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ABSTRACT

This book presents six essays that explain where the educational term "scaffolding" comes from and what it means, then journeys into classrooms that demonstrate effective scaffolding in practice. In the process, it shows that "content" cannot be taught apart from the language about that content. The essays in the book are also about the role of language in learning, and about language and literacy education in the context of schooling. Essays in the book are: (1) "What Is Scaffolding?" (Jennifer Hammond and Pauline Gibbons); (2) "Scaffolding and Language" (Jennifer Hammond); (3) "Scaffolding in Action: Snapshots from the Classroom" (Tina Sharpe); (4) "Scaffolding Oral Language: 'The Hungry Giant' Retold" (Bronwyn Dansie); (5) "Mind in the Classroom" (Pauline Jones); and (6) "Learning about Language: Scaffolding in ESL Classrooms (Brian Dare and John Polias). An Afterword discusses further questions and a 17-item glossary is attached. (RS)

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Scaffolding

teaching and learning in language and literacy education

edited by

Jennifer Hammond

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Preface

Jennifer Hammond

This book is centrally concerned with teaching and learning. It is also concerned with the notion of scaffolding and with the contribution that scaffolding can make to a better understanding of processes involved in teaching and learning. In addressing such concerns, it is also about the role of language in learning, and about language and literacy education in the context of schooling.

It seems to be stating the obvious to claim that a book such as this is about teaching and learning. What else would such a book be about? Yet in recent years, very little discussion and debate has focused directly on teaching and learning. Ironically, we have probably had more public debate about education than at most previous times. Politicians, the media, policy-makers, teacher educators, teachers and parents have all been actively involved in debates about education. There have been

debates about private and public schooling, and the kind of funding that should support each of these systems. There have been huge debates about standards: about whether standards are falling; about accountability; and about the need for system-wide assessment practices. There have been debates about the impact of technology on education, and about the need to ensure that all students are 'computer literate' by the time they leave school. These debates have overlapped and intersected, and many aspects are relevant to the concerns of this book. However, none has really focused directly on teaching and learning.

There have also been debates about literacy. As most will be aware, literacy has been a major issue in Australian education in recent years. In the years since 1997, we have seen the release of literacy surveys, of a major Commonwealth Literacy Policy, and of state literacy policies and strategies. Few question the importance of effective literacy development for students' overall educational success and for the options that may be available for them in later life. Thus, in many respects, the emphasis on literacy has been welcomed, and has been seen as according literacy education its proper priority in schooling. However, these educational debates about literacy have been of a particular kind. They have primarily focused on standards, benchmarks and, more generally, on assessment of literacy. They have also unfolded in the midst of a rhetoric of crisis, and concern that our (public) schools are failing our students.

With the release of two school literacy surveys in 1997, much media and public attention was directed to questions about literacy, and in particular to questions about literacy standards. The media furore that surrounded the original release of the literacy surveys persuaded many Australians that we were indeed in the midst of a 'literacy crisis', that schools needed to be more accountable, and that the introduction of rigorous system-wide assessment procedures was essential to ensure proper accountability.

In 1998, the Commonwealth Government released its Literacy for All Policy (DEETYA, 1998) to address the literacy 'problem'. Despite sound goals and overall broad and strong rationale, this policy essentially focuses on assessment. Of a total of six strategies for action, four refer specifically to assessment, and one to the need for professional development of teachers to support the Policy (and hence to assessment). Only one refers to the teaching and learning of literacy: it specifies the need for early intervention for students identified as having difficulty with their literacy development. Through its emphasis on system-wide assessment, with which schools are obliged to comply, the Literacy for All Policy has contributed to a shift in the nature of literacy debates in schools. Discussions with many teachers confirms that major debates are no longer about teaching and learning. Instead, they are primarily about ways, means and consequences of assessment.

An emphasis on assessment is not necessarily a bad thing. An initial focus on outcomes can produce teaching that is more focused and explicit, and learning that is more effective. When the focus is primarily on the teaching–learning relationship, clarification of intended students' outcomes, and of what students are currently able to do, can contribute positively to effective teaching and learning.

System-wide assessment, however, does not contribute in the same direct way to effective teaching and learning. Indeed, its purpose is not to contribute to teaching and learning but rather to enable individuals' performances to be compared, or individual schools' performances to be compared. To comply with procedures for system-wide assessment requires considerable time and effort, and often some anxiety – with the result, as I indicated above, that current debates about language and literacy in schools are very much about assessment.

It is against the context of these debates that this book is located. It represents one attempt to refocus educational debates back to a central concern with teaching and learning, and with the roles of language and

literacy in processes of teaching and learning. Its concern is with what goes on in classrooms; with what constitutes good teaching; with what facilitates learning; and with the nature of the relationship between teaching and learning.

In this book the various authors draw on well-theorised notions of language and literacy and on internationally acknowledged research into language and literacy education. We draw on the theoretical assumptions that language and literacy practices vary according to social contexts and that they need to be studied as they occur in those different contexts; that language and literacy constitute powerful semiotic systems for the construction of meanings. We also draw on the assumption that literacy is a social construct; it is a variable set of social practices, rather than a unitary concept.

In addition, we draw on international interest and research into the notion of scaffolding, and into Vygotsky's contribution to a deeper understanding of the relationship between teaching and learning. While each of the authors in this book has his/her own take on these theoretical perspectives, broadly we share an interest in the intersection between systemic linguistics, scaffolding and Vygotsky's theories of learning. Our long-term goal is to contribute to a more clearly articulated, socially oriented, and language-based theory of teaching and learning. While we certainly do not claim to have achieved that here, our aim with this book is to make a small contribution towards that goal.

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Chapter 1
What is scaffolding?

Jennifer Hammond
& Pauline Gibbons

The preface to this book has explained why a book on scaffolding is timely and worthwhile. In this chapter, we begin to explore questions about the nature of scaffolding. What is scaffolding? What does it have to offer in terms of extending our understanding of teaching and learning? How do we know it when we see it? How is scaffolding different from (or similar to) good teaching? Where does the metaphor come from, and how far can it be pushed in order to explore a socially and linguistically oriented theory of teaching and learning?

We begin this chapter by focusing on the metaphor itself.

Scaffolding, as most will be aware, is placed around the outside of new buildings to allow builders access to the emerging structure as it rises from the ground. Once the building is able to support itself, the builder removes the scaffolding. The metaphor of scaffolding has been widely used in recent years to argue that, in

the same way that builders provide essential but temporary support, teachers need to provide temporary supporting structures that will assist learners to develop new understandings, new concepts, and new abilities. As the learner develops control of these, so teachers need to withdraw that support, only to provide further support for extended or new tasks, understandings and concepts.

While the metaphor has some obvious limitations, scaffolding is a term that clearly resonates with teachers. Over the past 20 years or so it has been taken up with enthusiasm and, although sometimes used loosely to refer to rather different things, its popularity indicates that it captures something which teachers perceive to be central to their core business – something at the heart of effective teaching. Mercer (1994) suggests that teachers find the concept of scaffolding appealing because it resonates with their own intuitive conceptions of what it means to intervene successfully in students' learning. He argues that the term offers what is lacking in much of the literature on education – that is, an effective conceptual metaphor for the *quality* of teacher intervention in learning.

In this chapter, we explore the ways in which the term 'scaffolding' has been used in educational contexts, and the theoretical underpinnings that have informed such uses. We also address questions about the nature and quality of teacher intervention in learning.

The nature of scaffolding in educational contexts

Wood, Bruner and Ross (1976) were the first to use the term 'scaffolding' as a metaphor to capture the nature of support and guidance in learning. They used the term to describe the nature of parental tutoring in the language development of young children. They showed that parents who were 'successful scaffolders' focused their children's attention on the task at hand, and kept them motivated and working on the task. Such parents divided the task into manageable components and directed their children's attention to the essential and relevant

features. In addition, these parents demonstrated and modelled successful performance, while keeping the task at an appropriate level of difficulty. Thus the parents provided support through intervention that was tailored to the demands of the task, and determined by the child's ability to complete it. Bruner (1978:19) describes scaffolding as:

> ***'... the steps taken to reduce the degrees of freedom taken in carrying out some task so that the child can concentrate on the difficult skill she is in the process of acquiring.'***

In the context of classroom interaction, the term scaffolding has been taken up to portray the temporary assistance that teachers provide for their students in order to assist them to complete a task or develop new understandings, so that they will later be able to complete similar tasks alone. Maybin, Mercer and Steirer (1992:186) describe this as the "temporary but essential nature of the mentor's assistance" in supporting learners to carry out tasks successfully. A number of features are significant in this use of the term.

