

Vocational Pedagogy

What it is, why it matters and what we can do about it

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Background Note for UNESCO-UNEVOC e-Forum

May 2014

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This paper draws substantially on work commissioned by City & Guilds and published as:

Lucas, B., Spencer, E., and Claxton, G (2012) *How to teach vocational education: a theory of vocational pedagogy*. London: City & Guilds.

We have subsequently explored some of the leadership implications in:

Lucas, B. and Claxton, G. (2013) *Pedagogic Leadership: Creating cultures and practices for outstanding vocational learning*. London: 157 Group

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In this short paper I am hoping to stimulate discussion about five questions:

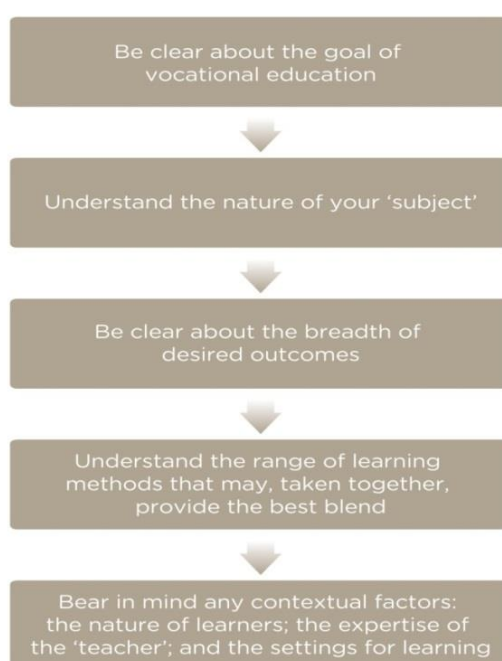
1. Do certain vocational subjects have 'signature pedagogies'?
2. What are the desired learning outcomes for TVET?
3. Which learning and teaching methods work best in TVET?
4. How can VET teachers become more confident and competent in vocational pedagogy?
5. What are the leadership implications of a sustained focus on vocational pedagogy?

When I use the term 'vocational pedagogy' I mean 'the science, art and craft of teaching and learning vocational education'. Or you could say more simply that vocational pedagogy is the sum total of the many decisions which vocational teachers take as they teach, adjusting their approaches to meet the needs of learners and to match the context in which they find themselves.

Vocational pedagogy is under-researched and under-theorised, and our work seeks to redress this fact. Indeed Vocational Education and Training (VET) is all too often seen as the 'poorer cousin' of academic education. In some countries pedagogy, or as some prefer to say, andragogy (Knowles, 1984), is widely debated. There are lively and well-informed discussions about how best to teach vocational education. In other countries this is less the case. In this e-Forum I hope we can bring together our different traditions and find common ground.

Being clearer about what vocational pedagogy is matters because it forces us to think about the wider goals of vocational education and thus to improve its status. It helps us to understand that vocational education is worthy of serious study. Once grasped more comprehensively, vocational pedagogy enables us to develop models and tools which can help VET teachers more effectively to match teaching and learning methods to the needs of their students and their contexts. Through such means vocational pedagogy can directly impact on the quality of teaching and learning.

But you cannot develop a plausible description or theoretical underpinning for vocational pedagogy unless you are prepared to ask and answer some fundamental questions about vocational education. The figure below indicates our line of thinking.



1. Do certain vocational 'subjects' have 'signature pedagogies'?

There is a concept which may be useful here, 'signature pedagogy'. First coined by Lee Shulman in 2005, it refers to 'the types of teaching that organize the fundamental ways in which future practitioners are educated for their new professions'.

'Signature pedagogies make a difference. They form habits of the mind, habits of the hand and habits of the heart. As Erikson observed in the context of nurseries, signature pedagogies prefigure the culture of professional work and provide the early socialisation into the practices and values of a field. Whether in a lecture hall or a lab, in a design studio or a clinical setting, the way we teach will shape how professionals behave...' (Shulman, 2005).

We wonder whether we might helpfully distinguish different kinds of vocational education by emphasising the medium through which the work is expressed. For example, three categories distinguish vocational education that focuses on working with:

1. *physical materials* – for example, bricklaying, plumbing, hairdressing, professional make-up
1. *people* – for example, financial advice, nursing, hospitality, retail, and care industries
2. *symbols (words, numbers and images)* – for example, accountancy, journalism, software development, graphic design.

To this end, in the figure below, we have grouped a selection of vocational subjects to this organising principle. Names vary across the world, but I hope that the principle is clear.



Such groupings are, inevitably, somewhat arbitrary. But VET teachers tell us that the model helps them to make sense of the kinds of pedagogies that can be appropriate in different vocational domains – their signature pedagogies. Most subjects will have aspects of each of our three different focus 'materials' as part of their endeavours.

Does this way of organising help you in your thinking about TVET?

2. What are the desired learning outcomes for TVET?

Traditionally vocational education outcomes are framed in terms of skills or competencies relating to particular vocational domains with, recently, a greater interest in what are increasingly referred to as twenty-first century or wider skills.

