

Learners and Learning

Section Six: Talking about theory

Writers | Ian Moll, Jill Bradbury, Gisela Winkler,
Maggie Tshule, Merlyn van Voore, Lynne Slonimsky

○ **Editor** | John Gultig

The SAIDE Teacher Education Series

Saide 
South African Institute
for Distance Education



Learners and Learning

ISBN 978 0 620 46731 5

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1ST EDITION SERIES EDITOR: John Gultig

1ST EDITION AUDIOTAPE: George Lekorotsoana (producer) and John Gultig (concept and script)

DESIGN FOR DIGITAL VERSION: Michelle Randell

ILLUSTRATIONS: Andre Plant

SAIDE

PO Box 31822

Braamfontein 2017

T: (011) 403 2813

F: (011) 403 2814

www.saide.org.za; www.oerafrica.org

The first edition was funded by the WK Kellogg foundation. This digital version has been funded through the International Association of Digital Publications.

SECTION SIX

Talking about theory

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Introduction

6.1

What will you learn in this section?

So far in this module we have explored how people learn and then drawn some lessons from this understanding about how we can teach to maximize learning. We have deliberately *not* taken you through a series of famous educational theorists. Instead we have tried to use their ideas in action.

In this section we will look more closely at how both famous theorists and teachers make sense of their ideas about learning. In other words, we will be examining how they theorize their practices.

We begin with a series of interviews in which teachers share ideas based on their experience. We then look at four case studies that place different teachers' experiences into a systematic framework of ideas. This demands a more theoretical response from us, so we introduce four influential twentieth-century theories of learning. These ideas are highly abstract and concern themselves with the origin of knowledge in human beings. Finally we illustrate how our own ideas about learning fit into the broad framework of constructivist thought and the relationship between theory and practice in the teaching profession.



More half-truths to think about

Read the following statements. What do you think about them? As you read through the statements, once again record your responses.

Statement about learning	What is true about the statement?	What is inaccurate or false about this statement?
Education theory can tell teachers how to teach.		
Teachers share ideas about learning when they talk about their work.		
Teachers should develop their own theories about learning.		
There is no point in being all 'theoretical' about learning. It is the practice that counts.		
All theories of learning are equally true: all one has to do is choose one for oneself.		

6.2

How do teachers talk about learning?

Why is theory useful?

As we wrote this module and discussed it with various teachers and educational theorists they often asked us the question:



Yes, but what is your theory of learning?
What is your theory of teaching?

Obviously we do have a theory of learning, or at least we all share a commitment to a broad family of learning theories. This allows us to talk to each other sensibly and to write about learning together without having to argue too much about the meaning of the concepts we use. We share basic assumptions about how children and adults learn in schools and other learning situations. We also share a similar set of words and images that we use to express our ideas about learning.

This shared *articulation* of ideas and theories makes it possible to describe and explain learning in a new way.

The writing process was a theoretical activity. As you have worked through the module, and completed the various activities, you too have engaged in theoretical activity. In other words, you have:

- learnt to reflect on your own learning;
- articulated ideas about how children learn;
- applied these ideas to understanding the teaching process.

We all think about learning – we theorize – but we don't all describe the process in such formal academic language. Many of us actively resist getting involved in academic debates about education. We prefer to talk about teaching in terms of *everyday* experience. We like telling stories about actual events and behaviour in our classrooms, rather than sharing general principles about learning.

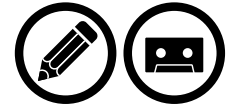
But even in such situations (where teachers aren't able to express their assumptions about learning clearly), we still draw on theoretical ideas. These theoretical ideas, in turn, influence the choices we make about the ways in which we teach.

The language of formal theories (an academic discourse) can, however, add to our understanding of our teaching. It enables us to describe classroom experiences in new and more generalized ways. We become able to analyse and explain how and why learning happens in *many* different situations. In other words we become more flexible thinkers and, ultimately, more flexible teachers.

This ability is particularly useful when learning *doesn't happen!* Theory that has been built up from many other similar experiences in many different places, may provide teachers with insights from *broad human experience* that will enable them to adapt their actions in their own classrooms.

ACTIVITY 53

- 1 Find Part 6 of the audiotape. Listen to the interviews with South African teachers in which they *articulate* their ideas about learning. As you listen to the tape, jot down brief notes that will allow you to discuss the ways in which these teachers think about learning.
- 2 When you have finished listening, answer these questions:
 - a Can you identify a main, underlying idea about learning that each teacher holds? In other words, does each teacher have a clear theory of learning in what he or she says?
 - b Do any of the teachers contradict themselves in what they say? What do you think this means?
 - c How theoretical is each teacher's model of learning? (If you are not sure how to go about answering this question, go back to Activities 19 and 20 to remind yourself of the features of theoretical thought. Look also at the account of theory below.)
 - d Write down, in about half a page, your own theory of learning.



Spend at least 40 minutes on this activity. Part 6 begins with Shawn talking about charts and then arguing for a strong teacher role in classrooms. Next, Margie responds with an argument for learner-centred classrooms, but also for structure. Finally Jackie talks about group work, and the importance of working diagnostically. Do the activity alone at first, then discuss your ideas with other teacher-learners.

What is theory?

Before we tell you what we learnt from these teachers we thought we'd try and clarify what a theory is and how it is related to practice. We will come back to this discussion throughout the section, so don't be dismayed if you don't quite understand!

Theory is sometimes described as a body of law-like generalizations that are logically linked to one another. It is used to explain empirical phenomena. But this definition has been criticized. Some scholars point out that most theories are not as logically neat as this definition implies. They suggest that theory is more like a story: it is a set of ideas, assumptions, and concepts that are ordered in a way that tells us something about the world, about ourselves, or about an aspect of reality.

We tend to distinguish between *theory* (what we think and know about something) and *practice* (what we actually do).

In nursing examinations, for instance, a *practical* exam would probably involve diagnosing a client's condition and acting on the diagnosis (doing something). By contrast, in a *theoretical* exam, students' responses would largely be written (maybe with some oral exams too) and their theoretical knowledge of nursing science and its application would be tested.

If you are thinking, 'But practical exercises are guided by theory', you would be correct. Theories of diagnosis and pathology would be a *prerequisite* for the practice of diagnosis and nursing intervention. Imagine a nurse who knew nothing about how the body worked diagnosing your injury!

Exactly the same holds true for teaching. Yet so often we suggest that we don't need theory, we simply need to practise! Theory is sometimes thought to contain the rules that tell us how to do something: we say that theory precedes practice and, in this sense, *drives* practice. This means that we follow a method for doing something (practice) according to our theory of it.

We acknowledge A. Craig, H. Griesel, and L. Witz, *Conceptual Dictionary* (Cape Town, Juta, 1994), p. 193 for these ideas about theory.

Teachers theorizing

Each of the teachers you listened to on the tape provides us with a wide range of descriptions of what they do in the classroom:

- Shawn takes us through his reasons for using charts to get learning going, his methods for group-work sessions, and his teaching of the ideas of lateral-thinking specialist, Edward de Bono.
- Margie talks with conviction about the need for clear rules in discussions, the importance of children feeling confident, of experiential learning, and the importance of prior knowledge in any learning activity.
- Jackie talks about the weaknesses of group work and the interventions she makes to help learners overcome these limitations. She also explains what sparks a learner's interest and how much children can know at different ages.

Each teacher gives us an account of what has worked for them in their classrooms, and therefore of what they believe about learning. But did you notice that none of them link different observations to each other in any *conscious and explicit way*? None of them talk in terms of a unified '*set of ideas, assumptions, and concepts, ordered in a way that tells us something*' about teaching and learning.

Instead, they share *their experiences* about 'what works' and talk about teaching in an everyday discourse. Their reflections aren't theoretical in the full sense of the word.

This doesn't mean that they aren't important! Teachers articulate their ideas as *shared experience* all the time, and they learn a great deal from each other by doing so. However, the problem with this kind of talk about learning and teaching is that it remains very close to individual people's immediate experiences, and is thus *limited*. It is difficult to *generalize* from immediate experience to other contexts that may be similar to it or different from it in important respects. This is why it is difficult to identify a clear theory at the centre of what each of these teachers has to say.

Although Jackie, Shawn, and Margie come across as different personalities, each with a range of ideas about teaching, they do not come across as teachers with *clearly* different (or *clearly* the same) views about learning. We don't hear discussion of an *underlying concept* that *links* different observations about teaching to each other, or to the observations about learning that other teachers make, or to any wider, unified system of knowledge of learning.



This isn't unusual. Teachers are often so busy that they don't stand back and attempt to reflect on (in a theoretical way) what they are doing in practice.

Formal theories about learning and teaching provide us with a distance from particular experiences that allows us to develop general reasons and explanations for what we are doing. They provide the tool that allows us to stand back. This general level of analysis provides a more informed basis from which to interpret and respond to new problems encountered in our experience (and the experience of others).

When teachers use theory to think about what they are doing, they distance themselves from their practices. Theory helps us to sharpen distinctions and therefore critical understanding. When we *articulate* learning in theoretical terms, we

engage in a different kind of knowing to that which teachers engage in when they talk about 'what works'.

STOP. THINK.

Reread the short description of what a theory is and what it does on page 185. Do you see how what the teachers on the tape say and do can't achieve what a theory does? How would you work with these teachers to enable them to theorize their practices better?



Take some time to reflect on the issue being raised here.

Analysing the hidden theories in the practices of teachers

Consider these descriptions of four different teachers and the ideas they have about learning and teaching:



Miss van Oorsprong

Miss van Oorsprong is a dedicated, hardworking teacher who has taught in all grades of primary school during her long career. She thinks about teaching as 'opening up unique little boxes' and often speaks about the pleasure she gets from watching children 'come out of themselves through hard work and discipline'. When she teaches Grade 1 learners to read and write, she places a lot of emphasis on 'drilling the basics' and her class can often be heard reciting phonetic vowel sounds, 'aay – eey – eye – ohh – you'. For Grades 3 and 4, she is a great believer in the value of learning the times-tables off by heart for future mathematics success. When children leave primary school at the

end of Grade 7, she strongly advises them to do Latin at high school because she believes that the discipline of conjugating nouns and declining verbs brings out the natural mental discipline that all children have.

Mr Ngaphandle

Mr Ngaphandle is a teacher who has always believed in the importance of environmental stimulation to support learning. He puts a lot of thought into the 'inputs' he prepares for his classroom, and he plans his lessons carefully so that they turn out as a set of steps that lead towards a final objective. He also produces lots of visual teaching aids such as wall charts and overhead projector slides. He is often accused of using the 'chalk and talk' approach, but Mr Ngaphandle knows that a good presentation stimulates the learners, and that this in turn leads to good learning.

In recent years he has improved the positive reward system he uses in his classroom, and has instituted merit awards that encourage every learner to



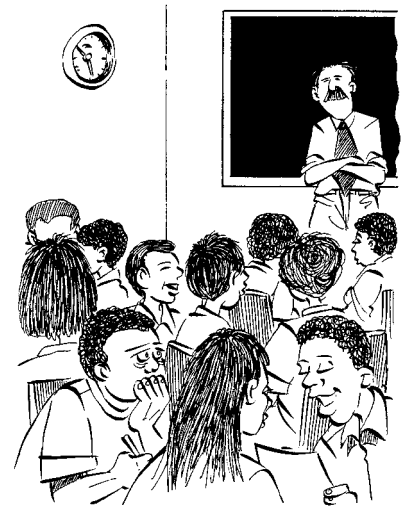
work quickly and to move on to new work as soon as possible. Mr Ngaphandle's ambition is to move to a classroom in which computer-based instruction is possible, because he believes that computers will help him to manage the learning environment properly. He wants each child to be rewarded immediately and efficiently for all achievements and to develop optimally at his or her own pace.