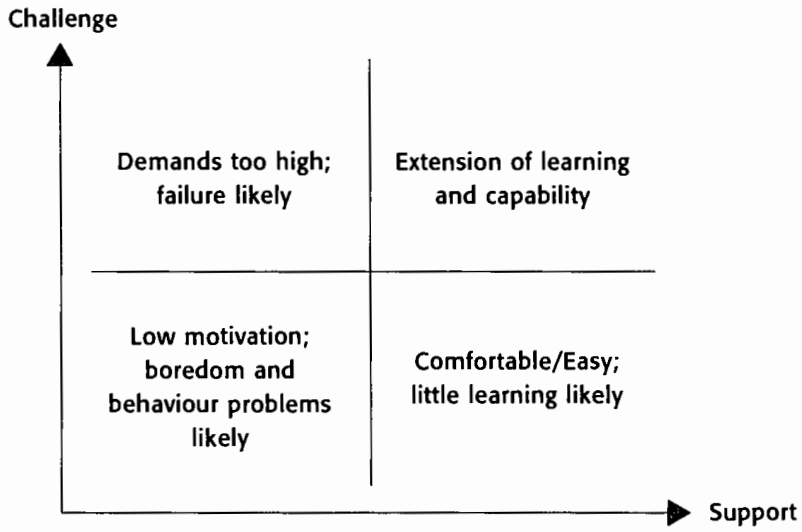
Key features

Extending understanding

Scaffolding refers to support that is designed to provide the assistance necessary to enable learners to accomplish tasks and develop understandings that they would not quite be able to manage on their own. As Mercer explains (1994:96): "Scaffolding represents the kind and quality of cognitive support which an adult can provide for a child's learning, which anticipates the child's own internalisation of mental functions". The argument here is that teachers, through their sequencing of teaching activities, and through the quality of their support and guidance, are able to challenge and extend what students are able to do. It is by participating in such activities that students are pushed beyond their current abilities and levels of understanding, and it is then that learning occurs and students are able to 'internalise' new understandings.

In a discussion of the implications of teaching, Mariani (1997) explores the classroom consequences of various combinations of high and low teacher support and challenge. He describes the frustrations, insecurity and anxiety experienced by students who experience learning contexts where there is high challenge but inadequate or low support. Such contexts present students with demands that are beyond their capabilities and are likely to result in failure (see Fig. 1.1). Contexts with low challenge and low support are those where students are unlikely to be motivated to do much at all, with the result that little learning will occur and students are likely to be bored, and perhaps to express this boredom through misbehaviour.

Figure 1.1: Framework of learning contexts



Adapted from Mariani, L (1997), 'Teacher Support and Teacher Challenge in Promoting Learner Autonomy'. *Perspectives* 23 (2), Italy.

With low challenge and high support, students will operate within their comfort zone and may enjoy their classroom experiences, but they are unlikely to learn a great deal. It is when the learning context provides both high challenge and high support that most learning takes place. At such times, students are pushed beyond their current capabilities. As Vygotsky (1978) wrote, good learning is that which is ahead of actual development. A major feature of the term 'scaffolding' is its ability to capture the role of the 'expert', or more knowledgeable other (typically

the teacher), in assisting students' learning, and the role of that knowledgeable other in extending students' current levels of understanding or current capabilities.

As this discussion indicates, scaffolding refers to teacher assistance and support that is designed to help learners move towards new skills, concepts or understandings. But it is also assistance that is designed to help learners to work with increasing independence – to know not only *what* to think and do, but *how* to think and do, so that new skills and understandings can be applied in new contexts.

Temporary support

A further factor related to scaffolding is its temporary nature. Because it is aimed at enabling students to learn independently, teacher support is gradually withdrawn as the learners become increasingly able to complete a task alone. Also critical to effective scaffolding is the ability of teachers to provide *timely* support. Effective scaffolding is support that is provided at the point of need. It therefore requires that teachers have a good understanding of where their learners are 'at' – that is, of what their learners know (or do not know) at the beginning of an activity. To be truly effective, such support needs to be progressively adjusted to address the needs of different students within the one classroom.

This ability to customise support for specific learners is what van Lier (1996), Wells (1986) and others refer to as *contingency*. The notion of contingency emphasises the importance of teaching strategies being based on, and responsive to, students' current understandings. It is characterised by how well the teacher is able to judge the need and quality of assistance required by the learner, and related to the way in which help is paced on the basis of students' developing understandings. Ideally, the teacher provides room for learner initiatives as a new concept or process is grasped, but also provides further support if learners begin to falter. The sensitivity and skill involved in responding contingently to students is sometimes seen as the defining quality of teaching. Van Lier (1996:199) suggests that "even though it does not show up in lesson plans or syllabuses, this local or interactional scaffolding may well be the driving force behind good pedagogy, the hallmark of a good teacher".

6 | 1 Macro and micro focuses

In addition to a focus on learners and their current levels of understanding, scaffolding requires a clear focus on tasks. It therefore requires that teachers have a good understanding of:

- the curriculum area or field of inquiry that their learners are engaging with
- the demands of specific tasks that will enable learners to achieve relevant goals.

That is, scaffolding needs to be thought of in relation to the development of overall programs and curricula, as well as to selection and sequencing of tasks and to the specific classroom interactions that are part of those tasks. Here we are extending the notion of scaffolding beyond the moment-by-moment interactions between teacher and student to include also the nature and design of the classroom program.

To be effective, scaffolding requires clearly articulated goals and learning activities which are structured in ways that enable learners to extend their existing levels of understanding. For this to occur, the goals for any one specific task need to be located within the broader framework of a planned program with its own clearly articulated goals. Thus the learning that occurs as a result of support provided at a micro level of interaction (at a task level) needs to be located within the macro framework of a planned program, so that there is a clear relationship between sequential tasks and so that these tasks relate to articulated program and curriculum goals. Mercer (1994:101) underlines this view when he argues:

> ***'It is probably in making a direct conceptual link between two very different aspects of teachers' involvement with pupils' learning that the concept of 'scaffolding' has most to offer to educational research – the pursuit of curriculum-related goals for learning and the use of specific discourse strategies when intervening in children's learning.'***

Thus our understanding of the nature of scaffolding includes both the micro-level scaffolding which occurs in the ongoing interactions between teacher and students and a more macro-level scaffolding which is related to larger issues such as program goals and the selection and sequencing of tasks.

The relationship between scaffolding and good teaching

A look at the key features of scaffolding above gives rise to questions about the relationship between scaffolding and teaching more generally. Do these features apply specifically to scaffolding? Do they distinguish scaffolding from other kinds of teaching? In what ways is scaffolding different to what could simply be described as good teaching?

Questions of 'what counts' as scaffolding in the classroom, and of the relationship between scaffolding and what might be thought of as 'good teaching', have been tackled by a number of researchers (e.g. Maybin et al., 1992; Mercer, 1994; Webster et al., 1996). Maybin, Mercer and Steirer (1992) write:

> ***'[Scaffolding] is not just any assistance which helps a learner accomplish a task. It is help which will enable a learner to accomplish a task which they would not have been quite able to manage on their own, and it is help which is intended to bring the learner closer to a state of competence which will enable them eventually to complete such a task on their own.'***

Mercer (1994), drawing on his earlier work with colleagues, proposes the following criteria for distinguishing scaffolding from other kinds of teaching and learning:

- Students could not succeed without the teacher's intervention.
- The teacher aims for some new level of independent competence on the students' part.
- The teacher has the learning of some specific skill or concept in mind.
- There must be evidence of students successfully completing the particular task at hand.
- There must also be evidence that learners are now able to go on to deal independently with subsequent related tasks or problems.

Mercer argues that such criteria allow educational researchers to "discuss and explain differences in the quality of intellectual support which teachers provide

for learners, while sufficiently stringent to exclude some kinds of 'help' which teachers provide".

As a simple example of the difference between 'scaffolding' and 'help', consider a situation in which a student is unable to spell a particular word. In this situation, the teacher could 'help' by providing the correct spelling. Alternatively, s/he could 'scaffold' how to think about the spelling by, for example, encouraging the student to think about the sounds of the word, and how they could be represented. Of course, there are times when on-the-spot 'help' is a valuable kind of assistance. The point we are making here is that scaffolding, in our definition, is qualitatively different from 'help' in that it is aimed at supporting students to tackle *future* tasks in new contexts – or, as we argued earlier, to know how to think, not simply what to think.

Key theoretical concepts in understanding scaffolding

Thus far we have discussed the nature of scaffolding – what is meant by the term and how to recognise it when we see it in a classroom context. Here we discuss the theoretical underpinning of scaffolding, looking in particular at how it fits with more general theories of teaching and learning.

An important element in any discussion of the theoretical basis of scaffolding is its relationship with Vygotsky's theories of learning. Although Vygotsky himself never used the term 'scaffolding', its theoretical basis lies very much within a Vygotskian framework, and his work is frequently cited by those who have taken up the notion of scaffolding in the context of educational research.

