sites dealing with this subject. Splogs may consist of hundreds of blogs with plagiarised content, containing multiple links to selected websites. This feeds search engines such as [Google](http://www.ict4lt.org/en/en_glossary.htm#google) and[Yahoo](http://www.ict4lt.org/en/en_glossary.htm#yahoo) and creates artificially high search rankings for the linked sites and helps get them indexed. Splogs also contain clickable advertisements. In other words, it's spam in the form of a blog: Visit the splog site, click on a link that it contains or click on an advertisement at the site, and you're making money for the splogger.

**Spreadsheet:**Essentially an accounting program, e.g. *Excel*, which forms part of the [Microsoft Office](http://www.ict4lt.org/en/en_glossary.htm#msoffice) suite of programs. Such programs might, at first sight, not appear to have a great deal to offer the language teacher, but bear in mind that they can also be used for organising vocab lists and for maintaining students' marks or grades. See [Section 4, Module 4.1](http://www.ict4lt.org/en/en_mod4-1.htm#report), headed *Reporting and recording students' progress*.

**Spyware** is a term that may be used synonymously with *adware* but it implies more sinister motives on the part of the person who has dumped it onto your computer, e.g. with a view to stealing private information such as bank account numbers, credit card numbers, passwords, etc. See [Adware](http://www.ict4lt.org/en/en_glossary.htm#adware), [Spam](http://www.ict4lt.org/en/en_glossary.htm#spam). See <http://www.camsoftpartners.co.uk/bugs.htm>, where tools for removing *adware* and *spyware* are described. *Spybot Search & Destroy (Spybot S&D)* is a free program designed to find and remove spyware stored without your knowledge on your computer: [http://www.safer-networking.org](http://www.safer-networking.org/)

**Storage Device:** Equipment used for accessing and recording (i.e. *storing*) computer programs, texts, images, audio recordings and video recordings, etc in [Digital](http://www.ict4lt.org/en/en_glossary.htm#digital) format. Examples of storage devices include [CD-ROMs](http://www.ict4lt.org/en/en_glossary.htm#cdrom), [DVDs](http://www.ict4lt.org/en/en_glossary.htm#dvd), [Floppy Discs](http://www.ict4lt.org/en/en_glossary.htm#floppy), [Flash Drives](http://www.ict4lt.org/en/en_glossary.htm#flashdrive). Older storage devices, such as the vinyl gramophone record, audiocassette tape, videocassette tape and 12-inch [Videodisc](http://www.ict4lt.org/en/en_glossary.htm#videodisc), store information in[Analogue](http://www.ict4lt.org/en/en_glossary.htm#analogue) format. The term [Storage Medium](http://www.ict4lt.org/en/en_glossary.htm#storagemed) is often used in the same sense as *Storage Device*.

**Storage Medium (sing.)**/**Storage Media (pl.):** A *medium* (pl. *media*) which is used to record (i.e. *store*) computer programs, texts, images, audio recordings and video recordings, etc. Examples include [CD-ROMs](http://www.ict4lt.org/en/en_glossary.htm#cdrom), [DVDs](http://www.ict4lt.org/en/en_glossary.htm#dvd) and [Flash Drives](http://www.ict4lt.org/en/en_glossary.htm#flashdrive). Often used in the same sense as [Storage Device.](http://www.ict4lt.org/en/en_glossary.htm#storagedev) although, strictly speaking, the *device* is the actual equipment, e.g. a CD-ROM drive, whereas the *medium*is the CD-ROM disc itself.

**Streaming:** Playing audio or video in real time from a website. In order to play streaming multimedia files you need a specific [Plug-in](http://www.ict4lt.org/en/en_glossary.htm#plugin) program that links in with your [Browser](http://www.ict4lt.org/en/en_glossary.htm#browser) and plays the file as it is transmitted rather than downloading it to your computer first. Streaming requires a [Broadband](http://www.ict4lt.org/en/en_glossary.htm#broadband) connection to the Internet since multimedia files are not stored on your computer but played in a continuous stream direct from the computer where they are stored. See [Section 2.2.3.4, Module 2.2](http://www.ict4lt.org/en/en_mod2-2.htm#videoed), *Video editing software*.

**Subtractive Colour:** A term used mainly by graphic designers. *Subtractive colour* is produced by the subtraction of colours from incident light. A tomato appears red in daylight because it absorbs all other colours in white light other than red, which it reflects. See [Additive Colour](http://www.ict4lt.org/en/en_glossary.htm#additive), [CMY](http://www.ict4lt.org/en/en_glossary.htm#cmy), [RGB](http://www.ict4lt.org/en/en_glossary.htm#rgb).

**SVGA:** Abbreviation for Super Video Graphics Adaptor. An older type of [Video Card](http://www.ict4lt.org/en/en_glossary.htm#vidcard) or circuit board used to control the output on a computer [Display Screen](http://www.ict4lt.org/en/en_glossary.htm#display). See also [VGA](http://www.ict4lt.org/en/en_glossary.htm#vga). [See Section 1.1.1.4, Module 1.2](http://www.ict4lt.org/en/en_mod1-2.htm#graphics), under the heading*Graphics card*.

**Synchronous:** "At the same time". Often used to refer to communication in a [Chat Room](http://www.ict4lt.org/en/en_glossary.htm#chatroom) or via [Videoconferencing](http://www.ict4lt.org/en/en_glossary.htm#videoconf), where the participants have to be present at their computers at the same time. See[Asynchronous](http://www.ict4lt.org/en/en_glossary.htm#asynchron), [Conferencing](http://www.ict4lt.org/en/en_glossary.htm#confer). See [Section 14, Module 1.5](http://www.ict4lt.org/en/en_mod1-5.htm#compmedcomm), headed *Computer Mediated Communication (CMC)*.

**Sysadmin:** A contraction of Systems Administrator, the person responsible for managing a computer system.

[Top](http://www.ict4lt.org/en/en_glossary.htm#GlossTop)

**T**

**Tablet Computer:** A *tablet computer*is compact portable computer that makes use of a [Touchscreen](http://www.ict4lt.org/en/en_glossary.htm#touchscreen) instead of a keyboard for typing and running appklications. Apple's **iPad**is a typical example of a tablet computer.

**Tag:***Tagging* has become more common in recent years as a result of the widespread use of [Social Media](http://www.ict4lt.org/en/en_glossary.htm#socialmedia) for sharing images, audio recordings, video recordings, website references, etc. *Tags* are labels that briefly describe the what the media or references are all about and help other people find them quickly. Tags are also used in [HTML](http://www.ict4lt.org/en/en_glossary.htm#html), to define how the onscreen text is rendered by the browser: for example the tag **<a href="http://www.ict4lt.org">ICT4LT</a>** in HTML appears as [ICT4LT](http://www.ict4lt.org/), with the tag hidden to the person viewing the Web page. See [Attribute](http://www.ict4lt.org/en/en_glossary.htm#attribute).