Mr Primechild

Mr Primechild thinks of himself more as a facilitator of learning in a classroom than as a teacher. For him, the preparation of learning activities is the most important part of teaching. He puts a great deal of effort into setting up materials and tasks for children prior to the commencement of a lesson. He believes that it is very important that he understands the prior learning and development of his learners, so that the learning activities he sets up are appropriate to their needs. For him, the design of learning tasks is the key professional responsibility of the educator. Once children arrive for a lesson, he introduces them to the tasks, and then steps back to leave them to their own devices. He believes that they will generate their own understanding of the situation and that they will find things out by themselves.

Part of Mr Primechild's strategy as a facilitator is based on group work. He tries to break his learners up into groups of similar ability before he presents them with tasks.

This, he believes, helps them to generate new knowledge in natural interactions with others who are thinking and solving problems using similar strategies of thought.



Ms Buthu

Ms Buthu is a teacher who places great emphasis on critical dialogue in her classroom. She encourages her learners to ask questions, to argue, and to speak their



minds on all issues under study. When she taught very young children in the past, she relied a lot on storytelling, and tried to get the little ones to express their ideas and feelings by identifying with, and playing the roles of, characters in stories. This year she is teaching Grade 7 learners and she consciously uses a questioning strategy in her classroom. This allows her to identify how children are thinking about any particular topic at any point in time, and also to provoke them to think about the topics in new ways.

Part of what she does all the time is to introduce learners to new ways of thinking about things, always in conversation with them and always within their current understandings of problems. She believes very strongly that learning is a social process in which the teacher has an important part to play as the organizer of frame-

works of knowledge for learners. Like her colleague Mr Primechild, she uses group-work strategies, but she prefers to establish mixed-ability groups from time to time in relation to particular problems or tasks, because she believes that the more skilled children will help to teach the less skilled children to solve the problems and complete the tasks.

ACTIVITY 54

- 1 The four case studies you have just read also express the teachers' ideas about learning. Read through them again.
 - a Take note of anything that gives you a clue as to how each particular teacher thinks about learning.
 - b Write these ideas down in your workbook.
- 2 Answer the following questions when you have finished:
 - a Do you know of any teachers who think like the four teachers you have just read about?
 - b Do you agree with any of these views of learning?
 - c Do any of the teachers contradict themselves in what they say? Explain your answer.
 - d Do you think these case studies are more theoretical than the interviews? Explain your answer and give examples to support your ideas. Use the definition of theory as 'an underlying, ordered set of ideas, assumptions, and concepts'.



Spend about 30 minutes on this activity. Do it alone at first, then work with a partner and share ideas.

What did we think?

We wouldn't be surprised to learn that you did know a teacher who operated and thought in a way similar to one of these teachers. We know a number of teachers who, over the years of their practice, have built up a clear (sometimes even dogmatic) set of ideas about what counts as good teaching and learning. However, most teachers don't operate with such a strong and consistent body of ideas in mind. As we saw earlier, they tend to be more practical and less theoretical in their approaches, and draw on a range of ideas about education to make decisions about their teaching.

For instance, when a teacher mentions the name of a theorist (like Piaget or de Bono), it is usually to claim support for her or his own practical idea about learning. Teachers usually think about learning in terms of questions like:

- 'Would that activity work with my class?';
- 'How can I help them improve their spelling?'

If an idea works for them, they don't worry about where it comes from. As a result, there are often contradictions or different points of view within what a teacher has to say. You may remember Jackie (on the audiotape) describing her views on group work. She has a sense from her teaching experience that children need to do things on their own, and that working in groups prevents the 'weaker ones' from learning. But, at the same time, she recounts an event in which a group working together doing experiments with water provided *all* the children with an opportunity to express themselves and to learn something significant. No doubt both accounts have validity in the *context of Jackie's teaching*, but in the way she describes them they do not *articulate* easily with each other. They seem contradictory.

You may have found it difficult to take a clear and consistent stand in your own response to the teacher interviews or the case studies. There are pearls of wisdom in bits of what all of them believe. This might lead you to agree with some parts of what they say or do, and disagree with other parts. Notice that where you have agreed or disagreed with a teacher, it is most likely on a particular point that has been made, rather than because you agree or disagree with his or her *overall model* of learning and teaching.

The case studies are written in a more theoretical discourse

The case studies are different to the audiotaped interviews. The main difference is that they *articulate* learning for teaching in a different way to the verbal comments on tape: they are organized, written accounts as opposed to relatively random, spoken responses to questions. Although Van Oorsprong, Ngaphandle, Primechild, and Buthu are real teachers who use their practical knowledge in class, the descriptions of the ways in which they think and teach are *written theoretically*. If they were interviewed, they would probably not tell as tight a story about their ideas and work as these written descriptions do.

You will notice that there is a great deal of consistency in each written description. There are very few points that contradict each other. We noticed that the lack of contradiction has an important effect on the way we think. We were no longer concerned with particular experiences, but started to think about the four teachers in a more *general*, possibly even theoretical, way. Where we agreed or disagreed with one or more of the ideas of one of the teachers in the case study, it tended to be because we agree or disagree with the *overall model* of learning and teaching that they present.

For example, we might agree with critics who think that Mr Ngaphandle's deliberate use of the chalkboard and lectures to convey facts and information to learners – 'chalk and talk' – is wrong. But our disagreement does not simply stem from a sense that the method 'does not work in our experience'. Rather, it brings with it a broader recognition that we are rejecting a *system of ideas* that Ngaphandle has about learning. We might, for instance, argue that such a teaching method is not conducive to optimum learning because it denies *in principle* the active discovery of knowledge by children.

Because the description of Ngaphandle is couched in more theoretical terms, it tends to make us think in a more systematic way about the learning and teaching methods that he espouses. The written descriptions of the four teachers *articulate* learning in a different, more generalized way and so we tend to relate different points to each other much more critically and directly. We are persuaded by the discourse to think in a different way.

Do you remember Donaldson's caution at the beginning of Section Four? She said:

'As literate adults, we have become so accustomed to the written word that we seldom stop to think how dramatically it differs from the spoken one.'

We discovered in Section Three that information that is structured systematically provides us with opportunities of seeing beyond our common sense, beyond our everyday experience. In Section Four we noticed that oral and written forms of communication present us with very different possibilities for expressing our ideas. We saw how written text can provide a *special context* for learning. This 'context' allows us to represent and express knowledge networks in ways that aren't possible in ordinary speech.

A theoretical text usually also provokes a theoretical response. For example, as you tried to evaluate the teachers' ideas in Activities 52 and 53, you were using your own general ideas about learning to judge theirs. In other words, you were *articulating* your own ideas on learning *in relation to the ideas of these teachers*, and you were doing it *in the context of this book*. You were not trying to find a solution to a practical problem, but you were rather *creating text in response to text*.

The way you compared ideas and expressed them in relation to each other can be said to be a theoretical activity.

With the help of interviews, we showed how many teachers express their ideas about learning through shared experiences and storytelling. The case studies moved the discussion about learning to a different level of discourse. We no longer worked in the context of everyday experience, but looked at how we as teachers can *articulate* our ideas about learning in more systematic and theoretical ways.

“
Information that
is structured
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an opportunity to see
beyond our everyday
experience.
”

An important feature of this theoretical activity is that we compare different ideas about learning and begin to relate them to each other.

What is articulation?

Before we explore another level of theory let us take some time to understand the concept of *articulation*. The concept will become a useful tool to help us deepen our thinking about the ways in which teachers express their ideas about teaching and learning.

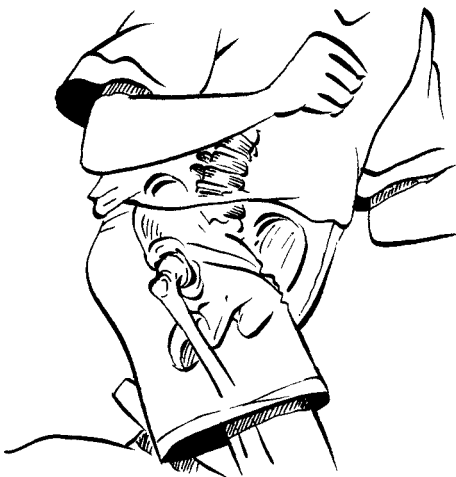
Articulation is a concept that allows us to understand what theory can do to help us improve our knowledge of the world. It refers to the relationship between two different entities where the links between them are smooth and efficient. You might be rather confused by this explanation. To help you understand, look at the illustrations below and on page 192. Then work through Activity 55.

ACTIVITY 55

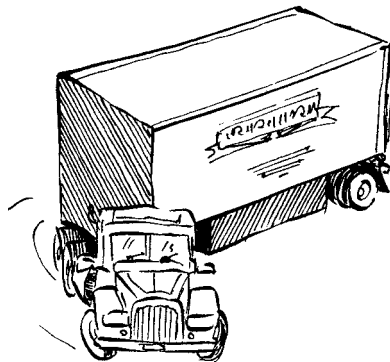
- 1 Look at the first two pictures below again. Then answer the following questions:
 - a What would an unarticulated hip bone do?
 - b How does the process of articulation control the relationship between the truck and the trailer?



Spend about 30 minutes on this activity.



Our hip bone *articulates* with our pelvic bone. This means that it moves around smoothly and accommodates our skeleton to walking, running, jumping, jiving, squatting etc.

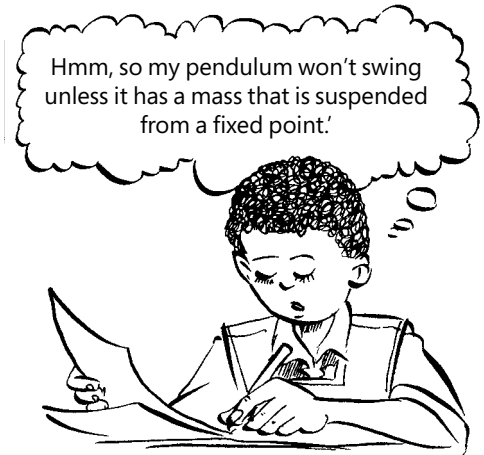


The trailer on an *articulated* truck moves around smoothly when the truck takes a corner and a quick change of balance is necessary to keep the trailer safely on the road.

- 2 Now look at the last two pictures again.
- a Can you explain why the articulation of feelings and the articulation of ideas are not exactly the same process?



A young victim of bullying *articulates* his feelings very well when he is able to speak to a school counsellor in his home language, because then his feelings of anger can be easily and directly expressed.



A learner *articulates* new ideas as she practises a new theoretical language in which they are expressed and brings them increasingly into connection with her own thinking.

What did we learn about articulation?

The idea that knowledge is like a network of interconnected information should be familiar to you by now. If our connections or links between different areas of knowledge about learning are *well articulated* (in other words, if we can make links smoothly and efficiently), it is *easy* to share our ideas with others. (Notice how well-articulated joints make body parts work together well.)

Naturally, it is also possible to express *poorly-articulated* ideas. We all know how it feels when we want to say something important, but the ideas come out unfinished and lifeless. The ideas may be very good, but because they are not articulated well, they somehow get lost. On the other hand, when we are articulate, we express the exact same ideas in a richly-connected and powerful way.

Over time, as we become better at theoretical activity (the kind of thinking we did in Activity 53, for example), we usually also become better at articulating our ideas.

The reason for this is very simple. Theory allows us to make links between experiences and to fit these experiences into a broader network of knowledge. Theory also equips us with new concepts with which to reflect on what these experiences might mean. It provides us with a frame of reference within which we can move beyond our everyday experience and relate ideas to each other in different and efficient ways.