But this is simply not good enough. We argue that there are a number of other capabilities that go to make up the working competence of a vocational worker, and these add to – rather than being a different set from – the set of capabilities required of an ‘academic’ worker.

1. Routine expertise (being skilful)
2. Resourcefulness (stopping to think to deal with the non-routine)
3. Functional literacies (communication, and the functional skills of literacy, numeracy, and ICT)
4. Craftsmanship (vocational sensibility; aspiration to do a good job; pride in a job well done)
5. Business-like attitudes (commercial or entrepreneurial – financial or social - sense,
6. Wider skills (for employability and lifelong learning).

Routine expertise is at the core of working competence. It involves skilled routines and the ability to carry out skilful activities to a satisfactory standard. It relates to the use of materials, tools and abstract concepts. Acquiring practical expertise requires time and practice. Anders Ericsson has suggested that typically it takes 10,000 hours to become an expert (Ericsson et al., 1993).

Resourcefulness. Sometimes we need to stop and think. We encounter something which is not routine and need to be able to respond accordingly. Beyond the familiar and routines, expert practitioners are able to bring to mind knowledge that is applicable to new and unfamiliar contexts. Learners need to be able to apply knowledge in a range of situations which do not closely replicate those already encountered in training.

Craftsmanship is something we consider to have been much lacking in the literature of vocational education. Mike Rose’s *The Mind at Work* (2005), Richard Sennett’s *The Craftsman* (2008) and Matthew Crawford’s *The Case for Working with Your Hands* (2010) all make strong cases for this outcome. Craftsmanship is about the pleasure, pride and patience involved in doing a ‘good job’, (Berger, 2003).

Functional Literacies make up a slightly broader category than the functional skills of literacy, numeracy and ICT. There are live debates today about how best to teach these kinds of functional literacies. Some argue for them being embedded in authentic contexts and therefore likely to be taught by vocational teachers. Others suggest that they are better learned from specialists.

Business-like attitudes are also essential. Work may not, of course, be ‘for profit’. Many services, for example in social services and housing and the environment are ‘third sector’ and not run for profit. A business-like attitude would manifest itself in behaviours such as punctuality, orderliness, willingness to put in necessary time and effort, and displays of customer service that exceed client expectation.

Wider skills. As the end of the 20th century approached, one of the most pressing questions of education related to the sorts of competencies the 21st century would demand. The sorts of ‘wider skills’ deemed important are many and varied, and are described variously as ‘broader skills’, ‘competencies’, ‘dispositions’, ‘capabilities’, and ‘habits of mind’. Employers regularly call for employees with wider skills such as problem-solving, team-working, resilience, entrepreneurialism etc in addition to high-level basic skills.

Do you agree with our list of six broad outcomes for vocational education? What would your list contain and why?

3. Which learning and teaching methods work best in TVET?

There are many differing approaches to constructing vocational learning and here, rather than getting drawn into any of the debates around teaching and learning, we have chosen to highlight some methods which research suggests work well in a range of vocational contexts. Of all the overall approaches we have encountered, the one created by David Perkins seems both thoroughly grounded in the literature and accessible, (Perkins, 2009). Here is an adapted version of his seven principles²:

1. Play the whole game – use extended projects and authentic contexts
2. Make the game worth playing – work hard at engaging learners giving them choices wherever possible
3. Work on the hard parts – discover the most effective ways of practising
4. Play out of town – try things out in many different contexts
5. Uncover the hidden game – make the processes of learning as visible as possible
6. Learn from the team and the other teams – develop robust ways of working in groups and seek out relevant communities of practice
7. Learn from the game of learning – be in the driving seat as a learner, developing your own tried and tested tactics and strategies.

The list below is indicative of those vocational learning methods which, we believe, have considerable value. They are relatively well-understood and used in a range of contexts internationally. The majority are broadly ‘learning by doing’ or ‘experiential’, though many combine reflection, feedback and theory.

- Learning by watching
- Learning by imitating
- Learning by practising (‘trial and error’)
- Learning through feedback
- Learning through conversation
- Learning by teaching and helping
- Learning by real-world problem-solving
- Learning through enquiry
- Learning through enquiry
- Learning by listening, transcribing and remembering
- Learning by drafting and sketching
- Learning on the fly
- Learning by being coached
- Learning by competing
- Learning through virtual environments
- Learning through simulation and role play
- Learning through games

A full description of each of these methods and of the contexts in which it might be most useful can be found in *How to teach vocational education: a theory of Vocational pedagogy* (Lucas et al, 2012)³. Creating a vocational pedagogy involves blending methods in the light of a number of factors of which we have thus far considered two – the nature of the subject and the desired vocational outcomes.