**Tandem Learning (Buddy Learning):**A form of learning in which two language learners pair up in order to learn each other's language. This may take place face-to-face or via the Internet, including using virtual worlds such as [Second Life](http://www.ict4lt.org/en/en_glossary.htm#secondlife). See [Section 14.9, Module 1.5](http://www.ict4lt.org/en/en_mod1-5.htm#14.9), headed*Tandem learning (buddy learning)*.

**Task Based Learning (TBL):**An approach to learning in which the learner acquires knowledge of the subject that is being studied by focusing on a specified task. Task Based Language Learning (TBLL) was originally developed by N.S. Prabhu in 1987 and based on the belief that students learn the target language more effectively when their minds are focused on the task rather than on the language they are using. TBLL often consists of a three-phase process: (i) pre-task - introduction to the topic and task, (ii) execution of the task, (iii) analysis and assessment of what has been learnt. Other models, including more phases, are alos possible. See (i) Prabhu N.S. (1987) *Second language pedagogy*, Oxford: Oxford University Press; (ii) Willis D. & Willis J. (2007) *Doing task-based teaching*, Oxford: Oxford University Press; (iii) See the [Wikipedia article on Task Based Language Learnin](http://en.wikipedia.org/wiki/Task-based_language_learning)g.

**TBL:** Abbreviation for Task Based Learning. See [Task Based Learning](http://www.ict4lt.org/en/en_glossary.htm#taskbasedlearning).

**TBLL:** Abbreviation for Task Based Language Learning. See [Task Based Learning](http://www.ict4lt.org/en/en_glossary.htm#taskbasedlearning).

**TBT:**Abbreviation for Task Based Teaching. See [Task Based Learning](http://www.ict4lt.org/en/en_glossary.htm#taskbasedlearning).

**TCP/IP:**Abbreviation for Transfer Control Protocol / Internet Protocol. The main data transfer protocol used on the Internet. See [Internet](http://www.ict4lt.org/en/en_glossary.htm#internet), [Protocol](http://www.ict4lt.org/en/en_glossary.htm#protocol).

**Techie**or**Tekkie:**A colloquial term that is used both positively and negatively. When used positively, it is closely allied to [Nerd](http://www.ict4lt.org/en/en_glossary.htm#nerd), suggesting someone who is highly skilled in computer technology. When used negatively, it is closely allied to [Anorak](http://www.ict4lt.org/en/en_glossary.htm#anorak) or [Trainspotter](http://www.ict4lt.org/en/en_glossary.htm#train), suggesting somone who is interested in computers only for technology's sake rather then what they can be used for. See also [Geek](http://www.ict4lt.org/en/en_glossary.htm#geek).

**TELL:**Acronym for Technology Enhanced Language Learning. A term which is felt to embrace a wider range of uses of technology in language learning and teaching than the more common term [CALL](http://www.ict4lt.org/en/en_glossary.htm#call). TELL figured in the name of the journal of CALL Austria, *TELL&CALL* (now defunct), and was also adopted by the TELL Consortium (now defunct), University of Hull. See [CALI](http://www.ict4lt.org/en/en_glossary.htm#cali), [CELL](http://www.ict4lt.org/en/en_glossary.htm#cell). See [Section 1.1, Module 1.4](http://www.ict4lt.org/en/en_mod1-4.htm#whatiscall), headed *What is CALL?* and [Section 2, Module 1.4](http://www.ict4lt.org/en/en_mod1-4.htm#historyofcall), headed *History of CALL*.

**Telnet:**A program which allows you to log in to a remote [Host](http://www.ict4lt.org/en/en_glossary.htm#host) computer and carry out the same commands as if you were using a terminal at the host site.

**Text File**or**Textfile:** A data file consisting entirely of printable ASCII characters, i.e. plain unformatted text. Text files often have a **.txt** [Extension](http://www.ict4lt.org/en/en_glossary.htm#extension) after the filename (e.g. **readme.txt**) and their contents can be viewed using programs such as *Windows* *Notepad*. The term *text file* is also used to describe files, i.e. texts, created by authoring packages such as *Fun with Texts*, which then *manipulates* the texts into a set of activities for completion by the learner. See [ASCII](http://www.ict4lt.org/en/en_glossary.htm#ascii), [Binary File](http://www.ict4lt.org/en/en_glossary.htm#binfile). See next entry and see [Section 8, Module 1.4](http://www.ict4lt.org/en/en_mod1-4.htm#textmanip), headed *Text manipulation*.

**Text Manipulation:** Text-manipulation programs have been popular with language teachers since the early 1980s. They consist of a set of activities for the learner, typically consisting of [Cloze](http://www.ict4lt.org/en/en_glossary.htm#cloze), gap-fillers, line re-ordering, decoding and total text reconstruction, also known as: [Total Cloze](http://www.ict4lt.org/en/en_glossary.htm#totalcloze). In most text manipulation programs the teacher inputs the text, and the computer then creates the activities - or most of them - automatically. See also [Gap-filler](http://www.ict4lt.org/en/en_glossary.htm#gapfill). See [Section 8, Module 1.4](http://www.ict4lt.org/en/en_mod1-4.htm#textmanip), headed *Text manipulation*.

**Text Maze:** See [Maze](http://www.ict4lt.org/en/en_glossary.htm#maze).

**Text to Speech (TTS):**TTS software enables text to be read out loud from a computer screen by a synthetic voice. TTS softtware falls into the category of [Assistive Technology](http://www.ict4lt.org/en/en_glossary.htm#assistive)*,* which has a vital role in improving [Accessiblity](http://www.ict4lt.org/en/en_glossary.htm#accessibility) for a wide range of computer users with special needs - which is now governed by legislation in the UK. The [Special Educational Needs and Disability Act (SENDA)](http://www.ict4lt.org/en/en_glossary.htm#senda) of 2001 covers educational websites and obliges their designers "to make reasonable adjustments to ensure that people who are disabled are not put at a substantial disadvantage compared to people who are not disabled." See JISC's website on disability legislation: <http://www.jisclegal.ac.uk/disability/accessibility.htm>. TTS technology is also used in satellite navigation (satnav) devices that are installed in cars, i.e. to give instructions and read out road and street names. See [Section 4, Module 3.5](http://www.ict4lt.org/en/en_mod3-5.htm#speechtech), headed *Speech technologies*.

**TFT:**Abbreviation for Thin Film Transistor. A new technology used in manufacturing computer display screens of the flat panel type, which is replacing the older [Cathode Ray Tube](http://www.ict4lt.org/en/en_glossary.htm#cathode) type of display screen. In TFT screens each pixel is controlled by one to four transistors. TFT screens produce high-quality resolution and better, brighter colours than [LCD](http://www.ict4lt.org/en/en_glossary.htm#lcd) screens. TFT screens are sometimes referred to as[Active Matrix](http://www.ict4lt.org/en/en_glossary.htm#activemat) screens. See [Display Screen](http://www.ict4lt.org/en/en_glossary.htm#display). See [Section 1.1.2, Module 1.2](http://www.ict4lt.org/en/en_mod1-2.htm#monitor) for further information.