For example, we have seen in Section Four how cause-effect relationships between ideas are very different to sequences or to mere lists. All of this means that when we are articulating ideas about learning, we are doing more than simply saying what we think. We are actively establishing complex relationships between individual ideas or even whole systems of thought.

Different levels of articulation

In Activities 52 and 53 we considered two different levels at which teachers can articulate ideas about learning. There are others.

An exploration of what the most important theorists of learning and development in psychology have to say about learning can greatly help teachers to reflect on their own practices. These theorists articulate their ideas at a highly abstract level. (By

abstract we mean highly generalized or highly theoretical.)

The theorists we will consider here all seek to build a very complex ‘set of ideas, assumptions, and concepts, ordered in a way that tells us something’ about learning. They all attempt to create distance from their own and other people’s everyday experiences of learning in order to sharpen their critical insights into learning. The theorists do not necessarily even mention teaching, or schooling, or classrooms, but they certainly do reflect on learning in ways that can help teachers.

Let’s dip into their ideas. Carefully read what the theorists on page 196 have to say about learning. As you do so, make notes about how they speak to you as a teacher in South Africa at the beginning of the new millennium. Only move on to Activity 56 when you have finished thinking about this.

The differences between theorizing and everyday reflections

ACTIVITY 56

- Carefully reread the thoughts of the four theorists. Then read through the statements about how children develop in the first column of the table below. Decide if you think each statement is true for any of the theories on page 194. We have filled in the first statement as an example:

	M	S	P	V
When children are born they know and understand nothing.		✓	✓	✓
The social environment has a strong influence on how children learn.				
Children learn by responding to external stimuli in their environment.				
The language you use with children has a powerful influence on how they learn.				
Learning arises from both our nature and our experience.				
Children learn only by experience.				
Children will learn naturally, with or without teachers.				
Teachers or other adults are key to the learning process.				
Children learn to do something by doing it.				

- Now go back to the descriptions of the ideas of Mr Primechild and Mrs Buthu (pages 188–189). Both of them believe that the teaching environment is very important and yet their theories of learning differ from one another.
 - Which theorist would Mr Primechild be likely to identify with most strongly? Why?
 - With whom would Mrs Buthu find the most agreement? Why?
 - In what sense are the quotations on page 194 more theoretical than the descriptions of Primechild and Buthu? (Once again use the idea of theory as an underlying, ordered set of ideas, assumptions, and concepts.)
 - Which theorist do you identify with? What, in your practice of teaching, could you use to illustrate that your understanding of teaching and learning coincides with a particular theorist.



Week 18 begins.



Spend at least an hour on this activity. Link new ideas from each theorist back to what you have already learnt. Search for similarities and differences in how the theorists understand teaching and learning. Note that in the table, ‘M’ stands for Montessori, ‘S’ for Skinner, ‘P’ for Piaget, and ‘V’ for Vygotsky.

A child already possesses in its soul the faculty of speech even though its external organs are as yet incapable of giving it proper expression. The infant must be given the names of all things in his environment, not just 'tree', but 'oak tree' and 'blue gum tree' and so on. The child's absorbent mind will learn these things naturally. The same can be said for all the various aspects of his mental life. In a child there is a creative instinct, an active potency for building up a psychological world at the expense of his environment. These are sensitive periods, special sensibilities that a creature acquires in its infantile state. We, in our schools, discovered that they are also to be found in children and can be used in teaching. We must have infinite trust in the child's natural powers to teach himself. [Montessori]

Learning is a change in observable behaviour. Even more precisely, we may define learning as a change in the probability of a response, and to explain learning we must specify the environmental conditions under which it comes about. To do this, we must survey the stimulus variables of which probability of response is a function. The first step in designing school instruction is to define the terminal behaviour or response that we wish to bring about. What is the learner to do as a result of having been taught? Then we need to put in place arrangements which will strengthen the terminal behaviour through reinforcement. An educated person is perhaps better able to adapt to his environment or adjust to the social life of his group, but terms like 'adapting' or 'adjusting' do not describe forms of behaviour. They therefore do not belong to discussions on educational method. The 'mind' is an explanatory fiction: to make reference to thoughts or emotions or essential ideas defeats the business of good instructional design and practice. [Skinner]



We can only know about things if we act on them, and reach some understanding of the mechanisms of these actions. The maturation of the organism by itself does not explain development, and hence learning. For example, the sophisticated logic of a mature thinker is obviously not pre-formed in the brain. Experience is essential to a person's contact with the world, but it is inconceivable outside of its source in action. Knowledge derived from experience is not a static mental copy of the objects in view, but arises from the cognitive operations carried out on them. The child actively constructs its knowledge of the world as part of its adaptation to the world. And learning follows development. The child can receive valuable information via language or via education only if it is in a state where it can understand this information. This is why you cannot teach higher mathematics to a five-year old. He does not yet have the structures that enable him to understand. [Piaget]

Social relationships, especially teacher-learner relationships, create new mental formations and develop the higher processes of mental life. Learning is a social process. A child's thinking (an internal matter) is the internalization of a set of relationships in real activity between the child and more competent others (an external, social matter). The speech of adults around the child, with its constant and defined meanings, determines the pathways of the development of children's thoughts and actions. The child finds her own mental complexes constructed in the process of coming to understand others' speech. Teaching is the social activity within which meaning is mediated to the learner, eventually to become her own internal thought processes. Teaching and learning, which are inseparable, and which sometimes seem to wait upon development, are in fact its decisive motive force. [Vygotsky]

What did we think?

We have already mentioned that the *written* descriptions of the four teachers on pages 187–188 are very different to the style of the *audiotaped* interviews you listened to in Activity 52. The theories of learning on page 194 articulate ideas about knowledge and learning in yet another way: the articulation is at a very general or abstract level. The theorists attempt to explain learning *in general* which makes the statements much more theoretical than the descriptions of Primechild, Buthu, Van Oorsprong, and Ngaphandle. These teachers provided us with a theoretical framework for *specific* practices and not teaching and learning in general.

All four theorists on page 196 have similar departure points: they all want to explain how learning gets going. The cores of their theories therefore consist of strong statements about where knowledge originates and about how children learn. These statements are made in very general terms and claim to be relevant in all contexts.

As we try to articulate learning for teaching, it is important to realize that theorists of learning do not proceed from considerations of teaching or education. The fundamental question for them lies at a much *deeper level*; it is about the origins of knowledge in human beings.

Nonetheless, all theories of learning have consequences or implications for teaching. We will now go on to investigate in more detail how these four theorists articulate their ideas so that we ourselves can use them to deepen our own thinking about learning. Before we do that, however, it is worth summarizing the elements that distinguish *theorizing* learning from *everyday discussions* about learning.

	Everyday discussion about learning amongst teachers	Theorizing learning
What is the nature of the discussion?	Shared experience, stories, and anecdotes about daily events. Provides reasons that are 'obvious' to all in a particular context.	Systematic, reliant on a central network of ordered assumptions, concepts, and ideas. Provides reasons that lie 'beneath the surface' and can, therefore, be generalized to other contexts.
What is the form of the discussion?	Conversation. Phrased in personal and idiosyncratic concepts.	Written texts and formal debate (therefore public and connected to the ideas of others). Phrased in a conventional, common system of concepts, words, and images.
What is the motive of the discussion?	Describing particular learning in a classroom. Identifying similar instances that have occurred in other classrooms.	Explaining learning in general. Identifying constraints within which something works or that give rise to something.
How are claims justified?	By reference to 'what works' in a particular classroom.	Substantiated by means of argument or evidence.

You will recognize this table as a version of the one that appeared in Section Three, page 90, which summarized the difference between everyday learning and formalized instruction in school. Theorizing, although very complex, involves adopting the same kind of orientation in relation to our everyday cognition as we did when we studied at school.

The quotes and paraphrases on page 196 are from M. Montessori, *The Secret of Childhood* (New York, Ballantine, 1966), pp. 37–39; P. Polk Lilliard, *Montessori: a Modern Approach* (New York, Schocken Books, 1972), p. 122; B. F. Skinner, *The Technology of Teaching* (New York, Appleton Century Crofts, 1968); B. F. Skinner, 'Are theories of learning necessary?' in *The Psychological Review* 57:4 (1950) pp. 199–200; J. Piaget, 'Development and learning' in R. Ripple and V. Rockcastle (eds.), *Piaget Rediscovered* (Ithaca, Cornell University, 1964); J. Piaget, 'Piaget's theory' in P. H. Mussen (ed.), *Carmichael's Manual of Child Psychology* (New York, Wiley, 1970); L. Vygotsky, 'The genesis of higher mental functions' in J. V. Wertsch (ed.), *The Concept of Activity in Soviet Psychology* (New York, Sharpe, 1979); A. N. Leontiev and A. R. Luria, 'The psychological ideas of L. S. Vygotskii' in B. B. Wolman (ed.), *Historical Roots of Contemporary Psychology* (New York, Harper & Row, 1968).

6.3

How do theorists articulate their ideas about learning?

Why did we choose these theorists?

One of the things you will quickly discover as you study to be a teacher is that there are far too many specific and detailed theories of learning for you to ever get to grips with in your lifetime. A visit to a library will reveal shelves and shelves full of books about teaching which draw in some way or another on models of learning. Very often you will choose books that deal with particular problems that you face in a classroom context, and even though you might find them useful, you will no doubt wonder at many of the theories of children, learning, and teaching that they support.

The difficulties that we always face in the midst of such a wealth of information are:

- How do we identify which are the most significant theories?
- How do all the theories relate to each other?
- Which books or articles do we choose to read in order to develop our knowledge of the field?
- How will they help us to be more effective teachers in the classroom?

In short, to understand theories of learning we need to understand the networks of knowledge within which they operate. We need to find our way into the systematic nature of theories of teaching and learning so that we can identify useful links between different ideas about learning. We also need to understand what theories of learning have to contribute to practising and improving teaching.

In Activity 56 we chose to use the theories of Montessori, Skinner, Piaget, and Vygotsky. These four theorists are often put forward as the important **formative** theorists in the history of the psychology of learning. They are all important because their theories are the main ones that have originated or generated particular lines of thought about learning. They provide us with powerful concepts to articulate our experience in the field.

As we will see later, considering the disputes between them has allowed us as authors to make critical choices amongst them. It might surprise you, however, that all four theories start with some version of a common question. It is the question of the learning paradox:

“
To understand theories of learning, we need to understand the networks of knowledge within which they operate.
”

You will have noticed that we also chose this question as our starting point in Sections One and Two, and we continued in other sections to explore how schools, books, and teachers provide particular kinds of pathways to the unknown.



How is it possible for those who do not know something to come to know it?

Let us now look more deeply at how each theorist articulates his or her views of knowledge, learning, and teaching. Remember, in all cases they are trying to understand how knowledge originates in human beings. They want to know how it is possible for someone who doesn't know to come to know something.

ACTIVITY 57

- 1 Turn to Reading 1 by Montessori entitled 'The secret of childhood'. As you read through it, make notes about the following:
 - a What counts as 'knowledge'?
 - b What moves or motivates children to begin to learn?
 - c What does 'teaching' involve?
- 2 Now find Skinner's article, 'The technology of teaching', Reading 2. Once again make notes that help you to understand the following:
 - a What counts as 'knowledge'?
 - b What moves or motivates children to begin to learn?
 - c What does 'teaching' involve?
- 3 On what questions do Montessori and Skinner agree? Where do they disagree?



Spend at least two hours on this activity. You might want to break half-way. There is a lot of reading to do. Keep in mind the good reading tips we suggested earlier. As always, try and think of how these ideas impact on your practices as a teacher. After your reading and thinking, discuss these ideas with fellow learners.