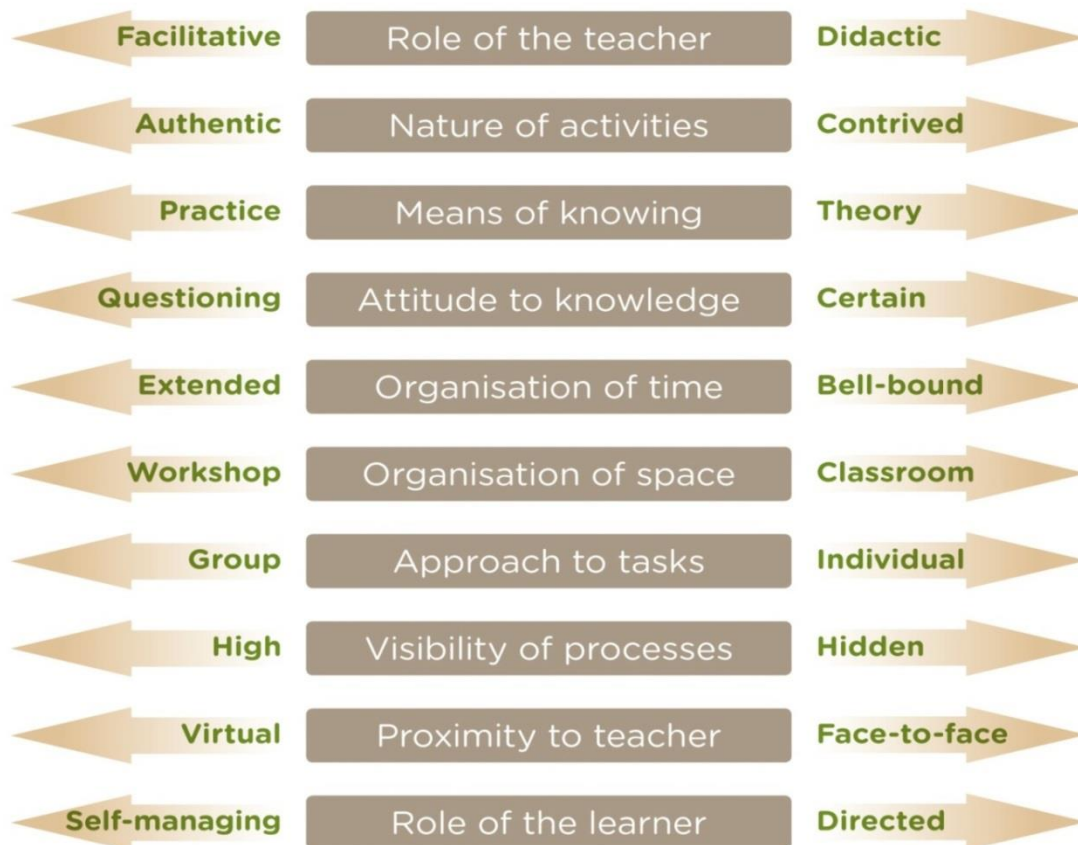
Which methods do you find most useful in your context?

² The first words of each of the seven are as written by David Perkins, the remainder are my interpretation

³ <http://www.skillsdevelopment.org/PDF/How-to-teach-vocational-education.pdf>

More fundamentally, how would you go about choosing the best blend of methods to use? We have developed and trialled a decision-making tool (below) which helps those planning TVET to ask themselves questions which, in turn, will help them to make better choices with regards to the methods I listed on page 5.

Ten Dimensions of Decision-Making in Vocational Pedagogy



It is important to point out that these are not binary, either-or decisions.

The ten questions we propose are:

1. Role of the teacher – facilitative or didactic?
2. Nature of activities – authentic or contrived?
3. Means of knowing – practice or theory?
4. Attitude to knowledge – questioning or certain?
5. Organisation of time – extended or bell-bound?
6. Organisation of space - workshop or classroom?
7. Approach to tasks – group or individual?
8. Visibility of processes – high or hidden?
9. Proximity to teacher – virtual or face to face?
10. Role of the learner – self-managing or directed?⁴

Do you find these ten questions useful? If you have different questions to guide you in your choice of learning and teaching methods, what are they?

⁴ For a fuller exploration of each of these choices, see <http://www.skillsdevelopment.org/PDF/How-to-teach-vocational-education.pdf>

4. How can VET teachers become more confident and competent in vocational pedagogy?

I pose this as an open question. Just as my approach to developing a vocational pedagogy has required us to explore the desired outcomes of VET, so this question invites participants first of all to process my line of argument and then to consider their own desired outcomes and the levels of confidence and competence which currently exist in their own VET workforce.

5. What are the leadership implications of a sustained focus on vocational pedagogy?

In 2013, following the interest occasioned by our research into vocational pedagogy, the Centre for Real-World Learning was commissioned by the UK's 157 Group to explore the implications for VET leaders, (Lucas & Claxton, 2013)⁵.

What do you see as the major leadership implications in TVET?

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⁵ <http://www.157group.co.uk/sites/default/files/documents/157g-115-pedagogicleadership.pdf>