**TIFF**or**TIF:**Abbreviation for Tag Image File Format. A file format for storing images on a computer. TIFF files can store very high-quality images with millions of colours, but they are very demanding in terms of storage space. See [BMP](http://www.ict4lt.org/en/en_glossary.htm#bmp), [EPS](http://www.ict4lt.org/en/en_glossary.htm#eps), [GIF](http://www.ict4lt.org/en/en_glossary.htm#gif), [JPEG/JPG](http://www.ict4lt.org/en/en_glossary.htm#jpeg). See also Section 2.2.3., [Module 2.2](http://www.ict4lt.org/en/en_mod2-2.htm), *Introduction to multimedia CALL*.

**TM:** Abbreviation for [Translation Memory](http://www.ict4lt.org/en/en_glossary.htm#tranmem).

**Toolbar:** A *toolbar* is a type of [Menu Bar](http://www.ict4lt.org/en/en_glossary.htm#menubar), normally located at the top of a computer screen, that contains *icons* for the most commonly-used commands in an application, e.g. in a word-processor or[Browser](http://www.ict4lt.org/en/en_glossary.htm#browser). Typically, a toolbar appears under the [Main Menu Bar](http://www.ict4lt.org/en/en_glossary.htm#mainmenu), which normally consists of set of names of drop-down menus. See [Icon](http://www.ict4lt.org/en/en_glossary.htm#icon).

**Total Cloze:** An activity in which a complete text is reduced to sets of blanks and which the learner has to reconstruct, either from memory or by using a variety of different strategies. *Total Cloze* dates back to the popular **Storyboard** program by John Higgins and figures in numerous CALL programs. See [Cloze Procedure](http://www.ict4lt.org/en/en_glossary.htm#cloze). See [Section 8.3, Module 1.4](http://www.ict4lt.org/en/en_mod1-4.htm#8.3), headed *Total text reconstruction: total Cloze*.

**Touchscreen:** A [Display Screen](http://www.ict4lt.org/en/en_glossary.htm#display) which enables a computer to react to the touch of a finger. Touchscreens are commonly used in devices such as [Smartphones](http://www.ict4lt.org/en/en_glossary.htm#smartphone) and [Tablet Computers](http://www.ict4lt.org/en/en_glossary.htm#tabletcomp).

**Trackball**or**Tracker Ball:** A [Pointing Device](http://www.ict4lt.org/en/en_glossary.htm#pointing). A sort of upside-down [Mouse](http://www.ict4lt.org/en/en_glossary.htm#mouse), with the ball facing upwards. The user manipulates the track of the [Cursor](http://www.ict4lt.org/en/en_glossary.htm#cursor) on the screen by moving the ball with the palm of the hand or fingers.

**Trainspotter:** A colloquial term that is often used to describe someone who is fascinated by the technology of computers but not particularly interested in their applications. A synonym is [Anorak](http://www.ict4lt.org/en/en_glossary.htm#anorak). Both terms are closely allied to [Geek](http://www.ict4lt.org/en/en_glossary.htm#geek), [Nerd](http://www.ict4lt.org/en/en_glossary.htm#nerd) and [Techie](http://www.ict4lt.org/en/en_glossary.htm#techie) - which have slightly different connotations.

**Translation Memory (TM):**Used to describe a form of [Machine Assisted Translation (MAT)](http://www.ict4lt.org/en/en_glossary.htm#machineass), which is based on matching texts to be translated with a large database of source texts and translations that have already been completed. See [Section 3, Module 3.5](http://www.ict4lt.org/en/en_mod3-5.htm#machinetrans),headed*Machine Translation*.

**Trojan:** Trojans are programs - usually malicious - that install themselves or run surreptitiously on a victim's machine. They do not install or run automatically but may entice users into installing another program. e.g. a game, that actually installs a hostile piece of software and causes considerable damage to your computer. The name derives from Trojan Horse, the hollow wooden horse in which, according to legend, Greeks hid and gained entrance to Troy, later opening the gates to their army. See [Virus](http://www.ict4lt.org/en/en_glossary.htm#virus), [Worm](http://www.ict4lt.org/en/en_glossary.htm#worm).

**Troll:** A *troll* is someone who intentionally posts derogatory or provocative messages in an online community such as a [Discussion List](http://www.ict4lt.org/en/en_glossary.htm#discussion) or [Forum](http://www.ict4lt.org/en/en_glossary.htm#forum) or [Blog](http://www.ict4lt.org/en/en_glossary.htm#blog) to bait other users into responding. See [Flame](http://www.ict4lt.org/en/en_glossary.htm#flame), a term which may be used to describe the language used by trolls. See [Section 14.1.4, Module 1.5](http://www.ict4lt.org/en/en_mod1-5.htm#netiquette), headed *Netiquette*.

**TTS:** Abbreviation for [Text To Speech](http://www.ict4lt.org/en/en_glossary.htm#textosp).

[Twitter](http://twitter.com/" \t "_blank): A [Microblogging](http://www.ict4lt.org/en/en_glossary.htm" \l "microblogging) facility that allows users to post very short texts (maximum 140 characters) containing snippets of information about what they are doing at a given moment, news items, links to websites or comments on events, e.g. conferences and courses.

**Typeface:** See [Font](http://www.ict4lt.org/en/en_glossary.htm#font).

[Top](http://www.ict4lt.org/en/en_glossary.htm#GlossTop)

**U**

**Unicode:** The Unicode Worldwide Character Standard is a character coding system designed to support the interchange, processing, and display of the written texts of the diverse languages of the modern world. In addition, it supports classical and historical texts of many written languages: [http://www.unicode.org](http://www.unicode.org/). See [ASCII](http://www.ict4lt.org/en/en_glossary.htm#ascii) and [ANSI](http://www.ict4lt.org/en/en_glossary.htm#ansi). [Section 5, Module 1.3](http://www.ict4lt.org/en/en_mod1-3.htm#forchars), headed *Typing foreign characters*.

**Uninstall:**A verb used to describe the process of removing an unwanted application from your computer's hard disc. See [Install](http://www.ict4lt.org/en/en_glossary.htm#install), [Installation Program](http://www.ict4lt.org/en/en_glossary.htm#installprog), [Uninstall Program](http://www.ict4lt.org/en/en_glossary.htm#uninstallprog).

**Uninstall Program:**Basically what it says: a program for removing (*uninstalling*) an unwanted application from your computer's hard disc. [Install](http://www.ict4lt.org/en/en_glossary.htm#install), [Installation Program](http://www.ict4lt.org/en/en_glossary.htm#installprog), [Uninstall](http://www.ict4lt.org/en/en_glossary.htm#uninstall).