Montessori and Skinner***Montessori: we are born knowledgeable***

Montessori's answer to the problem of the origin of knowledge is very similar to that given by Socrates.

Socrates believed that the boy needed to be evoked to 'remember' certain universal things about mathematics that he already knew from birth. This knowledge was *inborn* (in other words, it existed at birth, prior to any kind of experience the boy had of it). The questions that Socrates posed to the boy sought to bring these innate ideas to the surface.

Look at the way Montessori emphasizes the importance of inborn knowledge. She talks of an instinct to learn about our world that is 'creative' in the sense that it is a power, inherited by us at birth. She believes that children are born with certain universally-given ideas which she calls *sensitive periods*. Learning is the realization of these innate ideas, and teaching (exposure to structured environments) triggers off such learning.

Montessori rejects the opposite view, namely that learning is based on impressions we receive from the outside environment.

Skinner: we are made knowledgeable

Skinner clearly disagrees with Montessori. He quotes Socrates' *learning paradox* directly in his criticism of this view:

'the slave boy echoed ... a series of statements, and the ... correctness of his behavior was mistaken ... for "knowing the proof". The mistake is easily made if one believes ... such a proof is already known.'

Skinner clearly does not believe that we are born with ideas; that ideas are innate. He believes that the teaching of knowledge involves bringing about a series of changes in learner behaviour and that this is achieved through the reinforcement of desired behaviours. This means that learning happens when teachers make careful use of rewards, which they hand out to learners in the classroom.

Skinner clearly believes that the origin of knowledge lies *not* in the mind, but in the environment. Spontaneous behaviours can be evoked by environmental stimuli, but very soon the reinforcing consequences of the environment take over and strengthen them. In other words, there are consequences for good behaviour or learning, and less desirable consequences for behaving inappropriately or not learning.

Similarities and differences

Both Montessori and Skinner would probably have told you that children learn by

Do you remember the story of the slave boy in Section One? If not, turn back to page 10 and reread it before you continue!

having knowledge *given* to them. But they would have argued about *how* this knowledge is given:

- Montessori would have said that it is given to the learner 'from inside', by different kinds of intelligence and aptitudes that children inherit at birth.
- Skinner would have said that knowledge is given to the child by 'inputs from outside', by the influence that the environment has on children's upbringings.

They would not have argued very much about their basic assumption that knowledge can be *given* to children. The reason is quite simple: we are all products of our time and we tend to think within the dominant spirit of our times. For both Skinner and Montessori, the idea that knowledge is passed on and given to children seemed completely acceptable during the times in which they lived, and so they did not question it.

Each theorist pursues an important underlying idea and tries to build up a consistent *web of concepts* which stem from that central idea:

- Montessori works from a notion of *innate ideas*, and all her main concepts seek consistency with it. For example, she refers to 'sensitive periods', 'predispositions for acquiring language', 'internal vital impulses' etc.
- Skinner works from a notion that learning is only a matter of external, observable things – environmental stimuli and behavioural responses. He builds up a web of specialist terminology to support that idea. This terminology seeks to provide a consistent account of learning on the basis of the central idea of external forces. For example, he talks of 'terminal behaviours', 'reinforcement', 'behavioural contingencies' (by which he means precise connections in time and space between stimuli and responses), 'topographies' or 'repertoires' of behaviour (patterns of behaviour) etc.



It is in this constant building of a web of consistent ideas about learning that both Skinner and Montessori can be seen to be articulating a theory of learning.



Take some time to reflect on the issue being raised here.

STOP. THINK.

Skinner's ideas – the ideas of *behaviourism* – have enjoyed a resurgence recently. Behaviourists tend to deny the need for a concept of mind. Look, for example, at Skinner's claims that speech, reading, and writing are 'verbal behaviours' rather than *thinking* activities, or that 'the experimental study of behaviour has no need for a concept of *memory*'. Consider some of OBE's language. Do you think it is in any way influenced by behaviourism?

Debate about learning and teaching was dominated up to the 1960s by the nature-nurture debate. Montessori and Skinner both did their important work as learning theorists and educational thinkers before 1960, so it is not surprising that each of them provides a sophisticated articulation of the different, opposing poles of the nature-nurture debate.

Nature: Montessori	Nurture: Skinner
For Montessori, knowledge is part of our 'nature'. It is given from the inside and learning happens when we practise and perfect our innate talents.	Skinner believes that knowledge is the result of 'nurture'. It is given from the outside and therefore learning happens when the environment influences us and changes our behaviour.

Although we might disagree with both of them today, the ideas of Montessori and Skinner continue to help us think about learning for teaching. In education theory, the assumption that knowledge can be *given* to learners has been very influential in shaping the schooling system as we know it. In Section One we suggested that IQ testing was an influential example of *innatist* ideas, while the notion of teaching towards terminal, educational objectives was an example of the opposite extreme within the same doctrine.

Piaget and Vygotsky

Now let us look at the theorists who *changed* the idea that learners are *passive recipients* of knowledge, Jean Piaget and Lev Vygotsky.

ACTIVITY 58

- 1 Turn to Reading 3, 'Development and learning' by Piaget. As you read through the extract, make notes about the following:
 - a What counts as 'knowledge'?
 - b What moves or motivates children to begin to learn?
 - c What does 'teaching' involve?
- 2 Now read 'The interaction between learning and development' by Vygotsky (Reading 4). Once again, make notes that help you to understand the following:
 - a What counts as 'knowledge'?
 - b What moves or motivates children to begin to learn?
 - c What does 'teaching' involve?
- 3 On what issues do Piaget and Vygotsky agree? Where do they disagree?



Spend at least two hours on this activity. You might want to break half-way. There is a lot of reading to do. Keep in mind the good reading tips we suggested earlier. As always, try and think of how these ideas impact on your practices as a teacher. After your reading and thinking, discuss these ideas with fellow learners.

Piaget's contribution to our understanding of learning

Piaget is adamant that:

'to know an object is to act on it ... to know is to transform the object, and to understand the process of this transformation.'

What does he mean by this?

- First, Piaget rejects the beliefs of Montessori and Skinner that learners are *passive recipients* of knowledge.
- Second, he doesn't believe that learning is simply a reflection of the *internal maturation* of the nervous system (as Montessori thinks it is). In other words, he argues *against* the idea that we develop cognitively as we naturally age. Piaget argues that such an



Week 19 begins.

explanation must be inadequate by itself, since not all children develop cognitively at the same rate. But Piaget also disagrees with Skinner. He says that learning isn't simply a result of experiencing the physical properties of the external environment. In particular, he argues that a 'stimulus-response schema is entirely incapable of explaining cognitive learning' (as Skinner believes it can). Our knowledge is not a copy of an external reality, says Piaget. While he recognizes that experience of the environment is essential to learning, he argues that learners can only experience the environment through their mental engagement with it. In other words, they act on the world and learn by doing so. The world does not act on them.

For Piaget, neither acquired experience (as the result of *nurture*), nor maturation and the exercise of intelligence (as part of our *natural* inheritance), are in themselves sufficient to explain learning. He moves beyond the traditional nature-nurture debate and argues that something much deeper and more *active* must explain how knowledge is constructed. This deeper activity is what Piaget terms *equilibration*: the twin activities of *assimilation* and *accommodation*. The way the learner acts on objects is *operative*:

'operational structures [...] constitute the [...] psychological reality, in terms of which we must understand the development of knowledge'

In other words, the child learns simply because it is alive and therefore always seeking to adapt to its environment. And this is the answer that Piaget gives to the dilemma posed by the *learning paradox*: the child acts on the unfamiliar by assimilating it into available knowledge and then accommodating itself to it. Action happens first, then understanding is *internalized*.

How is Piaget building a web of theoretical concepts here? His ideas originate in the notion that *learners operate on* their environment. They build up thinking structures by structuring reality. They change their environment in order to suit their needs, and they change themselves by learning new things in order to fit in with the environment.

On the foundation of this theory of equilibration, Piaget develops his broader theory of learning and development. He emphasizes the dual functions of *understanding* and *inventing* as the core of intelligence. This leads directly to the rejection of *innatism* and *behaviourism*, and answers detailed questions about how young learners, at different ages, construct knowledge in the course of development.

The argument in the article you have read is structured in exactly this way. In the end, we have a systematic picture of learners who adapt themselves to their environment (which includes the environment of the school and its knowledge-disciplines) by constructing new ways of knowing in order to survive within it.

What can we learn from Vygotsky?

Vygotsky's answer to the *learning paradox* is different from Piaget's. Vygotsky emphasizes the role of *mediated* activity in learning. He describes *knowledge* as:

'mental functions that have been established as a result of already completed mental cycles'

The *zone of proximal development* is a notion Vygotsky uses to theorize how new learning can take place. He argues that *existing* knowledge consists of those mental functions (intellectual and practical tasks) which children can carry out on their own. What the children don't know, they cannot do on their own.

However, the *unknown* can be made available to them though 'problem solving under adult guidance, or in collaboration with more capable peers'. In other words, Vygotsky argues that it is through engaging in joint, collaborative, task-related activity *with others who do know*, that the learners eventually can come to know for themselves.

Very much like Piaget, Vygotsky thinks that **activity** happens first, and is followed by understanding (the internalization of activity). Vygotsky, however, places a much stronger emphasis on the need to **use language and collaborative activity** for learning. It is through **social activity** that the learners come to know that which they do not know.

Notice how Vygotsky also rejects both **innatism** (he says this view suggests that ‘the processes of child development are independent of learning’) and **behaviourism** (he suggests that Skinner’s ideas reduce ‘development ... to the accumulation of all possible responses’) in explaining and justifying his own **social constructivist** theory of learning and development.

Vygotsky builds up his theory around a central assumption about the **social** character of learning. In other words he argues that:

‘what children can do with the assistance of others [is] even more indicative of their mental development than what they can do on their own.’

Once again, one can see the value of a strong, consistent network of ideas here. In much the same way as we have seen that Montessori, Skinner, and Piaget do, Vygotsky is able to achieve particular insights into learning because he has a strong central idea with which to work.



The importance of emotions in learning

We have already made reference to the importance of emotions in learning:

- in Section Two we discussed **resistance** to learning and the **terrible pressure** that learners **feel** when they can’t understand something;
- in Section Four we looked at the **emotional power** or ‘**magic**’ of reading, and in the story of Ashok, we saw how poor teaching can create the **emotional impetus** for a young child to drop out of school.

Some people have accused Piaget and Vygotsky of ignoring the importance of emotions in education. Skinner, of course, thinks that emotions are important only to the extent that they are measurable behaviours. Montessori tends to make little distinction between the emotional and cognitive life of the child, seeing the sensitive periods as ‘psychic passions’.

STOP. THINK.

What do you think? What role do you think emotions play in learning? Can you recall moments in your own learning (or teaching) where emotions either undermined learning or were used to develop learning. Write these down in your workbook.



Take some time to reflect on the issue being raised here.



Spend about 30 minutes on this activity.

ACTIVITY 59

- 1 Turn to Reading 15, 'The magic of reading' by Bettelheim and Zelan. As you read through the extract, make notes about the following:
 - a What counts as 'knowledge'?
 - b What moves or motivates children to begin to learn?
 - c What does 'teaching' involve?

What did we learn?

Bettelheim and Zelan's perspective on knowledge and learning differs from the four theorists we have studied so far in that they don't see learning as a process *primarily* of thought and/or behaviour. Instead, they link learning *directly* to the emotions and the unconscious imagination of the child. Furthermore, they suggest that education should *first and foremost* appeal to these 'most primordial aspects of the mind'.