Broadly, Vygotsky (e.g. 1978) argued that learning and cognitive development are culturally and socially based. In other words, learning is a social process rather than an individual one, and occurs in the interaction between individuals. He argued that learning involves a communicative process whereby knowledge is shared and understandings are constructed in culturally formed settings. In his

emphasis on the social and cultural basis of learning, his work differs significantly from views that have dominated Western thinking about education. In particular, his views differ from Piagetian theories that have portrayed learning as an essentially individual enterprise.

In his original work on scaffolding in child language development, Bruner (1985) drew on the Vygotskian notion that social transaction and interaction, rather than solo performance, constitute the fundamental vehicle of education. It was, he said, the *transactional* nature of learning that enabled entry into a culture via induction by more skilled members. He argued (p 25):

> ***'Too often human learning has been depicted as a paradigm of a lone organism pitted against nature – whether in the model of the behaviourists' organisms shaping up responses to fit the geometrics and probabilities of the world of stimuli, or in the Piagetian model where a lone child struggles single handedly to strike some equilibrium between assimilating the world to himself or himself to the world.'***

The argument that learning is essentially a social and cultural process is central to the theoretical basis of scaffolding. To explore the implications of this argument, we need to consider another key concept – the zone of proximal development.

The zone of proximal development (ZPD)

Perhaps the best known and most relevant aspect of Vygotsky's work to the theoretical basis of scaffolding is his notion of the zone of proximal development (ZPD). Vygotsky (1978:86) argued that the ZPD is a key element in the learning process, and he defined this as:

> ***'... the distance between the actual development level (of the learner) as determined by independent problem solving and the level of potential development as determined through problem solving under adult guidance or in collaboration with more capable peers.'***

In relation to education, the major significance of the ZPD is that it suggests the upper and lower limits, or the 'zone', within which new learning will occur. If the

instruction is too difficult, or pitched too high, the learner is likely either to be frustrated or to tune out. If it is too low, the learner is presented with no challenge and simply does not learn anything. The notion of the ZPD underpins Mariani's discussion of the merits of high support and high challenge for an effective teaching–learning relationship (see page 4). The point here is that learning will occur when students are working within the ZPD and when teachers, through their mediating support role, are able to assist students to extend their current understandings and knowledge.

It is important to note that the concept of ZPD has been widely taken up in educational contexts, and often differently interpreted. Vygotsky died at a young age and, as Wells (1999) points out, the place of the ZPD in his overall theories was not fully articulated. Some have interpreted ZPD as a kind of individual attribute – something that each learner possesses, that they take with them from one situation to another, and that therefore can be individually assessed. Others – and we include ourselves here – take a different view.

Wells (1999:330) argues that "rather than being a 'fixed' attribute of the learner, the ZPD constitutes a potential for learning that is created in the interaction between participants as they engage in a particular activity together". That is, the ZPD is *constructed* in and through the activity in which learners and teachers jointly participate. Wells goes on to argue that as problems are resolved and solutions constructed, so the potential for further learning is expanded, and new possibilities are opened up that were initially unforeseen. Thus, the ZPD is co-constructed through the talk that occurs between teacher and students as they participate together in a particular task. It is an attribute of those tasks or events, rather than an attribute of the learner. This also means that the upper limits of the ZPD may change as the task unfolds. In other words, effective scaffolding is able to extend the upper limit of the ZPD, perhaps making it possible for learners to reach beyond what they are thought to be capable of.

While teaching experiences should not be completely beyond the capability of the learner, Vygotsky's notion challenges the traditional concept of learner 'readiness' by suggesting that it is the teacher who is largely responsible for initiating each new

step of learning, based on their understandings of what students are able to do. This does not mean that students' own interests and goals are ignored; indeed, they are an important consideration at the macro level of program planning and identification of goals. However, it does mean that when introducing new concepts, the teacher is responsible for the sequencing and pacing of learning, and for challenging students to extend their current levels of understanding.

The notion of the ZPD also challenges teachers to maintain high expectations of all students, while at the same time providing 'contingent' scaffolding in order to assist learners to complete tasks successfully. Gibbons (2002, forthcoming) argues that, as far as possible, all learners, including second-language learners, need to be engaged with authentic and cognitively challenging learning tasks. It is the *nature* of the support – customised support that is responsive to the needs of particular students – that is critical for success.

The following example is given to illustrate the principles we have been discussing. It is a short extract in which a father and mother talk with their 14-month-old son, Nigel. Before the conversation occurred, Nigel had been to the zoo. While he had been looking at a goat, it had tried to eat a plastic lid that he had been holding. The keeper had explained that he shouldn't let the goat eat the lid because it wasn't good for it. As you read this dialogue, look particularly at what the parents are doing, and the effect this has on Nigel's ability to construct a short recount of these events.

Nigel	***Try eat lid.***
Father	***What tried to eat the lid?***
Nigel	***Try eat lid.***
Father	***What tried to eat the lid?***
Nigel	***Goat ... man said no ... goat tried eat lid ... man said no.***
Later	
Nigel	***Goat try eat lid ... man said no.***
Mother	***Why did the man say no?***
Nigel	***Goat shouldn't eat lid ... [shaking head] good for it.***

Mother	***The goat shouldn't eat the lid; it's not good for it.***
Nigel	***Goat try eat lid ... man said no ... goat shouldn't eat lid ... [shaking head] good for it.***

Source: Halliday, M A K (1975) *Learning How to Mean: Explorations in the Development of Language.* Edward Arnold, London.

Notice the kind of scaffolding that the parents provide. Nigel's initial utterance is far from explicit – no one who had not shared the experience with him would be able to understand the significance of what he is saying. First, it is not clear what or who Nigel is referring to, and the father's question *what* shows Nigel what information he needs to provide. Having extended the initial three-word utterance to something significantly more complete, Nigel relates this more extended version to his mother, who pushes the dialogue forward with the question *why*. While Nigel does not take up his mother's use of *shouldn't* (using, instead, the strategy of indicating a negative by shaking his head), he does provide the reason his mother is seeking (it's not good for it). By the end of these two small conversations, he has elaborated on and made more explicit his original short utterance. Most important, it is clear that what Nigel achieves – the final story he tells – has not simply come from him and his own linguistic resources; this story is a collaborative endeavour and has been jointly constructed.

This co-construction is important in that, by assisting Nigel to recount his experience at the zoo, his parents are at the same time extending his understanding of the *significance* of these events. Through countless such interactions, Nigel is enculturated into ways of representing and valuing his world.

Educational implications of a social view of learning

An implication of the view of learning that we have been outlining here, and of the place of scaffolding within it, is that knowledge is collaboratively constructed rather than simply passed on, or handed from teacher to learner. That is, knowledge is constructed in and through joint participation in activities where all participants are actively involved in negotiating meaning. Clearly, learners construct new and

extended understandings through their collaborative participation in scaffolded activities. But in doing so, they are doing more than simply absorbing information or digesting chunks of knowledge. Their active participation, with support from the teacher, enables them to construct and, potentially, transform understandings.

Through talk, in particular, information and ideas can be shared, points of view explored, and explanations presented. In the process, new ways of thinking and understanding may be constructed. These new ways of thinking and understanding may represent only minor shifts, but they are significant in the ongoing construction of knowledge and the development of alternative perspectives. Not only do teachers impact on students' learning; students in turn impact on teachers' understandings. More broadly, this process of negotiating understandings contributes to ongoing development of social and cultural understandings and ways of thinking about the world. In this sense, we can argue that teaching and learning are reciprocal processes (Mercer, 1994).

Such a view of learning also recognises that both teacher and students are active participants in a collaborative learning process, and thus moves away for the well-worn debate around teacher-directed versus student-centred learning. As Webster, Beveridge and Reed suggest (1996:42), teaching and learning are constructed "as a social enterprise which draws on the immediate resources of the participants" – that is, both teacher and students.

A further implication for this view of learning is that, as we saw in the example above, language is integral to the learning process. Vygotsky has argued that the external dialogues in which learners take part are gradually internalised to construct the resources for thinking: outer speech eventually becomes inner thinking. As learners talk through a problem, or as they 'talk their way to understanding', they are developing the 'thinking' tools for later problem-solving – tools which will eventually become internalised and construct the resources for independent thinking.

It follows, then, that the kinds of talk that occur in the classroom are critical in the development of how students 'learn to learn' through language, and ultimately how

they learn to think. Clearly, any discussion of the nature of scaffolding must consider the role of language in teaching and learning. The following chapter discusses this role – in particular, the relationship of language to effective scaffolding.