**Universal Serial Bus (USB):**A means of connecting a wide range of devices, e.g. [Digital Cameras](http://www.ict4lt.org/en/en_glossary.htm#digitalcam), [Camcorders](http://www.ict4lt.org/en/en_glossary.htm#camcorder), [iPods](http://www.ict4lt.org/en/en_glossary.htm#ipod), mobile phones, [Scanners](http://www.ict4lt.org/en/en_glossary.htm#scanner) and [Printers](http://www.ict4lt.org/en/en_glossary.htm#printer), via a cable to a computer. *USB ports*, to which the cables are connected, are found on all modern computers A USB Port takes the form of a socket into which a plug at one end of the cable can be inserted. The plug at the other end varies according to the device that you are using. USB ports can also deliver power to devices that need it, so that separate power cables are not necessary.

**Unix:** An [Operating System](http://www.ict4lt.org/en/en_glossary.htm#opsys) widely used on large computer systems in corporations and universities, on which many *Web servers* are hosted. A PC version of *Unix*, called [*Linux*](http://www.ict4lt.org/en/en_glossary.htm#linux), is becoming increasingly popular as an alternative to [*Windows*](http://www.ict4lt.org/en/en_glossary.htm#windows). See [Web Server](http://www.ict4lt.org/en/en_glossary.htm#webserve).

**Upload:** To transfer a copy of a computer program, a text file, an image file, a sound file or a video file from one computer to another computer. This term can also be used to describe the process of: (i) transferring a photograph from a digital camera to a computer, (ii) transferring a sound recording from a digital sound recorder to a computer, and (iii) transferring a video recording from a [Camcorder](http://www.ict4lt.org/en/en_glossary.htm#camcorder) or[Digital Camera](http://www.ict4lt.org/en/en_glossary.htm#digitalcam) to a computer. See [Download](http://www.ict4lt.org/en/en_glossary.htm#download), which has the opposite meaning.

**URL:** Abbreviation for Uniform Resource Locator. Also known as a [Web Address](http://www.ict4lt.org/en/en_glossary.htm#webadd). A URL contains the location of a resource on the [Internet](http://www.ict4lt.org/en/en_glossary.htm#internet). A URL specifies the address of the computer where the resource is located, which may be the homepage of a website, e.g. [http://www.ict4lt.org](http://www.ict4lt.org/), or a sub-page, e.g. <http://www.ict4lt.org/en/en_mod2-1.htm>. The **http://**prefix can usually be omitted from a URL when it is entered in a [Browser](http://www.ict4lt.org/en/en_glossary.htm#browser). See also [SLURL](http://www.ict4lt.org/en/en_glossary.htm#slurl) and [Website](http://www.ict4lt.org/en/en_glossary.htm#website).

**USB:**Abbreviation for [Universal Serial Bus](http://www.ict4lt.org/en/en_glossary.htm#universal).

**User-friendly:**Mainly used to describe [Software](http://www.ict4lt.org/en/en_glossary.htm#software). Software that is easy to use and offers guidance if the user does silly things is described as user-friendly. This term may also be applied to certain types of [Hardware](http://www.ict4lt.org/en/en_glossary.htm#hardware).

**User Interface:**See [Interface](http://www.ict4lt.org/en/en_glossary.htm#interface).

[Top](http://www.ict4lt.org/en/en_glossary.htm#GlossTop)

**V**

**VDU:**Abbreviation for [Visual Display Unit](http://www.ict4lt.org/en/en_glossary.htm#visualdis).

**Vector Graphic:** A method of creating graphic images on a computer by telling it to draw lines in particular positions. An advantage of a *vector graphic* is that it can be enlarged or reduced in size without loss of sharpness or distortion. Most modern image creation and edtiting packages can save images in vector graphic format. Vector graphics can be contrasted with *bit-mapped graphics*, which are made of a fixed number of pixels (small dots), and therefore sharpness may be lost when the image is resized. See [Bitmap](http://www.ict4lt.org/en/en_glossary.htm#bitmap), [Pixel](http://www.ict4lt.org/en/en_glossary.htm#pixel).

**VGA:** Abbreviation for Video Graphics Adaptor. An older type of [Video Card](http://www.ict4lt.org/en/en_glossary.htm#vidcard) or circuit board used to control the output on a computer [Display Screen](http://www.ict4lt.org/en/en_glossary.htm#display). VGA cards were superseded by [SVGA](http://www.ict4lt.org/en/en_glossary.htm#svga) cards.[See Section 1.1.1.4, Module 1.2](http://www.ict4lt.org/en/en_mod1-2.htm#graphics), under the heading*Graphics card*.

**Video Card:** An electronic circuit board inside a computer, which controls the display on the [Monitor](http://www.ict4lt.org/en/en_glossary.htm#monitor), i.e. the computer screen. Video cards are usually add-on cards inserted into expansion slots, although sometimes video circuitry is incorporated into the [Motherboard](http://www.ict4lt.org/en/en_glossary.htm#motherboard). Usually referred to as a *graphics card* these days. [See Section 1.1.1.3, Module 1.2](http://www.ict4lt.org/en/en_mod1-2.htm#graphics), under the heading*Graphics card*.

**Videoconferencing**or **Video Conferencing:**A computer-based communications system that allows a group of computer users at different locations to conduct a "virtual conference" in which the participants can see and hear one another as if they were in the same room participating in a real conference. See [Section 14.1.3, Module 1.5](http://www.ict4lt.org/en/en_mod1-5.htm#videoconf), headed *Videoconferencing: a synchronous communications medium*. See [Audioconferencing](http://www.ict4lt.org/en/en_glossary.htm#audioconf), [Conferencing](http://www.ict4lt.org/en/en_glossary.htm#confer), [Webcam](http://www.ict4lt.org/en/en_glossary.htm#webcam).

**Videodisc:**A technically obsolete [Storage Medium](http://www.ict4lt.org/en/en_glossary.htm#storagemed), an [Optical Disc](http://www.ict4lt.org/en/en_glossary.htm#optdisc), 12 inches in diameter, used mainly to store still images or video clips. Now replaced by CD-ROMs and DVDs. See [CD-ROM](http://www.ict4lt.org/en/en_glossary.htm#cdrom),[Digital Video Disc](http://www.ict4lt.org/en/en_glossary.htm#dvd), [Interactive Video (IV)](http://www.ict4lt.org/en/en_glossary.htm#ivideo).

**Videodisc Player:** Equipment used for accessing information - usually still images or video clips - stored on videodiscs. Now technically obsolete. See [Videodisc](http://www.ict4lt.org/en/en_glossary.htm#videodisc).

**Video Memory:** The dynamic memory available for the computer's [Display Screen](http://www.ict4lt.org/en/en_glossary.htm#display). The greater the amount of memory, the greater the possible colour depth and resolution of the display. Also known as Video RAM (VRAM). See [Colour Depth,](http://www.ict4lt.org/en/en_glossary.htm#colourdep) [RAM](http://www.ict4lt.org/en/en_glossary.htm#ram), [Resolution](http://www.ict4lt.org/en/en_glossary.htm#resolution).