Bettelheim and Zelan's concern with the internal, emotional world of children has important implications for teaching.



As teachers we need to take the emotional energy of children seriously (this energy is after all the driving force for learning) and transform it into a thirst for knowledge and a love of learning.

Although Piaget and Vygotsky might have underplayed the role of emotions (or 'affect') in learning, they were both aware of its importance in motivating cognitive development and learning. Piaget spoke of *affect* as the 'petrol' of cognition. In other words, he saw it as the *source of energy* that drives us to learn and to develop our knowledge. Likewise, Vygotsky wrote a monograph in which he wrestled with how *affective* development relates to cognitive development when both are considered as higher psychological processes. However, both of them primarily built theories of *cognitive* development and learning, and it is perhaps to theories of affect, like psychoanalysis, that we must look for a well-rounded explanation of the emotions of learning.

Although Bettelheim and Zelan's theory was formulated within the discipline of psychoanalysis, there is an interesting link between their ideas and those of both Piaget and Vygotsky. They ask that teachers move beyond the idea that reading is merely a practical skill to be given to us by our schooling.

By reducing it to a practical skill, teachers reduce the power of reading to that of 'inoperative knowledge' which cannot be used to imagine and think creatively. They also believe that active readers *construct* new knowledge, but their theory sees the *emotional* life of the child as the driving force for such learning.

The relationship between theory and practice

6.4

We have already commented on the libraries full of books about learning for teaching that you will encounter during your career as a teacher. We suggested that their diversity and sheer numbers will leave you somewhat bewildered, unless you have:

- an understanding of the field of learning theories;
- a strategy to read them.

The real issue, we suppose, is how we move from bewilderment to a productive perplexity. Yes, *productive perplexity*! It is impossible to know everything and to be sure about what we must do. As teachers we have our own *learning paradox*. So how does a teacher make choices about which learning and teaching strategies to adopt in the classroom?

Just over 100 years ago, William James pointed out the biggest single trap that we can fall into when we try to articulate our ideas about teaching theoretically. He warned:

'You make as great, a very great mistake, if you think that psychology, being the science of the mind's laws, is something from which you can deduce definite programmes and schemes and methods of instruction for immediate schoolroom use.'

This quotation comes from William James, *Talks to Teachers* (New York, Holt, 1898), p. 7.

His warning is as relevant for teachers today as it was in 1898. It captures another paradox that we need to grasp here. Particular theories of learning lead to particular *ideas about how* to teach. But we can't derive teaching strategies and approaches *directly* from theories. In other words, educational theories cannot be turned directly into a 'recipe' for teaching in a particular classroom.

So, for example, when you worked through the theories of Montessori, Skinner, Piaget, and Vygotsky, we asked you to think about the *implications* of each theory for teaching. We did not ask you *what teaching methods* each theorist prescribes. We did not even ask you the most common version of this latter question, which is, 'How do we apply this particular theory to the classroom?'

Why then have we not been 'practical' and asked you to apply these theories to practice? We mentioned earlier that theories are helpful tools when we are trying to articulate our ideas about learning:

- They allow us to *think about* our practices much more rigorously and critically.
- They *challenge many aspects of our practice* and often allow us to *see what is wrong* with what we are doing.

But they seldom tell us what to do. The reason for this is that teaching practice is *specific* to a *particular context*, whereas theories of learning are *general*. There are always other factors that influence the decision a teacher makes about what teaching method to use. In particular, teachers need to consider the resources they have available, the learning histories and existing knowledge of their learners, and other specific, contextual realities.

This is why we believe that theories of learning have *implications* rather than *applications* for teaching. To ask about *applications* of theory implies a belief on the part of the questioner that, if teachers know or understand how learning happens, then they will immediately know about efficient classroom practices. This is not so. Theories of learning do not give us direct answers about practice. They provide us with the tools for finding the most powerful questions to ask about what we should do in class.

This doesn't mean we can't write or think about particular teaching methods. It is

“
Theories of learning have implications rather than applications for teaching practice.
”

simply to say that they don't come to us directly from *theorizing* learning. This module's companion module, *Getting Practical*, for instance, does suggest some teaching strategies that are *consistent with* (but not prescribed by) the ideas developed here.

It is worth noting that none of the theorists we have looked at in this section *prescribe* particular methods. The one amongst them who perhaps comes closest is Skinner, and this is understandable. He was closest amongst all of them to believing in the 'technological' ideal that we can predict and control learners' behaviour. But even Skinner did not want to prescribe exact methods to teachers in a classroom context. This is well captured in his description of the two kinds of expertise that he believes teachers must embody:

This quote is from B. F. Skinner, *The Technology of Teaching* (New York, Appleton Century Crofts, 1968), Chapter 1.

'the science of learning and the art of teaching'

Conclusion and key learning points

6.5

Reassessing the half-truths

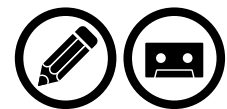
ACTIVITY 60

To check your learning, we'd suggest you do the following:

- 1 Pull out all the half-truths in the various sections and write them down in one place. Then check the activities and/or your notes when you first thought about these ideas. See whether your thinking has changed, and in what ways, now that you have completed this module.
- 2 Rewind the audiotape and listen to it again. Concentrate on the overlaps between the ideas raised by the different speakers. Listen to how people construct arguments. Can you hear and understand more now than you did earlier?
- 3 Make notes of any half-truths or ideas in the Learning Guide or on the audiotape that you still have difficulty understanding. Then work on the relevant sections in the Learning Guide and Reader until you do begin to understand these ideas.



Week 20 begins.



Spend a few hours on this revision activity. Use all the scaffolds you have available (fellow learners, the Reader, the Learning Guide, the tape etc.) to help you overcome any lack of understanding.

Key learning points

Throughout this section we have used the notion of *articulation* to explore ways in which we can make sense of our ideas about learning.

- We started with a series of interviews, where teachers shared ideas that were based on experience.
- We then looked at four case studies that placed teachers' experiences into a systematic framework of ideas and therefore demanded a more theoretical response from us.
- The next step was to introduce four influential theories of learning that were very important in the twentieth century, and remain so. These ideas are highly abstract and concern themselves with the origin of knowledge in human beings.
- Finally we investigated the relationship between theory and practice in the teaching profession.

In the context of the introduction of the new OBE curriculum, government has deliberately not prescribed teaching methods or strategies to be used in the classroom. As we have suggested in this section, all teachers ultimately have to articulate learning for teaching for themselves and animate learning in their classrooms accordingly. However, we believe, along with Bennett and Dunne, that it is crucial that teachers:

'are informed by current theories, ideas, and research findings, particularly when the theories that underpin current practices are seriously being questioned.'

It is important that teachers reflect theoretically on their own practices in a context of rapid change in education. Classrooms are incredibly complex places and children are incredibly complex creatures, and thinking is therefore something that all teachers must do a lot!

Here is our summary of this section's key points:

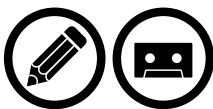
- The shared articulation of ideas helps teachers to reflect about teaching and learning.
- Teachers express their ideas about learning, orally and in writing, by sharing experiences or theorizing their experience.
- Articulating ideas about learning involves establishing complex relationships within our network of knowledge about education.
- Many theorists of learning are not teachers and do not reflect on classroom activities in particular.
- Theories allow us to distance ourselves from the immediate concerns of the classroom, and to think about learning in a more fundamental way.
- Skinner and Montessori present different sides of the nature-nurture debate.
- From the 1970s onwards, children were generally thought of as active constructors of their knowledge.
- For Piaget, this active construction is made possible by our biology, by the spontaneous activities of our minds right from birth.
- For Vygotsky, the knowledge and understanding of others can be the source of our action, directing us to think about the world in particular ways, particularly through language.
- Theories should not be misunderstood as recipes for action.
- Theories enable us to explain a particular event or situation in more general terms, linking our experience to the discourse and knowledge of others. This may provide us with a different perspective or new understanding.

What is our theory of learning?

We have now come to the end of this module. To complete your learning we'd like you to think about how we have used some of the theories in this module to answer our own questions about teaching and learning.

Let us go back to the module's central arguments and principles set up in Section One where we discussed the *learning paradox*. Our enduring argument has been that learning is a relationship between the known and the unknown. In order to move between the two we have argued that learning must be *active*.

All our arguments are built on this assumption, namely learning and understanding are the outcomes of *thoughtful actions*. This would place us within the *constructivist* family of theories.



Spend at least an hour on this activity. It would be very useful to listen to Part 1 to 5 of your tape again at this point. See whether you can recognize the theoretical assumptions that underlie the arguments of the various speakers.

ACTIVITY 61

- 1** You may have seen 'proof' of our constructivist beliefs throughout this text. Select five excerpts from this module which you could use to 'prove' that the module is informed by constructivism. Write these down in your workbook.
- 2** Are you able to say which of the four theorist's ideas we have been discussing helped us to articulate the key concepts in Sections One to Five of this module? Draw a table similar to the one on page 207 in your workbook and fill it in, giving reasons for your choices.

Key ideas	Which theorist do you think influenced the articulation of these ideas? Why?
Section One: The learning paradox. How do we learn what we do not know?	
Section Two: We move from the known to the unknown by being active – taking risks, guessing, interpreting our mistakes, asking questions, and imagining new possibilities.	
Section Three: School learning is different from everyday learning. The discourse of schooling helps us to think in a more theoretical and systematic way.	
Section Four: Reading is a powerful tool in the act of study. It is an active construction of meaning. Learning to read depends to some extent on our desire to experience the magic of reading.	
Section Five: Teachers are responsible for the design of good learning activities. Teaching is not so much about passing on knowledge, as it is about scaffolding learning and supporting learners when they are afraid of the unknown.	

The theories of Piaget and Vygotsky provided the main theoretical insights that have generated the ideas in this module:

- Piaget is the main influence in Section Two. His central idea – that learners act on the world and then internalize the results of those actions as new ways of knowing – is the main concept behind our discussions of how learners take risks, interpret their mistakes, ask questions, and imagine new possibilities in order to know. In other words, this section departs from the recognition that people are by nature active in relation to the world.
- Vygotsky is the main influence in Sections Three, Four, and Five. We discussed the worlds of learning in which schools, books, and teachers provide the *social relationships* (and the scaffolding) which assist the learners to enter into new, formal knowledge.

While both Piaget and Vygotsky underpin the general constructivist orientation we have adopted throughout this text, we have used other theorists to help us articulate our ideas about learning and teaching. We looked initially at Socrates to help us set up our main question, '*How can learners come to know something that they do not already know?*' We also used texts which are not necessarily from the constructivist theoretical tradition. For example, we used an extract by Bettelheim and Zelan, who work within the psychoanalytic school of thought, because we also believe that *affect* (the motives, desires, feelings, and wishes that drive us to learn in the first place) is important.

We also presented you with a variety of articles from all over the world in the Reader. As authors, we have assumed that the debate about the active origins of knowledge is demarcated by the theories of Piaget and Vygotsky. We hope that all the articles support a coherent train of thought about how and why learners begin to construct knowledge about their world.

“
Thinking is sometimes easy, often difficult, but at the same time thrilling. But when it's just disagreeable, that is when it threatens to rob one of one's pet notions and leave one all bewildered and with a feeling of worthlessness. In these cases I and others shrink from thinking or can only get ourselves to think after a long sort of struggle. I believe that you too know this situation and I wish you lots of courage!
”

This quote is by L. Wittgenstein, in a letter to Rush Rhees, in R. Monk, *Ludwig Wittgenstein: The Duty of Genius* (New York, Penguin, 1990), p. 474.