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Chapter 2
Scaffolding and language

Jennifer Hammond

In the previous chapter, Pauline Gibbons and I argued that teaching and learning are essentially social and interactive processes. That being the case, we argued that the contingent intervention of teachers is crucial in effective teaching and learning, and that the metaphor of scaffolding enables us to focus on the nature of the interaction that occurs between learners and more knowledgable others. We went on to argue that, since this interaction predominantly occurs in face-to-face mode and is mediated by talk, it follows that the language between teacher and students (and between students) is crucial in teaching and learning.

In this chapter, I tease out these arguments. I begin by focusing on language: to outline a theory of language as a social semiotic; to look at the relationship between language and knowledge; and to focus on the role of language (particularly talk) in mediating the development of knowledge. I then explore the implications of all of this for further understanding teaching and learning processes, and the place of scaffolding within them. The emphasis of the chapter

is on the socially constructed nature of language and learning, and on the active roles of all participants in the teaching–learning process.

In order to address the socially constructed nature of language, I first need to say something about the nature of language. To begin this discussion, then, I will outline two very different ways of thinking about language.

Views of language

Broadly speaking, two major ways of thinking about language prevail in education:

- Language is a 'conduit' that transfers thoughts, feelings or information from the speaker/writer to the listener/reader.
- Language is a semiotic system that constructs, rather than just transmits, meanings.

Language as a 'conduit'

It is a commonsense and widely held view that language provides a means of transmitting thoughts, feelings or information from one individual to another. Reddy (1979) introduced the term 'conduit' to characterise this view. The 'conduit metaphor', as it is now commonly called, refers to the assumption that human language functions like a conduit, enabling the transfer of information, ideas and feelings from one individual to another. It implies that a speaker or writer packages a message in words and sentences, and that these words and sentences simply transmit the message to listeners and readers.

Reddy points out that the 'conduit metaphor' is extremely pervasive, and is reflected in common ways of talking about language. In fact, he argues that the pervasiveness of this metaphor constructs a framework for thinking about language that dominates English speakers' ways of perceiving and talking about language and communication. Among numerous examples, he cites the following:

'Try to get your thoughts across better.'

'You still haven't given me any idea of what you mean.'

'Insert those ideas elsewhere in the paragraph.'

'The sentence was filled with emotion.'

'That remark is completely impenetrable.'

The conduit metaphor is reflected in many educational programs. It permeates teaching across the curriculum, where the domain of teaching is seen as 'content', and where language receives scant, if any, attention. (Take, for example, the subject teacher who says to the ESL teacher: "You teach them the language and I'll teach the science".)

The often uninvestigated assumption that language simply functions as a conduit to transmit information from one person to another has a number of related assumptions. One is that language itself is a 'neutral' technology, in that it simply provides the means to convey messages from one person to another. Another is that language learning can be regarded as atheoretical and non-problematic, since it consists simply of mastering the 'technology' of language, prior to a focus on the content of various subjects. From this perspective, the technology of language in any spoken or written text (its forms, structures, systems and components) can be separated from the content of that text.

Language as a social semiotic system

A very different view of language is represented in the notion of language as a social semiotic. Unlike the often vague and implicit notion of language as a conduit of information, the view of language as a social semiotic is carefully theorised, with a substantial history in linguistics from Saussure (1960) to Helmslev (1961), and from Malinowski (1923) to Firth (1957) and Halliday (e.g. 1978), amongst others.

In this tradition, language is seen as one of a number of semiotic or meaning-making systems that characterise life in any society. Other semiotic systems

include art, dance, modes of dress, architecture, and so on. Semiotic systems are constructed and used by social beings in social contexts to achieve social ends. More broadly, social semiotic systems work together to construct the cultural and social realities in which we live.

Put simply, the essence of a semiotic system lies in the notion of the sign, which consists of a level of content (meaning) and a level of expression. These levels are arbitrarily related in the sense that there is no 'natural' reason for a particular meaning to be realised by that expression. Rather, the relationship is based on socially agreed convention. An important feature of semiotic systems is that meaning is interpreted and assigned on the basis of *relationships* between signs – their distinctions and oppositions – rather than on the precise nature of the signs themselves. Thus, it is the system itself, and the choices that exist within the system, that are meaningful.

The operation of a semiotic system can be simply illustrated in the way clothing serves to signify meaning within particular cultures. A specific choice of clothing might signify that the wearer is, for example, male or female; another choice might signify that the wearer belongs to a certain group (school students) or profession (police), or that the wearer is attending an important formal occasion (wedding). In this system, there is a level of *expression* (choice of specific clothing) and a level of *meaning* (e.g. gender; group membership; bride/groom). The arbitrary nature of such meaning systems can be seen in the fact that similar choices of clothing can signify different meanings in different cultures. In order to move effectively between cultures, we must learn to understand how semiotic systems function in those cultures.

Language, too, is a semiotic system, with a level of expression (sound system or system of writing) and a level of content. Language, however, differs from other semiotic systems in that it has an additional level of grammar – that is, of words and structure. It is this additional level of coding between 'content' and 'expression' that makes language such a powerful and flexible semiotic system.

Language, knowledge and theories of teaching and learning

The two views of language outlined above lead to very different understandings of the relationship between language and knowledge. In turn, they lead to very different theories of teaching and learning.

As I have indicated above, a 'conduit' view of language implies that language merely *transmits* meaning (and knowledge) between people. It also implies that language can be separated from meaning (and knowledge) – that educational knowledge has an existence that is independent from language. Such a view has implications for the way in which the teaching–learning relationship is understood.

If language merely transmits information, then the role of the teacher can be seen essentially as facilitating this transmission of information. The role of the student is to receive that information and 'unpack' it. From this perspective, a good teacher transmits information and a good student receives and remembers that information (thereby developing educational knowledge). A transmission view of language ultimately implies a transmission model of teaching and learning.

On the other hand, a view of language as a social semiotic positions language as a highly sophisticated system for constructing and sharing meanings. Rather than being a neutral means of transmitting messages, language can be seen as a resource for *making* meaning. As Halliday and Matthiessen argue (1997:3):

> ***'We contend that the conception of knowledge as something that exists independently of language, and may then be coded or made manifest in language, is illusory. All knowledge is constituted in semiotic systems, with language as the most central; and all such representations of knowledge are constructed from language in the first place.'***

They go on to argue (*Ibid.*):

> ***'Knowledge and meaning are not two distinct phenomena; they are different metaphors for the same phenomenon, approaching it with a different orientation and different assumptions.'***

If we accept this view, then the role of language in constructing educational knowledge becomes crucial.

Language cannot be conceived independently of the content about which students talk, read and write. That is, the form of spoken and written texts becomes inseparable from the content of those texts. Thus, the actual language choices that we make when we say or write one thing, rather than another, are significant in constructing meanings. The choices that any teacher makes in developing curricula are also significant, in that they construct the educational knowledge to which students have access. A semiotic view of language implies that educational knowledge is a *social* construct – built in and through the patterns of language interaction that take place in classrooms, and through the reading and writing with which students engage. Lemke (1990) makes this point strongly in his book *Talking Science*. Here, he argues that learning science is in fact learning the *language* of science. He writes (p xi):

> ***'Whenever we do science, we take ways of talking, reasoning, observing, analyzing, and writing that we have learned from our community and use them to construct findings and arguments that become part of science only when they become shared in that community. Teaching science is teaching students how to do science. Teaching, learning and doing science are all social processes: taught, learned and done as members of social communities, small (like classrooms) and large. We make those communities by communication and we communicate complex meanings primarily through language. Ultimately, doing science is always guided and informed by talking science, to ourselves and with others.'***

These arguments, of course, are not new to many teachers. Arguments about the interrelationship between language and content knowledge have long been central to work on language across the curriculum. This work has highlighted the importance of recognising the nature and extent of language and literacy demands placed on students as they attempt to engage with their various curriculum subjects. In particular, it has highlighted the demands placed on students whose first language is a language other than English, and who are simultaneously learning the language while learning through the language.

A social semiotic view of language also has broad implications for how we conceive the teaching and learning relationship. If language constructs rather than transmits meaning, then teaching and learning must be understood as being centrally concerned with constructing shared understandings and shared knowledge. Such understandings and knowledge are constructed, in the first instance, in and through the spoken-language interactions that occur in the classroom between teacher and students (and between students). And this brings us back to the starting point of this chapter – that is to say, the argument that the language interactions between teacher and students in a classroom context are crucial in teaching and learning.

By drawing on a view of language as social semiotic, however, we are now able to say more about the role of language in teaching and learning. From such a perspective, the development of educational knowledge must be seen as a social rather than an individual process. Thus, instead of seeing learning as the transmission of knowledge, learning can be seen as the expansion of students' potential to construct meanings. It follows that learning involves an active process of *coming to know* (expanding one's meaning potential) rather than a passive process of receiving transmitted knowledge.