**Virtual Learning Environment (VLE):** A VLE is a Web-based package designed to help teachers create online courses, together with facilities for teacher-learner communication and peer-to-peer communication. VLEs can be used to deliver learning materials within an institution or within a local education authority. They may even address a wider constituency, and can even be used on a worldwide basis. VLEs have certain advantages in terms of ease of delivery and management of learning materials. They may, however, be restrictive in that the underlying pedagogy attempts to address a very wide range of subjects, and thus does not necessarily fit in with established practice in language learning and teaching. For this reason some critics argue in favour of a less restrictive [Personal Learning Environment (PLE)](http://www.ict4lt.org/en/en_glossary.htm#ple). The two most widely used VLEs in language teaching and learning are [Blackboard](http://www.ict4lt.org/en/en_glossary.htm#blackboard) and [Moodle](http://www.ict4lt.org/en/en_glossary.htm#moodle). VLEs may also be referred to as [Course Management System (CMS)](http://www.ict4lt.org/en/en_glossary.htm#courseman), **Learning Management System (LMS)**,[Learning Platform](http://www.ict4lt.org/en/en_glossary.htm#learningplat) and **Learning Support System (LSS)**. Compare also [Managed Learning Environment (MLE)](http://www.ict4lt.org/en/en_glossary.htm#mle). See [Blended Learning](http://www.ict4lt.org/en/en_glossary.htm#blended), [Distance Learning](http://www.ict4lt.org/en/en_glossary.htm#distancelearn), [Online Learning](http://www.ict4lt.org/en/en_glossary.htm#onlinelearn). See the following ICT4LT modules:

* [Section 7, Module 1.4](http://www.ict4lt.org/en/en_mod1-4.htm#distancelearning) under the heading *Distance learning*
* [Section 8, Module 1.5](http://www.ict4lt.org/en/en_mod1-5.htm#vlesetc) under the heading *Distance learning and the Web: VLEs, MLEs, etc*
* [Section 3.1, Module 2.3](http://www.ict4lt.org/en/en_mod2-3.htm#interact) under the heading *Web-based CALL*

**Virtual Reality:**The simulation of an environment by presentation of 3D moving images and associated sounds, giving the user the impression of being able to move around with the simulated environment. Users wear helmets and visors that convey the images and sound and gloves that give them the experience of touching objects. The film *Lawnmower Man* (1992) focused on a character experiencing virtual reality, albeit with negative consequences. Not to be confused with [Virtual World](http://www.ict4lt.org/en/en_glossary.htm#virtualworld), which is a completely different concept.See Wikipedia: <http://en.wikipedia.org/wiki/Virtual_reality>

**Virtual World:**A type of online three-dimensional imaginary world or game in which participants and players adopt amazing characters or *avatars* and explore the world, engaging in chat or playing complex games. See [Avatar](http://www.ict4lt.org/en/en_glossary.htm#avatar), [MMORPG](http://www.ict4lt.org/en/en_glossary.htm#mmorpg), [MUVE](http://www.ict4lt.org/en/en_glossary.htm#muve). See also [Section 14.2, Module 1.5](http://www.ict4lt.org/en/en_mod1-5.htm#14.2) under the heading *Chat rooms, MUDs, MOOs and MUVEs*. Not to be confused with [Virtual Reality,](http://www.ict4lt.org/en/en_glossary.htm#virtualreality) which is a completely different concept.

**Virus:** If you surf the Web, use email or [Storage Media](http://www.ict4lt.org/en/en_glossary.htm#storagemed) sent to you by other people, you need to be protected against virus invasions. A virus is a nasty program devised by a clever programmer, usually with malicious intent. Viruses can be highly contagious, finding their way onto your computer's hard drive without your being aware of it and causing considerable damage to the software and data stored on it. Viruses can be contracted from files attached to email messages, e.g. Microsoft Word files, or direct from the Web. Be very wary of opening an email attachment of unknown origin, as this is the commonest way of spreading viruses. Software used to protect your computer against the invasion of computer viruses is known as *anti-virus software*. See [Firewall](http://www.ict4lt.org/en/en_glossary.htm#firewall), [Hacker](http://www.ict4lt.org/en/en_glossary.htm#hacker), [Worm](http://www.ict4lt.org/en/en_glossary.htm#worm). See<http://www.camsoftpartners.co.uk/bugs.htm>, where ways of combating viruses are described.

**Visual Display Unit (VDU):**A [Monitor](http://www.ict4lt.org/en/en_glossary.htm#monitor) connected to larger computers. Usually referred to as VDU. Rather an old-fashioned term nowadays, [Display Screen](http://www.ict4lt.org/en/en_glossary.htm#display) being the current favoured term.

**VLE:**Abbreviation for [Virtual Learning Environment](http://www.ict4lt.org/en/en_glossary.htm#virtual).

**Vodcast:**A contraction of Video Podcast. A type of [Podcast](http://www.ict4lt.org/en/en_glossary.htm#podcast) that incoporates video as well as audio.

**VoIP:**Abbreviation for Voice over Internet Protocol, i.e. audio communication using the Internet instead of telephones. [Skype](http://www.skype.com/) and [Ventrilo](http://www.ventrilo.com/) are examples of VoIP. See [Section 14.2.2, Module 1.5](http://www.ict4lt.org/en/en_mod1-5.htm#audioconf), headed *Audioconferencing: a synchronous communications medium*. See also Wikipedia: <http://en.wikipedia.org/wiki/VoIP>

**Volatile Memory:** Used to describe the internal main [Memory](http://www.ict4lt.org/en/en_glossary.htm#memory) of a computer that loses its contents when power is switched off. RAM is *volatile memory* as the information is stored in memory chips as an electric charge. See [RAM](http://www.ict4lt.org/en/en_glossary.htm#ram), [ROM](http://www.ict4lt.org/en/en_glossary.htm#rom).

**VR:** Abbreviation for [Virtual Reality](http://www.ict4lt.org/en/en_glossary.htm#virtualreality).

[Top](http://www.ict4lt.org/en/en_glossary.htm#GlossTop)

**W**

**W3C:**Abbreviation for World Wide Web Consortium. An international non-profit organisation which acts as a resource centre for the World Wide Web, and is active in setting technical standards. The current Director of W3C is Tim Berners-Lee, the inventor of the Web. The W3C website can be found at the URL [http://www.w3.org](http://www.w3.org/). See [World Wide Web](http://www.ict4lt.org/en/en_glossary.htm#wwweb).

**WAN:** Abbreviation for Wide Area Network. A network of computers located at geographically separate sites. See [LAN](http://www.ict4lt.org/en/en_glossary.htm#lan), [MAN](http://www.ict4lt.org/en/en_glossary.htm#man).

**WAP:** Abbreviation for Wireless Application Protocol. A system that enables you to browse online services, e.g. relating to information about the weather, traffic conditions, shopping, etc via a special type of mobile phone. WAP is the mobile phone equivalent of the World Wide Web. Newer mobile phones include WAP browser software to allow users access to WAP sites. See also [Smartphone](http://www.ict4lt.org/en/en_glossary.htm#smartphone).