APPENDICES

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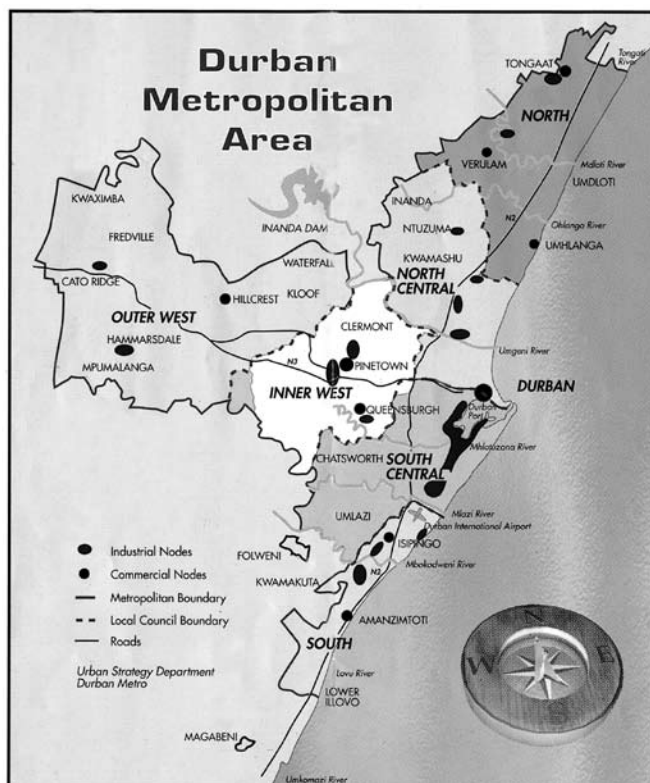
Appendix A: The city of Durban



Some basic facts

Location

The Durban Metropolitan Area is on South Africa's east coast, in the province of KwaZulu-Natal. It includes the cities of Durban and Pinetown, as well as centres such as KwaMashu, Inanda, Tongaat, Verulam, and Umhlanga to the north; Amanzimtoti and Umlazi to the south; and Westville, Kloof, and Cato Ridge to the west.



Area of the Durban Metro Council

The Durban Metro Council was established after South Africa's first democratic local elections in 1996 and extends over an area of 1 366 square kilometres.

Languages

There are eleven official languages including Zulu, Xhosa, English, and Afrikaans.

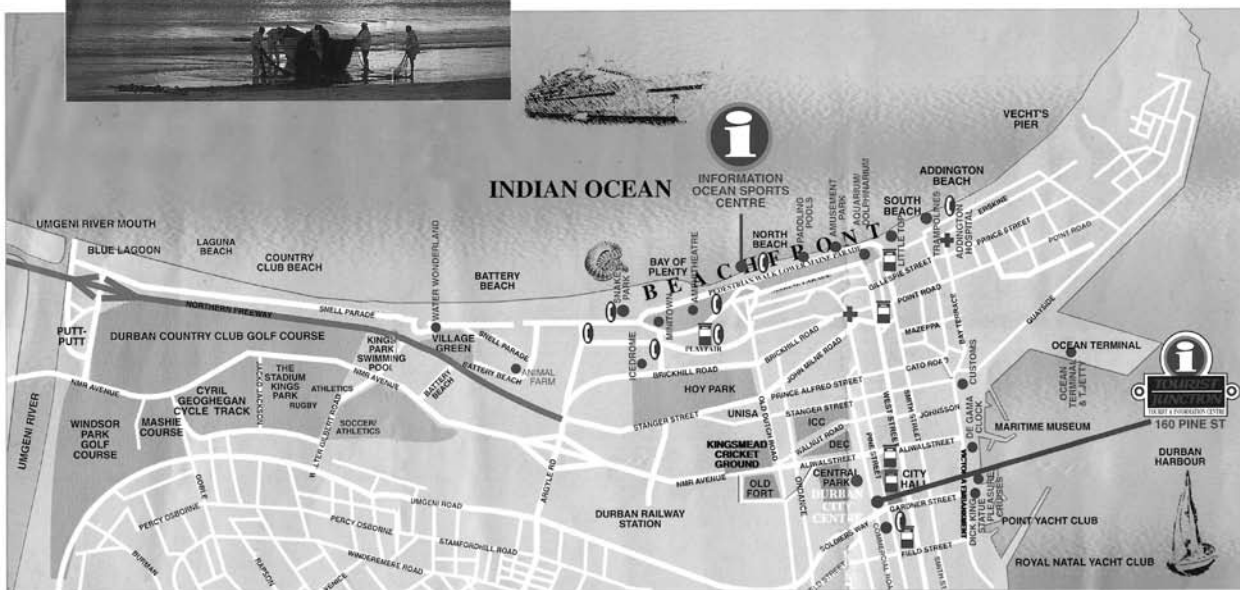
Climate

A sub-tropical climate prevails almost throughout the year at the coast – ample reason for Durban to be known as 'the sunshine city'. Humidity levels may be high in certain parts at particular times of the year. Inland areas are more temperate. The average winter temperature is about 18 degrees Celsius. Swimming in the sea can be enjoyed all year – the warm waters of the Indian Ocean rarely fall below 17 degrees Celsius.



DURBAN

Tourist Map



Time differences

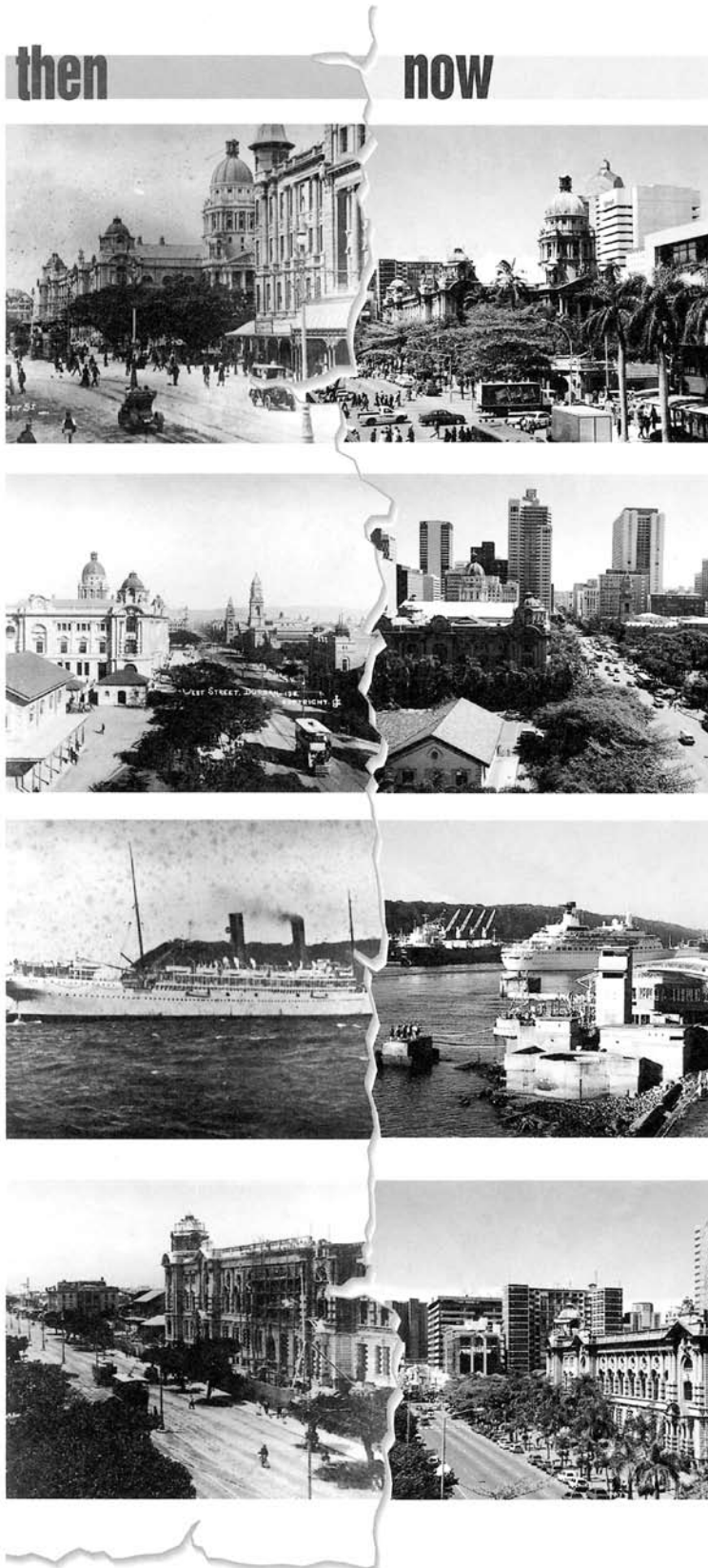
Standard time is two hours ahead of Greenwich Mean Time, one hour ahead of Central European Winter Time, ten hours behind New Zealand Winter Time, and eight hours behind Eastern Australian Winter time.

A general history

Durban's name

Vasco da Gama named Natal in 1487 when he passed its shores on Christmas day. He named the area Natal in honour of the Lord's Nativity. On 23 June 1835, Port Natal was renamed D'Urban in honour of Sir Benjamin D'Urban, then Governor of the Cape of Good Hope. D'Urban was subsequently changed to Durban by the excision

of the apostrophe. The Zulu name for Durban is *eThekwin*, meaning 'The Place Where the Earth and the Ocean Meet'.



Durban 100 years ago

In 1900 Durban had a population of about 56 000. By 1911 the borough population was 71 000 comprising communities of diverse cultural and historical backgrounds. The white settlers included descendants of the early pioneers like Henry Fynn, as well as the Voortrekkers, the Byrne Settlers, and later arrivals from various corners of Europe. A large Zulu-speaking population also lived around Durban. Colonial conquest combined with drought and diseases had pushed many of them off their land, forcing them to seek a living through labour in the towns. Indentured Indians arrived between 1860 and 1911 to work on the sugar plantations. Many were also employed by the Natal Government Railways, Durban corporations, industries, and private households.

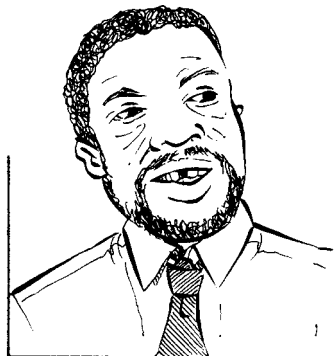
Social positions were fairly clearly drawn by the turn of the century: Durban's white colonists occupied the Berea and other breeze-cooled hillsides of Durban. By the 1870s they were already resisting the growing presence of Indian and African families in the city, and attempts were made to control them via 'slum control' measures and the erection of migrant labourers' barracks. As the number of Indians in Durban began to increase, colonists began seeing the indenture system as a threat. The Indian population increased from approximately 6 000 in 1894 to 16 000 in 1904. In 1893 the Natal Government introduced a Bill to prevent Indian people from voting. As Indian businesses grew in size and importance, many white traders found the competition too fierce, and began to demand restrictions on Indian traders. This led to the introduction of the 1897 Dealers Licences Act, which resulted in Indian traders being squeezed out of Durban's commercial heart into the Grey Street area. M. K. Gandhi arrived in Durban in May 1893 and was persuaded to remain in South Africa to help the Indian communities fight discriminatory laws and practices.

Political profile of the Durban metropolitan area

The Executive Committee

The Metro Council's Executive Committee (Exco) is composed of councillors from major political parties in the Metro. The Council takes no decisions of any importance without these first being fully discussed by Exco. One can find top city businessmen and poor informal settlement dwellers waiting their turn to plead their case before this influential group. In the 1999 elections, Durban voters elected councillors from a range of different parties, among which were the African National Congress (398 719 votes), the Inkatha Freedom Party (122 475 votes), and the Minority Front (32 083 votes).