A social semiotic view of language ultimately implies a social constructivist model of teaching and learning, where teacher and students are seen as actively engaged in the process of negotiating understandings. It also has far-reaching implications for our understanding of the nature of society and culture, and the interrelationship between individuals and society. If one accepts such a view of language, then language can no longer be seen as a neutral set of skills to be acquired by individuals. Instead, it becomes a powerful resource whereby social and cultural values and attitudes are constructed, preserved and contested. That is, language itself is ideologically loaded. Such arguments have been at the heart of work on genre in Australia (e.g. Martin, 1993), and more recently of work on critical literacy (e.g. Luke, 1996). They also reconnect us directly with issues of scaffolding, and with Vygotsky's theories of learning.

Knowledge about language and scaffolding: Halliday and Vygotsky

In the previous chapter, we argued that scaffolding refers to support that is designed to assist students to undertake tasks or form new understandings that they would not be able to do on their own. This support is temporary, in that it is designed to assist students to work with increasing independence. In order to provide such assistance, we argued, teachers need to work contingently, with a clear focus on the nature of the task at hand, and to locate that task within the broader goals and framework of a well-planned program. Scaffolding is both challenging and supportive, thereby enabling students to work within their zone of proximal development.

In my view, the functional model of language developed by Halliday and his colleagues, which draws on the notion of language as a semiotic system, complements the notion of scaffolding. This model has a number of distinctive features that will be familiar to many readers. It:

- emphasises the relationship between language and the particular context in which it is used
- recognises that language use varies according to context
- recognises that this variation occurs in systematic and broadly predictable ways, especially in response to: the area of inquiry or topic (field); the roles and relationships between participants (tenor); and the channel of communication (mode).

This systematic and predictable nature of language variation enables members of a society or community to recognise the common and recurring patterns of language use – that is, to recognise the genres (or text types) that have evolved in order to fulfil different social functions within that community. The work of Martin (1986) and others on genre has identified distinctive patterns of text organisation and of language features within different genres. They argue that genres are organised differently because they have evolved within cultures for different social purposes.

Derewianka (1990), Ewing (1995/2001) and Collerson (1994) present accessible overviews of the functional model that some readers may find a useful orientation to the discussion that follows (see the chapter references).

Halliday's perspective differs in a number of respects from that of Vygotsky. As a linguist, Halliday's major focus has been language – its relationship with social context and with culture. As a psychologist, Vygotsky was primarily concerned with learning, and in particular with understanding mental development. But, despite their different orientations, both regard language as a semiotic tool, and they are united in their interest in the part that language plays in the development of the individual as a member of a particular culture. As Wells (1999:xii) argues, by drawing both on the work of Halliday and Vygotsky, we are better able to "investigate the discourse of learning and teaching at school".

These theoretical perspectives intersect in compatible and mutually supportive ways. The insights into the nature of language that are available from the work of Halliday and his colleagues contribute significantly to the notion of scaffolding and complement Vygotsky's theories of learning. Together, these theoretical perspectives provide a powerful explanatory framework from which teachers are able to make decisions about program planning at a macro level, and selection and sequencing of tasks or activities at a more micro level.

It is generally accepted that program planning involves the identification of educational goals in relevant curriculum areas (such as science, maths, social sciences) as the focus of study. But it is not always recognised that educational goals also need to identify the language and literacy demands of these curricula. If we take seriously the arguments made by Lemke and others (who also draw on Halliday's theories) regarding the interrelationship between content knowledge and language, then educational programs need to focus equally on assisting students to develop control both of relevant curriculum knowledge and of the language that enables them to construct that curriculum knowledge. It is important for teachers to focus both on curriculum knowledge and on language, because in doing so, they address two sides of the one phenomenon – that of educational knowledge.

Identifying what and how to scaffold

By focusing both on language and on relevant aspects of curriculum knowledge (aspects of science, history etc.), teachers are able to make decisions at a macro level about appropriate educational goals, and to articulate these goals both in terms of language goals and of specific curriculum goals. That is, they are able to make decisions about 'scaffolding what'.

In addition, a dual focus on curriculum knowledge and language better enables teachers to select and sequence specific tasks as they aim to work with students within the zone of proximal development. That is, it enables teachers to start from where students are at, then push them to achieve at levels that would be beyond them without support. In other words, it assists teachers to focus on 'scaffolding how'.

These kinds of arguments have been reflected in recent primary curriculum initiatives in Australia. Teachers are provided with guidelines that address specified outcomes both of curriculum knowledge and of language and literacy demands. Teachers are encouraged to direct students' attention, at some points, to curriculum knowledge (content) and, at other points, to the kind of language (spoken or written) that they need control of in order to talk, read or write about that content.

Such guidelines recognise that language and literacy need to be taught, that such knowledge is not somehow innate, and that it will not necessarily be 'picked up' – especially if students are from non-English-speaking backgrounds or from other minority groups. It also recognises that knowledge *about* language, including the ability to discuss and reflect on language use, provides students with powerful insights into the ways in which curriculum knowledge is constructed.

An emphasis on 'scaffolding what' and 'scaffolding how' also highlights the kinds of decisions that are involved in planning for 'systematic and explicit teaching' – a phrase that has been widely used in recent years. A recent study of NSW primary-school teachers' views and practices in the teaching and learning of literacy showed that many teachers have responded positively to this phrase, although

there is considerable confusion about what, precisely, it means (Hammond & Macken-Horarik, 2001). In many respects, the phase has become somewhat of a cliché; it tends to be used loosely, often with the assumption that it is always a 'good thing'. However, by drawing on the dual theoretical perspectives of Halliday and Vygotsky, we have available a powerful frame within which to interpret such a term.

Drawing on these theories, systematic and explicit teaching must at least include:

- how the program will be sequenced
- which activities will be included, and why
- the points at which the students' attention will be directed to specific aspects of educational knowledge
- the points at which the students' attention will be directed to the patterns and choices of language that are central to the ways in which that educational knowledge is constructed.

It will also reflect *contingent pacing*, which includes the points at which the teacher will:

- challenge particular students
- support particular students
- withdraw support to enable students to work independently.

In Australia, a number of educational initiatives have drawn on the theoretical perspectives of Halliday, and of Vygotsky. Perhaps the best known of these is the so-called genre-based approach. While the educational practices commonly associated with the genre-based approach have generated considerable controversy over the years, they serve to illustrate the ways in which Halliday's functional model can complement the notion of scaffolding. We turn now to a description of work on genre in Australia.

Genre and scaffolding

In Australia, the impetus for early work on genre theory arose from a concern that prevailing educational practices did not adequately assist young students to develop control over the various literary and factual written genres that they engaged with at school. The argument, developed initially by Martin and Rothery (e.g. 1980, 1981), was that in teaching literacy, attention needs to be paid not only to the processes of composing texts but to the *nature* of texts that students write. In addition, they argued, literacy programs should include some active teaching about genres. Since then, emphases on identifying and describing text types – and then on incorporating deliberate teaching about those text types – have remained central to the so-called genre-based approach in language education.

The curriculum cycle

It is particularly in the development of the teaching–learning or curriculum cycle that the genre-based approach connects with work on scaffolding. Its connections with principles of Vygotskian theory and with the notion of scaffolding are strong. Indeed in Australia, the impact of the genre-based approach and its associated teaching practices, articulated through the curriculum cycle, has been one of the major ways in which interest in the notion of scaffolding has been generated.

The curriculum cycle draws on two major and related areas of research:

- studies of young children's language development
- studies of negotiated learning and notions of 'scaffolding'.

Studies of child language development, particularly those undertaken by systemic linguists (e.g. Halliday, 1975; Painter, 1985), present a number of significant findings that relate to the curriculum cycle. These studies show that:

- language is learned through ongoing and repeated social interactions

- through these interactions, the adult caregiver provides guidance in 'teaching' appropriate genres (e.g. how to recount recent incidents, how to ask for goods in a shop etc.)
- the caregiver also provides guidance on appropriate sentence structure, vocabulary and even pronunciation.

Such studies emphasise the very active role of both adult caregiver and child in the shared construction and negotiation of meaning that occurs in language development.

Research into negotiated learning (e.g. Gray & Cazden, 1992) suggests that effective language and literacy development begins with a shared basis of experience that can be drawn upon in classroom talk and then extended through reading and writing. Such research also draws on the notion of scaffolding to emphasise the guiding role of the teacher in the early stages of students' language and literacy development – guidance which can be progressively withdrawn as students develop greater control of spoken and written modes of English. What this research shares with studies of child language development, and with work on scaffolding more generally, is an emphasis on the socially constructed nature of language and learning, and an emphasis on the active role of all participants (students, caregivers and teachers) in the negotiation and construction of language texts.