**Warchalking:***Warchalkers* make chalk markings on walls or pavements to indicate that there is an insecure wireless access point nearby. The symbols not only mark the location of the wireless access point but also indicate the network type, name, and bandwidth. The markings are similar to the symbols used by tramps to communicate information to fellow itinerants about the friendliness of a place or its inhabitants. The term derives from the 1983 film *War Games* in which a teenager uses software to dial randomly selected telephone numbers, eventually managing to hack into a military computer and start World War III. People initiated in the ways of warchalking recognise the symbols and then all they need to do is take up a comfortable position with their laptop computer, suitably equipped with a wireless network card, and get online using someone else's bandwidth. See [Wifi](http://www.ict4lt.org/en/en_glossary.htm#wifi).

**WAV:** Short for Waveform Audio Format. A format for storing high-quality audio files. Somewhat hungry in terms of storage space compared to the [MP3](http://www.ict4lt.org/en/en_glossary.htm#mp3) and [WMA](http://www.ict4lt.org/en/en_glossary.htm#wma) audio file formats. See [Media Player](http://www.ict4lt.org/en/en_glossary.htm#mediaplay). See [Section 2.2.3.3, Module 2.2](http://www.ict4lt.org/en/en_mod2-2.htm#sounded), headed *Sound recording and editing software*.

**Web:** See [World Wide Web](http://www.ict4lt.org/en/en_glossary.htm#wwweb).

**Web 2.0:** Contrary to what many people think, Web 2.0 is not a new version of the World Wide Web. The term arose as the name of a series of conferences, the first of which was held in 2004:[http://www.web2summit.com](http://www.web2summit.com/). Essentially, Web 2.0 is an attempt to redefine what the Web is all about and how it is used, for example new Web-Based communitiesusing [Blogs](http://www.ict4lt.org/en/en_glossary.htm#blog), [Podcasts](http://www.ict4lt.org/en/en_glossary.htm#podcast), [Wikis](http://www.ict4lt.org/en/en_glossary.htm#wiki) and[Social Networking](http://www.ict4lt.org/en/en_glossary.htm#socialnet) websites that promote collaboration and sharing between users - in other words, a more *democratic* approach to the use of the Web. In order to achieve this, Web-based applications have to work more like applications on your computer's hard disc, allowing you to use the Web in much the same way as you would use applications such as *Word* or *PowerPoint*. To what extent the concept of Web 2.0 is truly innovative is a matter of debate, as it is broadly in line with the concept of the Web as defined by its inventor, Tim Berners-Lee, way back in 1998. See [Section 2.1, Module 1.5](http://www.ict4lt.org/en/en_mod1-5.htm#WEB2), headed *What is Web 2.0?*

**Web Address:** See [URL](http://www.ict4lt.org/en/en_glossary.htm#url).

**Webcam:**A camera connected to a computer that enables it to transmit images and videos to the [Internet](http://www.ict4lt.org/en/en_glossary.htm#internet). For example, *webcams* can be set to transmit a live picture every few minutes from a location to a website, displaying a live view of a landscape, cityscape or interior of a building. Webcams are essential for [Videoconferencing](http://www.ict4lt.org/en/en_glossary.htm#videoconf). See [Section 1.2.6, Module 1.2](http://www.ict4lt.org/en/en_mod1-2.htm#webcam) for an illustration of a webcam, and see[Section 14.1.3, Module 1.5](http://www.ict4lt.org/en/en_mod1-5.htm#videoconf), headed*Videoconferencing: a synchronous communications medium*. Many laptop computers have an integrated webcam - which appears as a small "eye" in the top of the frame of the [Display Screen](http://www.ict4lt.org/en/en_glossary.htm#display).

**WebCT:**A [Virtual Learning Environment (VLE)](http://www.ict4lt.org/en/en_glossary.htm#virtual). [Blackboard](http://www.ict4lt.org/en/en_glossary.htm#blackboard) and *WebCT* announced an agreement to merge in October 2005. Effectively, Blackboard has now taken over *WebCT*.

**Weblog:**The full form of the term [Blog](http://www.ict4lt.org/en/en_glossary.htm#blog).

**Webmail:**A facility for creating, sending and and receiving messages via the [Internet](http://www.ict4lt.org/en/en_glossary.htm#internet).*Webmail* offers an alternative to using email software such as such as [Outlook](http://www.ict4lt.org/en/en_glossary.htm#outlook) or [Eudora](http://www.ict4lt.org/en/en_glossary.htm#eudora): see [Email](http://www.ict4lt.org/en/en_glossary.htm#email). In order to use webmail you have to register with an [Internet Service Provider (ISP)](http://www.ict4lt.org/en/en_glossary.htm#internetserv) and you can then access their email service via your Web [Browser](http://www.ict4lt.org/en/en_glossary.htm#browser). See [Section 14, Module 1.5](http://www.ict4lt.org/en/en_mod1-5.htm#compmedcomm), headed *Computer Mediated Communication (CMC)*.

**Webquest:** A *webquest* is a task-oriented activity in which the learner draws on material from different websites in order to achieve a specific goal. The skills that are required in a webquest mainly involve reading and listening, but there may also be communicative speaking exercises. See [Section 7.3.1, Module 1.5](http://www.ict4lt.org/en/en_mod1-5.htm#webquests), headed *Webquests and scavenger hunts*.

**Web Server**or**Webserver:** A computer or a software package running on a computer that delivers, i.e. *serves*, Web pages to its *clients*: see [Client](http://www.ict4lt.org/en/en_glossary.htm#client) and [Host](http://www.ict4lt.org/en/en_glossary.htm#host). Every *Web server* has an [IP Address](http://www.ict4lt.org/en/en_glossary.htm#ipadd) and possibly a [Domain Name](http://www.ict4lt.org/en/en_glossary.htm#domainname). For example, if you enter the URL **http://www.ict4lt.org/index.htm** in your [Browser](http://www.ict4lt.org/en/en_glossary.htm#browser), this sends a request to the [Server](http://www.ict4lt.org/en/en_glossary.htm#server) whose domain name is **ict4lt.org**. The server then fetches the page named **index.htm** and sends a copy of it to your browser. Any computer can be turned into a Web server by installing Web server software and connecting the machine to the [Internet](http://www.ict4lt.org/en/en_glossary.htm#internet). By far the most popular Web server software in use worldwide is the [Open Source](http://www.ict4lt.org/en/en_glossary.htm#opensource) [Apache](http://www.ict4lt.org/en/en_glossary.htm#apache) software: [http://www.apache.org](http://www.apache.org/)

**Website:** An area on the [World Wide Web](http://www.ict4lt.org/en/en_glossary.htm#wwweb) where an organisation or individual stores a collection of pages of material - **Web pages**. The pages are usually interlinked with one another and with other websites. Every website has a unique [Web Address](http://www.ict4lt.org/en/en_glossary.htm#webadd) or [URL](http://www.ict4lt.org/en/en_glossary.htm#url). The full URL of the ICT4LT website is [http://www.ict4lt.org](http://www.ict4lt.org/)

**Webwhacking:** This involves saving entire websites for use offline. It may breach copyright because it involves **copying** the website to a local drive, either a network server or a stand-alone computer's hard drive. See [Section 4, General guidelines on copyright](http://www.ict4lt.org/en/en_copyright.htm#theweb).