Some members of the Executive Committee



Nigel Gumede

- The African National Congress.
- Chairs the Durban Metro Housing Committee and the Strollers Overnight Facilities Board, and is a board member of the Cato Manor Development Association.
- Believes people should respect, support, and protect their facilities which they pay for.

Rev Cyril Pillay

- The Inkatha Freedom Party.
- Serves on the South Central Council.
- Would like to see a crime-free Durban, and residents who are 'owners of their city'.

**Visvin Reddy**

- The Minority Front.
- Chairman of Community Services.
- Believes Council's main role is to bring about positive change in people's lives.

**Councillor Margaret Winter**

- The African National Congress.
- Chairperson of the Metro Executive Council.
- Believes Durbanites have to work actively for a non-racial city.

The demographics of the Durban metropolitan area***Metropolitan population***

The total metropolitan population is 3 million people.

Housing

Of the total households in the Durban metropolitan area in 1998, approximately one-third were informal, semi-formal, and traditional dwellings. This constitutes just over one-third of the population of the Durban metropolitan area, and over half of the black population. There is a backlog of approximately 250 000 houses in the Durban metropolitan area. While most projects target the lowest income households and provide a serviced site and starter house, Metro Housing is also involved in the provision of rental or 'rent-to-own' housing through the establishment of the First Metro Housing Company (FMHC).

Water

Durban Metro Water currently supplies 270 000 households with water. Working on approximately five members per household, one can estimate that 1 350 000 of the 3 000 000 people in the area have direct access to water. Plans are on track to connect an additional 20 000 households in the formerly disadvantaged areas, out of a current backlog of 54 600.

Electricity

This rates high amongst the list of essential services not available to all households with 25% not being serviced. Durban Metro Electricity supplies more than 475 000 households in an area of nearly 2 000 square kilometres. Working on approximately five members per household, one can estimate that 2 375 000 of the 3 000 000

people in the area have access to electricity. Due to the 'Electricity for All' development project, the customer base is currently growing at a rate of about 2 200 every month.

Refuse disposal

This is one of the less accessible services provided by local authorities, with 28% of households presently not serviced.

The cover of a Durban tourist brochure.





Durban's positive tourism points

- Durban's key strengths include its physical setting (coastal), vegetation (natural), good climate (all year round), and cultural diversity (Africa meets East meets West).
- Durban's people are friendly and good-natured and the city's generally free-spirited attitude to life is reflected in its thriving cuisine, music and arts scenes.
- Durban can compete with the best of Maputo, Zanzibar, Luanda, Mombassa, Rio de Janeiro, New Orleans, and Jamaica. While these destinations are characterized by different tempos, rhythms, and cultures, Durban also has an inherent 'Africanness' reflected in its heritage and image.
- Durban captures the spirit, atmosphere, and ambience of Africa.
- It is a vibrant, young, dynamic, creative, yet down-to-earth destination.
- There is huge potential for Durban to enhance its tourism portfolio.
- There is a willingness among industry players to focus on product and market development.
- Durban's multi-dimensional Arts and Culture heritage can be threaded through food, music, dance, theatre, literature, architecture, and lifestyle to strengthen the products.
- Current market trends point to a window of opportunity for Durban's future target market.
- Durban has the potential to complement other key South African cities, particularly Johannesburg and Cape Town.
- Durban's climate is excellent for leisure and sporting activities, and provides the opportunity to promote events and short breaks year round.

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Exhibition brings message of hope

'POSITIVE Lives: Positive Responses to HIV' is an exhibition dedicated to those living with AIDS, to those who have lost their lives to AIDS and to those who loved them, and to individuals and communities who continue to combat the impact of the disease.

The photographic exhibition, a collaboration between the Terrence Higgins Trust and Network Photographers, explores the impact of AIDS and the positive responses of diverse communities around the world.

Gideon Mendel, whose documenta-

tion of AIDS in Africa (entitled 'A Broken Landscape') forms part of the 'Positive Lives' exhibition, has received numerous awards for his work, including a World Press Photo Award and the Eugene Smith Award for Humanistic Photography.

'Positive Lives' at the Durban Art Gallery marks the start of a tour of the African region during which the exhibition will bring its message of hope to as many communities as possible.

The exhibition will be at the Durban Art Gallery until Thursday, 27 July.



Family fun at Easter

There will be plenty of fun activities at the Easter Affair, North Beach, from 22 April to 1 May. Retail cabins selling everything from clothing and CDs to delicious food will line the promenade, while local bands will fill the entertainment marquee. From hi-impact sport to clowns and jugglers, the Easter Affair has something for young and old.

With Durban's balmy weather and laid-back holiday style, what better way to spend the week than down at North Beach having fun in the sunshine city? There are not many cities where you can enjoy summer fun in winter!

Some of the more unusual attractions include:

The climbing wall

A seven-and-a-half metre fibreglass climbing wall will provide the perfect challenge to scale new heights. A first in South Africa, this newly-modelled climbing wall works with hydraulic cables and when climbers reach the summit a buzzer sounds to announce their success! The wall is open to anyone four years and older and every climber wears a safety harness, with strict supervision at all times. Four people can climb the wall simultaneously. The entry fee for a single climb is R5 or better still, R10 for three climbs.

Go-karts, mini bikes, and skateboarding

Don't miss out on the popular go-karts and mini bikes on the boardwalk, and find out who has the talent to be a Grand

Prix star! The mini bikes have proved very popular with children in the past and are sure to be a hit again this year. Nearby, energetic skateboarders will enthral watchers with fast, hi-tech, heart-stopping manoeuvres.

Tailball tennis

A relatively new sport, tailball tennis is fast increasing in popularity in Durban. From the makers of the original swingball tennis, the Dunlop Tailball is extremely versatile and can be used for volleyball, badminton, or tennis. It is ideal for the beach as the brightly-coloured ball has a stream of multi-coloured tails attached to it which serve to slow down its flight so that you don't have to run far to fetch the ball.

Jumping castle

The Teletubbies Gladiator Jumping Castle is sure to leave children squealing with glee! This colourful, nine metre long attraction has a gladiator ramp, complete with a net. Children can be gladiators for a day, climb to the top and slide down into a ball pond filled with hundreds of brightly-coloured plastic balls, or enter into a large trampoline-like area and literally jump for joy!

Funworld

There will be an assortment of rides at Funworld. Little children can delight in taking a ride on a cute squirrel or elephant. Mini cars will also be available.

Come and join in the fun!



Durban features in urban revival conference

‘WARWICK Avenue is not a way of life – it is a social disaster. That is why there is crime and lots of it,’ says local Communications Director Fikile Mnguni.

But unlike many critics of urban sprawl, Mnguni has innovative plans for the area.

She will present these ideas at the Creative City Conference in Huddersfield in the United Kingdom this month.

From May 25–27, representatives from more than 30 countries will be presenting ideas on how to revive their inner cities.

Mnguni believes one of Durban’s main problems is the number of rural

people trying to carve a niche for themselves in an urban society.

She points to the notorious areas of Warwick Avenue, Albert Park, and Point Road where the violence and crime overshadow the creative and skilled nature of the people living there.

Skills which could better the outlying rural areas of Durban become redundant in the city atmosphere and it is these skills which Mnguni wants to ‘give back’.

‘So many of them are sitting waiting for hand outs. This must stop. I want to show them that they are skilled and have the ability to make a success for themselves and their communities.’

WHAT’S ON IN DURBAN

Featured events taking place in Durban and surrounding areas

Mondays

20:00 Live music at the DURBAN FOLK CLUB, Tusk Inn, Sarnia Road. (Syd 205-6951)

Tuesdays

19:30 DRUM CIRCLE meets at the BAT Center. (332-0451)

Tuesdays and Thursdays

17:30–19:00 Evening DANCE CLASSES in Rehearsal Room 410, Playhouse Complex. (Tania 369-9467)

Wednesdays

13:00–14:00 Durban Arts free LUNCH-HOUR CONCERTS on City Hall steps. (Patrick 312-1236)

Thursdays

21:00 LIVE JAZZ featuring local artists and some out-of-town guests; pub meals available. Rivets, Durban Hilton. (336-8204)

Fridays and Saturdays

17:00 Unwind from the workday week with MUSIC ON THE DECK at the BAT Center – sip a sundowner, watch the sun go down over the harbour and chill out to some great sounds. (332-0451)

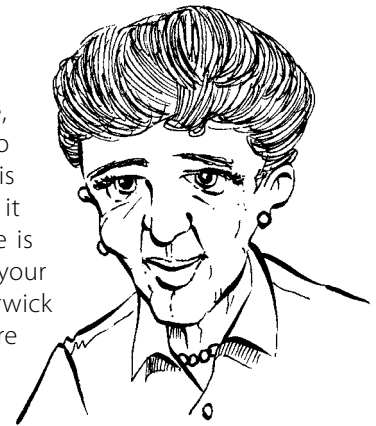
Sundays

15:30 Durban Arts Sunday BALLROOM CLUB at Playhouse Studio. (Patrick 312-1236)

Appendix B: Interviews with some Durban residents

Mary Bancroft

I have lived in Durban all my life. I grew up here, and got married and had my kids here. I used to be a teacher but I am now retired. I think Durban is a nice place to live but it feels far less safe than it did when I was young. Now it feels as if there is nowhere really safe in the city except perhaps your own home. One should never, ever go near Warwick Avenue or down Point Road at night as these are really dangerous areas. I also think that it's quite a hard city to find one's way around and so using taxis and public transport is preferable to walking.



I do, however, think that Durban is a very good spot for holidays as it has good weather and lots of things to do. It is also a very interesting city because there are lots of people of different cultures. I would think though that visitors would be relatively safe at venues like Mitchell Park, Sea World, Museums, or the Sharks Board. These are places that I know tourists like to go to and there is security provided. I don't really go to these places myself. For entertainment I like to go to music concerts; the Philharmonic Orchestra in the City Hall on Thursdays, or the Botanical Gardens on Sunday afternoons for really pleasant outdoor concerts. I also like to shop for fresh things at the two markets, in particular, there is a farmers' market held very early on Saturday mornings at the old drive-in site. You need to go by car and arrive really early – about 6.30 or 7 to get the best stuff.

Durban is a city that I think offers good opportunities for people wanting to start a new career and good schools for young families with children. In my experience, schools such as Marists Stella, Gordon Goad, Clifton, DHS, or Crawford are very good.

James Brown

My name is James but my friends mostly call me J or sometimes 'Better than' from the song 'I feel better than James Brown'. I have only lived in Durban for a few years; I come from a small town on the South Coast, went to school in Port Shepstone, and came to Durban to go to university. I live with friends in a 'digs' close to the university and am studying to become a lawyer. One of the big adjustments about student life has been learning to deal with household stuff like shopping for groceries and cooking – we shop at the nearby supermarket Checkers because it's cheapest and we are supposed to take turns cooking although I seem to land up doing more than my fair share – the other guys say its because my meals are better, but I think that's just flattery to get out of work!



I like living in a big city – there's lots more to do than where I come from. On weekends I like to spend time at the beach – I'm a surfer like most guys from the South

Coast! I think the Durban beachfront is an excellent place for entertainment for all kinds of people – families, kids, young people, and old. It's very safe in the daytime but at night I only go around in a group of other guys, not alone. The club scene is very cool in Durban – just always make sure that you park your car where there is a car guard on duty – otherwise it won't be there when you come out! My friends and I also like to listen to live jazz and there are a lot of good venues for this in Durban: Rivets at the Hilton hotel on Thursdays, the Bat Centre on Friday evenings, and the Jazz Centre at the university on a Wednesday. The big plus with these jazz performances is that they are either free or really cheap and they are great places to mix with and meet people of all races.