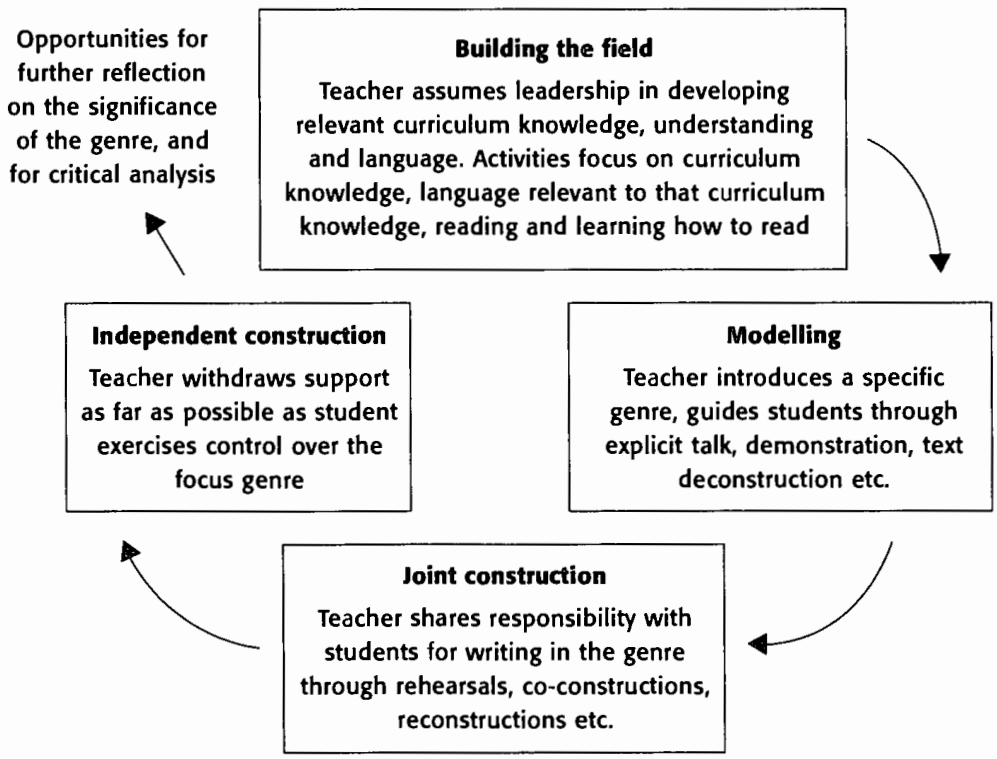
This emphasis is incorporated into the curriculum cycle. First published by Callaghan and Rothery (1988), the original version of this framework proposed a three-stage cyclical approach to the teaching of literacy. It emphasised the importance of providing models of the genre that students were preparing to write, and of directing students' attention to patterns of text organisation and major language features. Secondly, it emphasised the need to provide students with opportunities for shared writing of the genre, where students and teacher together negotiate the specific choices that are made in the construction of a text; and thirdly, it proposed that students be provided with opportunities for both independent writing of the genre and for individual consultations with the teacher as required.

While analyses of models, shared negotiation and independent writing have remained typical features of genre-based programs in Australia, there have been a

number of modifications to this original work (e.g. Derewianka, 1990; Hammond, Burns, Joyce, Brosnan & Gerot, 1992). These modifications have placed more emphasis on the balance between spoken and written language, and on the role of language in learning. Specifically, they emphasise the importance of building up background knowledge and – particularly in the case of ESL students – of developing control of spoken language in order to be able to discuss that knowledge prior to any systematic focus on written genres. They have also included more systematic focus on reading and on critical analysis of texts.

The emphasis on 'scaffolding', however, remains a feature of the curriculum cycle. Thus, the cycle proposes that in early phases, the teacher takes a more direct role in assisting students to develop the necessary knowledge, understandings and skills, while the students take an 'apprentice' role. As the students develop greater control over the spoken or written genre under focus, the teacher gradually withdraws support and encourages learner independence (see Fig. 2.1).

Figure 2.1: A simple version of the genre-based curriculum cycle



In its movement from strong support to learner independence, the cycle enables teachers to meet the criteria for 'what is scaffolding?' outlined by Mercer and his colleagues (page 7).

The guidelines provided by recent versions of the curriculum cycle have been criticised by some proponents of critical literacy as being too much concerned with teaching the 'powerful' genres and dominant discourses, and as uncritically reproducing the status quo. I am in broad sympathy with the goals of critical literacy. However, my view is that without the kind of careful selection and sequencing of activities proposed in these guidelines, which explicitly focus attention on both content and language, many students do not receive the strong support that they need in order to engage successfully with educational knowledge. Students will only be able to undertake effective analysis and critique of educational knowledge where they are first able to engage with that knowledge. It is the already 'disadvantaged' students from non-English-speaking backgrounds and other minority groups who are further disadvantaged by programs that do not address such issues. (See Hammond & Macken-Horarik, 1999, for a more detailed discussion of these arguments.)

The description of the genre-based approach above exemplifies the ways in which the theoretical perspectives of Halliday and Vygotsky have informed educational practices. In the chapters that follow, the authors provide further examples of programs that have drawn both on the notion of scaffolding and on the perspective provided by the work of Halliday and his colleagues.

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Chapter 3
Scaffolding in action
Snapshots from the classroom

Tina Sharpe

Introduction

Scaffolding is a term that has great appeal for teachers. Many feel that it captures the essence of what they attempt to do when, for example, they discuss different observations during a concrete activity or challenge students to discuss various aspects of a topic. Through such activities, teachers believe they help their students to make sense of the concepts being taught. However, we know through experience that sometimes students have not really understood what we have so painstakingly taught. Perhaps there is more to scaffolding than we first realise?

Chapter 1 outlines the nature and features of scaffolding. Here I want to build on that description by emphasising that scaffolding is not at work in *any* form of teacher support. Rather, it is specific help that enables the learner to achieve a task which would not be possible without support. There is a finite goal, and scaffolding is a way of supporting a learner to achieve that goal. In this chapter, I

aim to tease out what scaffolding looks like in a typical classroom situation. In doing so, I am seeking to clarify in teachers' minds some of the differences between being 'helpful' in getting students to memorise a number of facts – a kind of surface knowledge – and being genuinely supportive in constructing knowledge with students.

Surface knowledge is the kind of knowledge that relies on immediate application. It is quickly forgotten. For example, cramming before an exam tends to produce surface knowledge. Deep knowledge, on the other hand, is knowledge that is internalised and connected to other knowledge to build understanding of new concepts or ideas. Douglas Barnes (1992:124) explains that some students seem unable to learn because the information they engage with is not internalised, and is therefore inaccessible when it must be applied in new contexts:

> ***'... learning is seldom a simple matter of adding bits of information to an existing store of knowledge ... Most of our important learning, in school or out, is a matter of constructing models of the world, finding how far they work by using them, and then reshaping them in the light of what happens. Each new model or scheme potentially changes how we experience some aspect of the world, and therefore how we act on it. Information that finds no place in our existing scheme is quickly forgotten. That is why some pupils seem to forget so easily from one lesson to the next: the material that was presented to them has made no connection with their pictures of the world.'***

Opportunities for scaffolding

This chapter focuses on two distinct opportunities for scaffolding that help students to develop deep knowledge:

- 'designed-in' scaffolding
- 'point-of-need' scaffolding.

These opportunities reflect the complementary macro and micro focuses of scaffolding that are discussed in chapter 1.

The first kind of scaffolding is designed into a unit of work. In this kind of scaffolding, the teacher uses the unit-planning stage to consider both the outcomes to be assessed (knowledge, skills and understandings) and the students' previous experiences. This consideration occurs in the light of the cognitive and language demands of specific educational goals. The teacher then sets out a sequence of learning experiences – a macro scaffold – designed to support the students as they develop new understandings and skills.

Experiences that support students to develop new understandings can be located at any point in a teaching–learning sequence. At the beginning of a unit, for example, specific scaffolding strategies can be 'designed in' when the teacher is building field knowledge. For example, the teacher might make connections to existing knowledge by reminding students of a shared experience – "Remember when we went to the zoo ..." – or provide students with relevant experiences, for instance simulating a seaside environment by creating a sandy beach in a corner of the classroom with shells, starfish and other marine artefacts to introduce a unit on 'The Sea'. This particular simulation would not only provide a context for the study of the sea, it would support students who had no previous experience of the marine environment. Later, in the modelling and joint-construction phases of a unit, activities such as communicative games and text-type templates (commonly and inaccurately known as 'scaffolds') can be used to support students' understanding.

The other opportunity for scaffolding arises in the immediate context. Here, the scaffolding takes place 'at the point of need'. This *contingent* scaffolding (see page 5) relies on the teacher being able to identify a 'teachable moment' and maximise the learning potential of that moment. It involves talk, mostly in the form of questions and answers. The talk strategies that may be employed are elaborated, with examples, later in this chapter.