**WELL:** Acronym for Web Enhanced Language Learning. The WELL Projectwas co-ordinated by William Haworth, Liverpool John Moores University. It was set up in 1997 with assistance from the higher education Fund for the Development of Teaching and Learning (FDTL) in order to promote wider awareness and more effective use of the World Wide Web in Modern Foreign Languages teaching across higher education in the UK. The funding period came to an end in August 2001 and the website has been closed down.

**Whiteboard:**See [Interactive Whiteboard](http://www.ict4lt.org/en/en_glossary.htm#iaw).

**Wide Area Network (WAN):** See [WAN](http://www.ict4lt.org/en/en_glossary.htm#wan).

**Wifi:** Wireless Fidelity, also known as *wireless networking*, a way of transmitting information without cables that is reasonably fast and is often used for laptop computers within a business or a university or school campus instead of a [Local Area Network (LAN)](http://www.ict4lt.org/en/en_glossary.htm#lan) that uses cable connections. *Wifi* systems use high frequency radio signals to transmit and receive data over distances of several hundred feet. Many hotels and airports now offer wifi access to people travelling with laptop computers.

**Wiki:**A website or similar online resource which allows anyone to set up a resource in which content can be created collectively. It's important feature is that it allows anyone who views the wiki to add to or edit the existing content as if they were adding to or editing, for example, someone else's *Word* document. Wiki also refers to the software used to create such a website. The word "wiki" derives from the Hawaiian "wiki-wiki", meaning "quick". **Wikipedia** is the best known example of a wiki. It's a collaboratively written encyclopaedia: [http://www.wikipedia.org](http://www.wikipedia.org/). There is an article on Computer Assisted Language Learning in Wikipedia, which you can add to or edit yourself: <http://en.wikipedia.org/wiki/Computer-assisted_language_learning>. It is also possible to set up a personal wiki that cannot be added to or edited by other people, e.g. here is Graham Davies's personal wiki: [http://grahamdavies.wikispaces.com](http://grahamdavies.wikispaces.com/). Wikis may also be used for [Conferencing](http://www.ict4lt.org/en/en_glossary.htm#confer): see [Section 12, Module 1.5](http://www.ict4lt.org/en/en_mod1-5.htm#anchordiscuss), headed *Discussion lists, blogs, wikis, social networking*.

**Wild Card**or **Wildcard:** In a question-answer dialogue which aims not to be over-sensitive about spelling, the teacher may decide to allow for aberrations by declaring certain characters "wild". For example, the answer "relitivaty" would match with 'r?l?t?v?t?', the question marks representing wild card characters: i.e. whatever the learner types in place of them is accepted. Conventionally, a question mark is used for a single character and an asterisk for a string of characters. A technique also used in programs that help you cheat at crossword puzzles! *Wildcards* can also be used in search engines such as [Google](http://www.ict4lt.org/en/en_glossary.htm#google) when you are not sure of the spelling of the item you are searching for. See [Section 4, Module 1.5](http://www.ict4lt.org/en/en_mod1-5.htm#anchorsearch), headed *Search engines: How to find materials on the Web*.

**Window:** An area of a computer screen set aside for a special purpose. Modern computers, such as the Macintosh and most personal computers, divide the screen into discrete sections, known as*windows*, within which different pieces of software can be run at the same time - although not necessarily strictly at the same time, as normally only one window is active: see [Multitasking](http://www.ict4lt.org/en/en_glossary.htm#multitask). The user can control the size, shape and positioning of each window. Data, e.g. a piece of text, a picture or numerical data, can be moved or copied and pasted from one window to another. See [*Windows*](http://www.ict4lt.org/en/en_glossary.htm#windows).

**Windows:**The name of a range of several different[Graphical User Interface (GUI)](http://www.ict4lt.org/en/en_glossary.htm#graphuser) operating systems produced by the Microsoft Corporation. *Windows 3.0* and *Windows 3.1* were the first operating systems of this type, produced by Microsoft, to appear in the early 1990s. The Apple Macintosh computer, however, had been using a GUI (which was not known as *Windows*) from the mid-1980s.*Microsoft Windows* is currently the most widely used GUI for personal computers. It exists in various versions, e.g.Windows 95, 98, ME, NT, 2000 and XP. See [MS DOS](http://www.ict4lt.org/en/en_glossary.htm#msdos), [Operating System](http://www.ict4lt.org/en/en_glossary.htm#opsys).

**Windows Explorer:**Microsoft's tool, provided as part of [*Windows*](http://www.ict4lt.org/en/en_glossary.htm#windows), that enables you to inspect and manage *folders* and *files* stored on your computer. *My Computer* is an alternative tool, also provided as part of *Windows*. See [File](http://www.ict4lt.org/en/en_glossary.htm#file), [Folder](http://www.ict4lt.org/en/en_glossary.htm#folder).

**Wireless Fidelity:** See [Wifi](http://www.ict4lt.org/en/en_glossary.htm#wifi).

**Wireless Mouse:**A [Mouse](http://www.ict4lt.org/en/en_glossary.htm#mouse) that does not require a cable connection to a computer, but which operates via infrared or radio signals.

**Wizard:**Software that guides the user step-by-step through a complex task, such as setting up software on a network or configuring a printer to output data in a special format, e.g. for printing labels from a database program.

**WMA:** Abbreviation for Windows Media Audio. Microsoft's audio encoding format which offers high-quality output with lower file sizes. See [MP3](http://www.ict4lt.org/en/en_glossary.htm#mp3), [WAV](http://www.ict4lt.org/en/en_glossary.htm#wav), which are alternative audio file formats. See[Media Player](http://www.ict4lt.org/en/en_glossary.htm#mediaplay). See [Section 2.2.3.3, Module 2.2](http://www.ict4lt.org/en/en_mod2-2.htm#sounded), headed *Sound recording and editing software*.

**Word:**A popular word-processing package, produced by Microsoft. See [Word-processor](http://www.ict4lt.org/en/en_glossary.htm#wordproc).

**Word-processor:** Probably the most widely used computer [Application](http://www.ict4lt.org/en/en_glossary.htm#application). Modern word-processors allow the user to create fine-looking documents including images, tables, photographs, and even sound and video recordings if they are to be viewed on screen rather than from the printed page. In many respects they are similar to [Desktop Publishing](http://www.ict4lt.org/en/en_glossary.htm#desktoppub)applications. Word-processors normally include a spellchecker, a grammar checker, a style checker and a thesaurus, as well as tools for writing in [HTML](http://www.ict4lt.org/en/en_glossary.htm#html), the coding language used for producing Web pages.Word-processors have been widely used in teaching and learning foreign languages ever since they first appeared. See [Module 1.3](http://www.ict4lt.org/en/en_mod1-3.htm), *Using word-processing and presentation software in the Modern Foreign Languages classroom*.