I wouldn't really think that Durban is a nice place for a holiday although I like living here and lots of tourists from Gauteng seem to see Durban as an excellent destination. I think that if you want a beach holiday it's nicer to go somewhere a bit out of the city – in fact, like down the south coast where my family live – although they would kill me if they heard me say so as people in those small towns get really irritated with the floods of tourists over Christmas time. But for employment obviously the city is a much better option and I think I'll be staying in Durban when I qualify. I don't want to go to Jo'burg or overseas like many of my friends. I'll probably buy a house in the suburbs, Pinetown, Westville, or Umhlanga and would also prefer to work out there rather than in the city centre. I'll use family contacts and perhaps also the advice of one or two of the best lecturers at university to help me decide where to work. I also think that it's better to bring up kids in the suburbs as the schools are better in these areas than in the centre of town.

Fatima Nair

My family has always lived in Durban – my grandparents and even my great grandparents. So it's my city, very definitely. I will probably stay in Durban but I am considering going to Cape Town to do further study. I've been on holiday to Cape Town and I think it's really beautiful so maybe it would be nice to live there. But I think my family would prefer me to stay close to home. I'm really looking forward to finishing my studies and getting a job. Although there is high unemployment, I think I will find a job fairly easily; I'll look in the newspapers but also use my family contacts – it really helps to know people.

I am quite a religious person and so my leisure time tends to revolve around family and community activities. As I am the oldest girl in the family I also have quite a number of household responsibilities, like shopping for groceries. I usually spend Saturday morning doing this – I always start at Sunrise Fruiterie in Brickfield Road as they have an excellent selection of really fresh things and it's close to our home. I also like getting fresh fish at Ganie's but for general household stuff I go to the big Hyperama by the sea or Macro because you can buy things in bulk there.

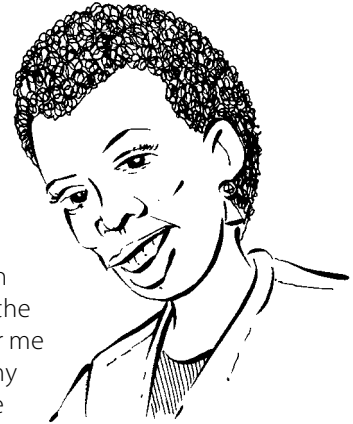
I don't really socialize much and although I know that the other students in my class go out jorling on the weekends, I don't really know the places that they go to because those things don't interest me. Some people say that Durban is not a very safe place but I think it is if you simply avoid certain places, like the beachfront, at night. It is a good place for holidays and we have family members who live in Johannesburg who come to Durban every year on holiday. There are really nice things to do in places close to the city up and down the coast, like dolphin watching.



Ntombizodwa Mthembu

I grew up in Durban and now I live here with my own family, my husband and two children, Vusi and Penelope. But the Durban that I lived in as a child was quite a different one to the one I live in now. I grew up in a squatter camp on the edge of Umlazi township. My mother was an informal trader ... she used to sell fruit and chips outside the gates of the primary school in the township that my sisters and I attended. My older sister was ashamed of my mother and didn't like to be seen talking to her during breaks and after school when the other kids came to buy from her. But it didn't bother me as a kid and now, looking back, I am proud of my mother's active fight to provide for her family. I have got where I am today because she always encouraged me to do the best I could and never to feel inferior to others around me. My husband and I now live in one of the nicer suburbs of Durban, Glenwood, which is close to the centre of town where I work in a local building society, and close to the school where my husband teaches. Of course, before, even if my mother had had money enough to buy a house where we now live, she wouldn't have been allowed to because of the Group Areas Act. It is sometimes strange to me to think that that small shack where I grew up and the lovely house that we now live in are part of the same city.

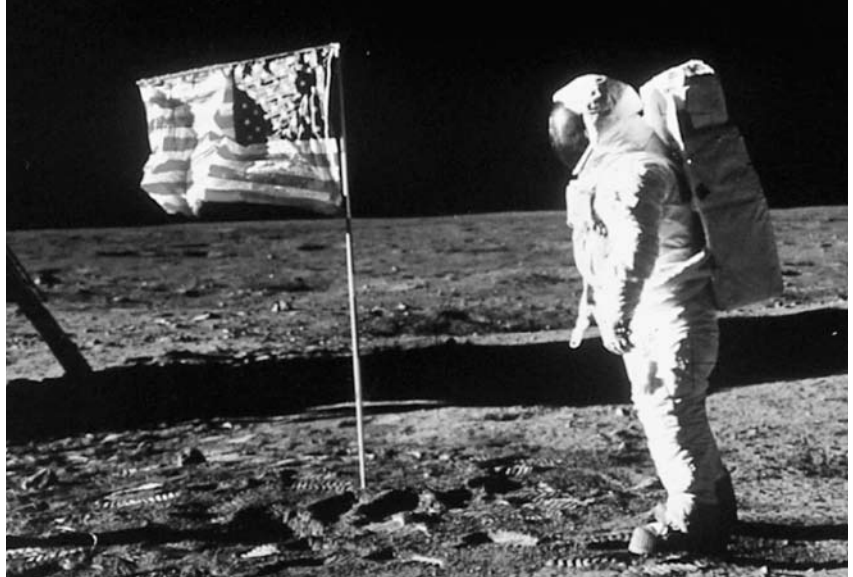
Because I live in the suburbs and work in town, I tend to shop in both places but for different things. I buy groceries at the supermarket near my house but shop for clothes in town in my lunch-hour. It's definitely cheaper to buy things from the traders in Grey Street and so I do quite a lot of shopping there – you can pick up bargains and really unusual clothes. But it is not a very safe area and there are a lot of pickpockets. I am confident shopping there because I know the place and you just have to be sensible and keep your eyes open! My kids don't often come into town. They go to a private school near where we live – we are lucky as my husband is a teacher and so we get discounts on the fees, which are really high. I think it's worth it though as education is the key to a brighter future – I always tell them that. On the weekends we visit friends, quite a number of whom still live in Umlazi, or we arrange to meet at the beachfront so the kids can play, or perhaps on a Friday night, we might meet up at the Bat Centre for a few drinks and to listen to music. I like living in Durban and can't really imagine living anywhere else.



Appendix C: Photographs



A woman who testified about the murder of her father at the Truth and Reconciliation Commission.



Landing on the moon.



A powerful, democratic leader.



A child swimming in a large pool.



A vast crowd of people.



A man jumping off a high bridge.

Select bibliography

Case, R., 1991, *The Mind's Staircase: Exploring the Conceptual Underpinnings of Children's Thought and Knowledge*, Hillsdale, New Jersey: Lawrence Erlbaum Associates.

The Mind's Staircase presents a neo-Piagetian framework in an accessible form. Case pays particular attention to the influence of schooling on children's conceptual development. He examines the importance of schooling for the development of children's understanding of number, their organization of two-dimensional space, and their ability to interpret literary, historical, and religious texts. Of particular interest for those involved in the assessment of learners who are not yet literate, is his use and analysis of children's drawings.

Flanagan, W., 1995, *Reading and Writing in Junior Classes*, Cape Town: MML.

Reading and Writing in Junior Classes is another short and accessible book about reading and writing in South African classrooms. It serves as a practical guide to the issues raised in Section Four of the Learning Guide as it provides a clear overview of the different approaches to teaching reading and explores strategies to develop and monitor reading competency across the curriculum. There is also a useful chapter on developing written language as well as a chapter on language as a tool for learning.

Labinowicz, E., 1980, *The Piaget Primer: Thinking, Learning, Teaching*, Addison-Wesley Pub. Co.

The Piaget Primer is an accessible and thought-provoking introduction to Piaget's theory, offering interesting analogies and explanations of key concepts. It provides a range of examples of children's thinking, learning, and problem solving which illuminate the different ways in which they make sense of their experiences at each stage of development. Every page is illustrated with drawings that contribute to the book's accessibility and help to maintain the reader's interest.

Macdonald, C., 1991, *Eager to Talk and Learn and Think*, Cape Town: MML.

Eager to Talk and Learn and Think is a short and accessible book about the role of language development in learning. It is based on fascinating research done in South Africa's *Threshold Project* and explores second language learning in the foundation and intermediate phases. It provides powerful insights into the role that the language of instruction plays in school learning, and also explores the language skills needed for learning and how these are developed in class.

Moyles, J. (ed.), 1996, *Beginning Teaching: Beginning Learning in Primary Education*, Buckingham: Open University Press.

Beginning Teaching is aimed at new teachers. It is a collection of essays that tackle some of the most common difficulties new teachers face. Part 1 deals with the issue 'teaching to learn', Part 2 with 'learning to teach' and Part 3 with 'responsibilities, roles, and relationships in the classroom'. Although British in focus, the book is filled with classroom examples to illustrate the different aspects of effective teaching.

Murphy, P. (ed.), 1999, *Learners, Learning and Assessment*, London: Paul Chapman Publishing in association with The Open University.

Learners, Learning and Assessment provides a theoretical framework that relates different views of the mind and learning to ideas about outcomes-based learning and assessment. It includes a diverse collection of articles that explore controversial aspects of learning theory. The second half of the book looks at how views of classroom learning and curriculum (and particularly assessment practices) are derived from different theories of learning and knowledge.

Olson, D. R. and Torrance, N. (eds.), 1996, *Modes of Thought: Explorations in Culture and Cognition*, Cambridge University Press.

This edited text provides different perspectives on the plurality of thought and ways of life that characterize human society. Our diversity is both puzzling and deeply treasured by all. We all want to claim recognition for our unique ways of being. Sixteen highly respected authors deal with topics ranging from the history of thought to the specific educational implications of our diversity. Central to the whole text is the influence of the context of our lives on our thought and being.

Piaget, J., 1978, *To Understand is to Invent*, New York: Grossman.

To Understand is to Invent is a good introduction to Piaget's ideas about learning and teaching, and his advocacy of what he calls the 'new methods of education'. These are teaching methods that overcome the legacy of rote learning and teacher sermons, and replace them with activity-based classroom methods. It provides a useful overview of the history of different approaches to learning in education, and explains why Piaget took such a strong constructivist stance in relation to them. It also dispels some myths about Piaget, particularly that he believed that the teacher is merely a 'facilitator' or that social influences have no part to play in learning.

Richardson, K., 1998, *Models of Cognitive Development*, Hove: Psychology Press.

Models of Cognitive Development provides a useful reflection on innatist and behaviourist theories, both historically and in relation to their contemporary versions. Richardson explores the legacies of Piaget and Vygotsky in these terms, examining how constructivism and socio-cognitive theories relate to what we know about children's learning and development. Students will find this text invaluable in deepening their knowledge of cognitive development and learning theory as a specialist discipline within psychology.

Vygotsky, L., 1978, *Mind in Society: The Development of Higher Psychological Processes*, Cole, M., John-Steiner, V., Scribner, S. and Souberman, E. (eds.), Cambridge, Ma.: Harvard University Press.

Mind in Society led to the explosion of Vygotskian thinking into the English-language world, some forty years after it was developed in Russia. This translation has been criticized for 'cleansing' Vygotsky but is a readable and exciting collection of important parts of his work. Part 1 covers key theoretical concepts, including the importance of spoken language to the learning and development of children, and the idea that children learn by 'internalizing' cultural knowledge networks. Part 2 contains three papers that explore the educational implications of the theory, dealing with such notions as the role of play in learning, the systematized nature of school learning, and the importance of the teacher as an active organizer of the frameworks of knowledge of the learner.