'Designed-in' scaffolding

In planning any unit of work, teachers need to consider explicit scaffolding strategies that can be used in the classroom. As the teacher begins a new unit of work, s/he needs to consider the key concepts that underpin the content of the unit, as well as the previous learning experiences of the students in the class. In many mainstream classes, the students' learning experiences will be influenced by factors such as exposure to English, socio-economic status and special needs. Questioning students to find out about their background knowledge and previous experiences will help the teacher to determine the students' current understanding. Once the starting point is set, other preparatory activities can be used to provide an initial framework for the new learning that is to occur. These activities might include:

- building word banks (critical for ESL learners)
- sharing stimulus experiences, for example photos or excursions
- completing written worksheets on 'What I Know' and 'What I'd Like to Find Out'.

As they design the different activities that will build field knowledge, teachers also need to consider areas of potential confusion or difficulty for the students. In anticipation of this difficulty, teachers can develop activities that will support new understanding. An adage to apply at this stage is 'Teach new content with familiar concepts and new concepts with familiar content'. For example, the familiar skill of classifying could be used to introduce new content in the area of transport. In this case, students might classify forms of transport into the categories of land, air and sea, then classify sea transport into subcategories such as wind-powered, fuel-powered, human-powered etc.

Planning and design of activities are a critical part of scaffolding. Mercer (1994) recommends that teachers consider the following questions in their planning:

- How practical is the task? (This relates to time, resources and age/ability-appropriateness.)

- How is the task organised, e.g. group work, pairs, teacher direction? (This provides different opportunities for students to engage with new ideas.)
- Is the task related to other work? (This draws on students' previous experiences to provide links to new learning.)
- How is the task introduced and explained? (This requires careful staging of the lesson/s and a variety of oral strategies to ensure students are following the development of new ideas.)

In teaching programs, factors such as practicality are based on the teacher's knowledge of the students and on available resources. While task organisation is part and parcel of planning, teachers should be aware of how student groupings and teaching style can create a 'classroom culture' that may help or hinder the efficacy of intended learning strategies. Pauline Jones' contribution (chapter 5 of this book) is recommended to teachers who are seeking to build critical self-awareness of how their class operates as a distinctive community or social group, even when students are engaged in activities that are commonplace in many schools.

Mercer's final two points are related. Relying on previous experience to explain the purpose of a task and how it is staged may be sufficient to provide all the support the students need. But it may also be 'hit and miss', with some students making the connections and others completing the tasks but remaining bewildered as to the connection between the task and the overall goals of the unit. Consider the following example.

> A class is studying a unit on endangered species, and on the role humans play in contributing to the extinction of animals. A lesson focuses on the giant panda. The students have looked at what a panda eats (mostly bamboo). In the next lesson, the teacher provides two, almost identical, pictorial worksheets which look at the various uses of bamboo. The task requires the students to work in pairs to 'spot the difference' between the two worksheets, then fill in a sheet that lists all the ways in which bamboo is being used. The students then move quickly to the next activity – a picture-sequencing activity that relates to what is being done to save

pandas. Even though the students may be able to complete both tasks successfully, there is no explicit relationship between the reduction of bamboo forests (due to human impact) and the subsequent impact on a major food source for pandas.

The example above highlights the importance of sequencing in the design of learning experiences. It also highlights importance of helping students to make explicit the connections, both backwards to previous experiences and forwards to unit goals. These opportunities are cues for contingent, or 'point-of-need', scaffolding.

'Point-of-need' scaffolding

However carefully lessons may be planned and sequenced, it is very likely that, in the course of any particular lesson, the opportunity will arise for the teacher to take the students along a particular path in their thinking which helps them establish key concepts or ideas. This scaffolding is usually achieved by asking certain kinds of questions, listening carefully to students' responses and then using a variety of strategies to clarify and extend their thinking.

Neil Mercer (1994:99) suggests that teachers can provide this kind of classroom scaffolding in the following ways.

- Set particular themes and elicit responses that draw students along a particular line of reasoning.
- Cue responses through the form of the question (e.g. "a term that starts with 'a' ...").
- Elaborate and go on to *redefine* the requirements of an activity.
- Use 'we' to show the learning experience is being shared.

Point-of-need scaffolding is commonly used to support students in developing technical vocabulary. The strategies that build this scaffolding are:

- repetition of student remarks
- recasting – acknowledging the student's remark and then modifying it so that it is more technically appropriate
- appropriation – transforming the information offered by the students. This works at a deeper level than recasting. In this strategy, the teacher takes up the *idea* behind the student's remark, offering it back in a more technically appropriate way (Newman, Griffin & Cole, 1994).

Scaffolding in practice

The following example demonstrates both of the types of scaffolding identified above. It was recorded in a History class comprising Year 7 (12- to 13-year-old) boys during the first week of the school year. In this lesson, the History teacher apprentices his students into the discourse of History, and what it means to be a historian. As part of the process of apprenticing his students into the way historians work (historical methodology), the teacher has decided to relate this new abstract concept to students' own experiences. He does this through use of analogy – likening the role of a historian to that of a detective searching for clues. In establishing this parallel, he establishes the scenario of a detective investigating the death of Lady Diana, Princess of Wales – an event the students are very familiar with, due to its extensive media coverage. In doing so, the teacher creates a framework that enables the students to understand the process of historical inquiry. This is 'designed-in' scaffolding. As the lesson unfolds, the opportunity for 'point-of-need' scaffolding arises.

In the extract below, the teacher's use of 'point-of-need' scaffolding strategies to develop technical vocabulary is evident. The excerpt, shown in table form (Table 3.1), separates the teacher's talk from the students' talk to demonstrate how the teacher guides the students to new understandings. The teacher's paraphrasing and reflection of the students' contributions finally results in a recontextualised version of their own ideas. This type of scaffolding provides strong and timely support for the students as ideas are being developed.

Table 3.1: Building the concept of historical inquiry

Key: repetition – **bold**; recasting – ***bold italics***; appropriation – **bold underline**

(see top of p 37 for descriptions of these terms)

Teacher	Student/s
	Um, they like, try to work it out; they could have, like, educated guesses.
Educated guesses. How do they make **educated guesses**? What sort, other than witnesses? What do they start to do?	
	Start, like, writing down the names and working out things like ...
All right, OK. They, if you like, **double-check on the witnesses and they look for what they call collaborative evidence**. OK. What else do they use other than collaborative evidence? In Diana's death, what did they use? They talked about it ad infinitum on the news ...	
	Look in the car.
They look at ***objects***.	
	They examine.
They **examine**, let's call it, **the scene of the crime**. OK. How do they do that? Ask ... what sort of things do ... they looked at the car. So why are they looking at the car? Who, who was in the car? What do they use?	
	Um, computers.
Yeah, they can ... yeah, in actual fact, they can use witnesses for a ***computer reconstruction*** to explain what happened in the tunnel as they careered through it – a car that explains ...	
	How it happened.
What else? Who does it?	
	Police scientist.
Police scientists, yes. ***Forensic scientist, forensic experts***, etcetera etcetera.	
	They hypothesise.
They **hypothesise**. Yeah, they do that, too. What other references do they use?	

Teacher	Student/s
	Check with the paparazzi.
Yes, they try to ... they **look at photos**. What else ... **scientific evidence** ... what else?	
	Fingerprints.
They took the blood-alcohol level of the driver and all that sort of thing. So all that scientific evidence to try and piece it together. What sort of **sources** would an historian use? Because we're now talking about an event that is something that's taken place. We may have eyewitnesses, we may not. So, other than eyewitnesses, what else does an historian use?	

Look carefully at the highlighted terms and phrases that the teacher has used in this brief episode of interactive talk. He has established that the detective draws upon the following sources of information:

- eyewitnessses (established in the previous sequence)
- educated guesses
- collaborative evidence
- objects
- computer reconstruction
- forensic scientists
- hypothesising

and that all of these sources represent forms of *evidence*.

The extract above provides clear evidence of both 'designed-in' and 'point-of-need' scaffolding:

- In planning the lesson, the teacher has thought through the key concepts that needed to be in place for an understanding of the process of investigation (in this case, it is establishing the concept of evidence).

- With a predetermined objective in mind (i.e. to build the idea that scientific evidence is critical to the solving of a crime), the teacher has carefully supported the development of appropriate technical vocabulary through the kinds of questions asked, and the way the discussion is directed.

The role of teacher questioning in scaffolding

One of the ways that scaffolding at the point of need is achieved is through the kinds of questions the teacher asks.