**Wordsnake:**An exercise in which all the spaces in a sentence have been removed, the learner's task being to put the spaces back into the correct positions in the sentence. See [Section 3.1, Module 1.3](http://www.ict4lt.org/en/en_mod1-3.htm#3.1), headed *Using the space bar: Wordsnake exercises*.

**Workstation:** A term that is rather loosely used these days. Most people use it in the context of any computer that forms part of a [Network](http://www.ict4lt.org/en/en_glossary.htm#network). Formerly, this term was applied to a particular type of powerful computer used for scientific and engineering calculations, e.g. the *Sun Workstation*.

**WorldCALL:**The worldwide umbrella association for CALL. [http://www.worldcall.org](http://www.worldcall.org/), which has the aim of helping countries that are currently underserved in the applications of ICT. The First World Conference on CALL was held at the University of Melbourne, Australia, in 1998. The Second World Conference on CALL took place in Banff, Canada, in 2003. The 2008 WorldCALL conference will take place in Japan.

**World Wide Web:** Usually referred to simply as **the Web**. This is the most powerful and fastest growing [Internet](http://www.ict4lt.org/en/en_glossary.htm#internet) service. The World Wide Web was the brainchild of Tim Berners-Lee, who in 1989 invented the [HTML](http://www.ict4lt.org/en/en_glossary.htm#html) coding language that is the basis of the Web. The Web became a public service in 1993. It is a huge collection of resources of information, including learning materials, which is accessed by means of a computer program known as a [Browser](http://www.ict4lt.org/en/en_glossary.htm#browser). The World Wide Web is only part of the Internet, but many people treat both terms as synonyms. See [Module 1.5](http://www.ict4lt.org/en/en_mod1-5.htm), *Introduction to the Internet*, [Module 2.3](http://www.ict4lt.org/en/en_mod2-3.htm), *Exploiting* *World Wide Web resources online and offline*, [Module 3.3](http://www.ict4lt.org/en/en_mod3-3.htm), *Creating a World Wide Web site*. See also [Web 2.0](http://www.ict4lt.org/en/en_glossary.htm#web2).

**Worldwide Web Consortium (W3C):** An international non-profit organisation which acts as a resource centre for the World Wide Web, and is active in setting technical standards. The current Director of W3C is Tim Berners-Lee, the inventor of the Web. The W3C website can be found at the URL [http://www.w3.org](http://www.w3.org/). See [World Wide Web](http://www.ict4lt.org/en/en_glossary.htm#wwweb).

**Worm:**A computer worm is a self-replicating hostile computer program, similar to a computer [Virus](http://www.ict4lt.org/en/en_glossary.htm#virus). A virus attaches itself to and becomes part of another program, but a worm is self-contained and does not need to be part of another program to propagate itself. Worms can cause considerable damage to computers. See [Trojan](http://www.ict4lt.org/en/en_glossary.htm#trojan).

**WORM:**Acronym for Write Once Read Many. Now a rather dated term, originally applied to a type of [Optical Disc](http://www.ict4lt.org/en/en_glossary.htm#optdisc) on which information could be written just once and could not be amended or erased.

**Write Protect:**To protect a [Storage Device](http://www.ict4lt.org/en/en_glossary.htm#storagedev), [File](http://www.ict4lt.org/en/en_glossary.htm#file) or [Folder](http://www.ict4lt.org/en/en_glossary.htm#folder) so that its contents cannot normally by altered or erased. This may be done physically, e.g. by moving a notch on a floppy disc's casing, or - more commonyl these days - through software that designates the device, file or folder as read-only.

**WWW:** Abbreviation for [World Wide Web](http://www.ict4lt.org/en/en_glossary.htm#wwweb).

**WYSIWYG:** Acronym for What You See Is What You Get, dating back to the pre-*Windows* and pre-Mac period, when what you saw on the screen, e.g. in a *Word* document, was not necessarily what appeared on your [Printer](http://www.ict4lt.org/en/en_glossary.htm#printer) - something we now take for granted. See [Windows](http://www.ict4lt.org/en/en_glossary.htm#windows).

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**X**

**XML**: Abbreviation for eXtensible Markup Language. XML is a specification emanating from the World Wide Web Consortium (W3C) that allows Web designers to create their own language for displaying documents on the Web. XML is an extension to the standard language for creating Web pages, [HTML](http://www.ict4lt.org/en/en_glossary.htm#html), and makes it possible to create websites containing more complex interactivity.

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**Y**

[Yahoo](http://uk.yahoo.com/" \t "_blank): A popular [Search Engine](http://www.ict4lt.org/en/en_glossary.htm#searcheng). See [Section 4, Module 1.5](http://www.ict4lt.org/en/en_mod1-5.htm#anchorsearch), headed *Search engines: How to find materials on the Web*.

**Y2K:**Year 2000. See [Millennium Bug](http://www.ict4lt.org/en/en_glossary.htm#millenium).

**YouTube:**A website to which you can upload your own video clips and view video clips uploaded by others: [http://www.youtube.com](http://www.youtube.com/). See [Section 2.2.3.6, Module 2.2](http://www.ict4lt.org/en/en_mod2-2.htm#savingstream), headed *Saving and converting streaming media for use offline*.

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**Z**

**Zip Disc:**A portable type of disc used to store around 100Mb of data. Zip discs have become obsolete since the arrival of smaller and more convenient storage devices with much greater storage capacity, e.g. the increasingly popular [Flash Drive](http://www.ict4lt.org/en/en_glossary.htm#flashdrive) or [Memory Stick](http://www.ict4lt.org/en/en_glossary.htm#memorystick). See [Storage Device](http://www.ict4lt.org/en/en_glossary.htm#storagedev).

**Zip Drive:**A type of disc drive that accepts portable *zip discs* (see above). Zip drives themselves are also portable and can be connected to almost any computer. See [Zip Disc](http://www.ict4lt.org/en/en_glossary.htm#zipdisc).

**Zip:**Used as a verb to describe the process of compacting files or programs in order to cut down the amount of storage space they require by compressing them into one tightly-packed file and thus to make it easier for them them to be transported on floppy discs or transmitted electronically to other locations, e.g. via the Internet. Proprietary programs, such as **WinZip** or **WinRar**, can be used to zip data and files. Zipped files are recognised by the [Extension](http://www.ict4lt.org/en/en_glossary.htm#extension) **.zip** or **.rar** (for files created with WinRar) and have to be unzipped before they can be used, again using proprietary programs.

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Please let us know if you have suggestions for terms to add to this Glossary. [Feedback](http://www.ict4lt.org/en/en_glossary.htm#anchor46746).

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