Research into classroom interactions by Sinclair and Coulthard (1975) identified a pattern known as the IRF pattern, where 'I' stands for Initiation of an exchange, 'R' for response to the exchange and 'F' for feedback on the exchange. IRF represents the typical pattern of interaction between teacher and student. For example:

Teacher	***What is a cat?***	***(I)***
Student	***A mammal.***	***(R)***
Teacher	***Right.***	***(F).***

In most instances, the feedback response '*Right*' closes the door to further discussion. One way to scaffold students to deepen or enhance their understanding is to reformulate or extend the feedback interaction. This typically occurs through asking a follow-up question which requires the student to engage in further talk. This extension of dialogue between teacher and students provides a 'push' for students as they work within the zone of proximal development (see chapter 1). At the same time, it provides the opportunity for the teacher to support students in absorbing new information into their existing understanding. For example, an extension to the feedback response in the example above could be:

Teacher	***Right. What else do you know about cats?***

By asking this question, the teacher opens the door to elaboration – a kind of 'upping the ante' which demands the students extend their thinking in order to make a response. Gordon Wells (1999) refers to this concept as increasing the

prospectiveness of an exchange. With a dialogue in progress, the teacher now has the opportunity to guide the students in the co-construction of knowledge. In the case of the History lesson discussed above, the teacher has joined with the students as a more knowledgeable participant in constructing critical understandings about historical methodology by asking for further elaboration or reformulation of ideas.

Drawing students along a line of reasoning

As well as pushing the students to provide extended or reformulated responses, the teacher can also extend or reformulate responses from students (even single-word responses) and develop a line of reasoning which leads to a 'section summary' or 'metastatement'. This metastatement creates a kind of conceptual hook for the students, which may then be used to build new understanding. Thus the teacher supports students in extending their understanding.

In the extract below, we can see how the History teacher accepts the student responses in exchanges 3, 5 and 7, extends or reformulates them, then adds a summary statement or metastatement in exchange 9. In this way, the teacher creates a conceptual hook on which students can 'hang' their understanding of the study of history. Here, T = teacher, S = student/s.

1. T	***If we study change, we automatically have to do what?***
2. S	***Record.***
3. T	***Yeah, we've got to start looking at record books of the past. We've got to start looking at what else? If we study change, you've got to look at the past to be able to describe what changes have occurred. What else have we got to do?***
4. S	***Look at people, how people have changed.***
5. T	***Yeah, so in describing change we are in actual fact describing people. What do we do when we look at change?***

[Teacher accepts and reformulates student response, then asks a new question.]

6. S *In what way it's affected us.*

7. T *Yeah, right. In actual fact, how that change has affected us.*

[Teacher accepts and reformulates student response.]

8. S *The causes.*

9. T *Yeah, what causes the change. That's why I like that word as the strongest word to describe it. History is about the study of change and what causes it – how it has affected people's lives etcetera etcetera. Something like that – cause – that's what historians are looking at. Changes, what caused it.*

[Teacher makes a summary comment to create a conceptual hook about what the study of history is.]

This interactive talk, driven and extended by careful teacher questioning, has involved the allocation of valuable classroom time. But it is time that has been spent in establishing a fundamental understanding of what the study of history is about. It has provided a shared context on which the teacher can draw in further units of work.

This challenging but supportive dialogic approach is not confined to middle- or senior-years classrooms. It can be employed with students of any age, as is evident in the following example, taken from a Year 4 class. Here, the teacher is working through a Human Society and Its Environment unit called 'What Is the Australian Culture Like Today?'. This topic relates to the strand of 'Cultures' in the relevant syllabus. The lesson takes place in the second week of the school year. The students are reading Dorothea Mackellar's poem *I Love a Sunburnt Country*, which appears in a colourful picture book, as a stimulus to the activities that are to follow. The teacher is questioning the students about the different images of the Australian landscape that appear in the book.

1. T *What else can we remember from the poem?*

2. S *Rainforest.*

3. T *What? Rainforest – yes; deep, dark rainforest, right down the bottom. Why are rainforests so dark and gloomy right down the bottom? What's happening above?*

4. S *It's all getting dried out.*

5. T	***I don't know about that; it's quite moist inside a rainforest. If you were walking in a rainforest, you'd probably see little droplets of water down on the bottom of the rainforest floor. But there's something causing it to be very dark down there.***
6. S	***The trees.***
7. T	***What effect would the trees be having on the rainforests?***
8. S	***Shadows.***
9. T	***Could there be another reason about the trees and rainforests?***
10. S	***The soil.***
11. T	***The soil. Tell me about that.***
12. S	***Makes the tree grow.***
13. T	***The soil makes the tree grow. You're on the right track about the trees growing.***
14. S	***Because the trees are so close together, the sun can't get in.***
15. T	***Excellent. The trees are growing so close together, the sun can't get really get through. OK. It's very dark down there. It's a bit like those – oh, I can't remember what they're called – when you have all those little plants and they're in their own little jar and it causes like all that condensation as though it's raining inside. The heat and the moisture helps the plants to grow like on the bottom of the rainforest floor.***

In exchange 3, when she asks *'Why are rainforests so dark and gloomy right down the bottom? What's happening above?'*, the teacher has taken the 'teachable moment' to discuss scientific concepts of the water cycle. She challenges one student's response – *'It's all getting dried out'* – by referring to students' real or vicarious previous experience: *'... it's quite moist inside a rainforest. If you were walking in a rainforest, you'd probably see little droplets of water down on the bottom of the rainforest floor'*. She then returns to the original question about the darkness of the rainforest floor (exchange 5). The student responses in exchanges 6, 8 and 10 are each to questions designed by the teacher to push the students in their thinking about why the rainforest is so dark. Her comment *'The soil makes the tree grow. You're on the right track about the trees growing'* provides the link for the students to connect trees growing with the

trees being close together and thereby not allowing the sun to get in, resulting in a dark environment. The teacher recaps the connection to ensure the students have followed the line of reasoning, and finishes with a metastatement that summarises the point of the brief exchange, that is: *'The heat and the moisture helps the plants to grow like on the bottom of the rainforest floor'.*

Through questioning and extending student responses, the teacher has scaffolded the students' understanding about the rainforest environment.

While it is clear from the examples shown above that the language interactions mediate the students' developing understandings, teachers can make use of other modalities – such as writing on the whiteboard, using visual aids, shared experience of work in progress, gesture and voice cues – to further mediate students' learning. These other modalities can all contribute to the construction of educational knowledge.

In our History classroom, the teacher makes use of the whiteboard to write up key words, draws lines and arrows to connect different key words and phrases on the board, places circles around key words for emphasis and uses hand gestures, such as pointing, to fulfil various functions during the lesson. All of these strategies help to 'semiotically connect' the key ideas placed on the whiteboard. That is, they signal relationships between the various elements. The change in intonation which signals to the students that they are to respond (a cued elicitation) is another strategy used by both the History teacher and the Year 4 teacher to check that the students are following the line of reasoning.

Cueing responses, elaborating and redefining, and showing shared experience

The two previous examples in this chapter demonstrate how teachers in two different classrooms support their students along a particular line of reasoning. In doing this, they are employing the first of the strategies identified by Mercer and highlighted on page 36. The other examples Mercer referred to – cueing

responses through questioning, elaborating and redefining the requirements of an activity, and using 'we' to show shared experience – can be seen in the two Year 4 classroom examples that follow.

1. T	***Good boy; very good. The background of Australia. What else?***
2. S	***Culture.***
3. T	***Very good. I used that word this morning.***
4. S	***Different places.***
5. T	***Um.***
6. S	***Features.***
7. T	***That's a good word. Different features of Australia.***
8. S	***The climate.***
9. T	***Yes, that's a feature of Australia, the climate. The landforms, the mountains, the rivers.***
10. S	***The beaches.***
11. T	***Yes, that would be part of the landform. Apart from the natural features, we used another word this morning that begins with 'L': the Australian – a compound word –***
12. S	***Lifestyle.***

The extract above represents a continuation of the lesson based on the poem *I Love a Sunburnt Country*. There is evidence of the teacher both cueing a response and referring to a shared experience. In exchange 3, the teacher refers to the shared experience of reading the picture book together: *'I used that word this morning'*. She then acknowledges and repeats the next few student responses before she cues a response (turn 11) by again referring to a previous shared experience: *'Apart from the natural features, we used another word this morning that begins with 'L': the Australian – a compound word –'*. These are examples of explicit teacher scaffolding.

In the example below, the teacher can be seen to be redefining and elaborating on an activity in order to support students' understanding. The extract is drawn from a lesson in which the teacher has designed four different group activities. One of these requires the students to write down why they think people might

migrate to Australia. The teacher elaborates on the task to ensure that the students understand what is required.

1. T	*Who could read this question to me, please? Adam.*
2. S	*'Why do you think people might migrate to Australia?'*
3. T	*Right, 'Why do you think people might migrate to Australia?' The word 'migrate': what do we think the word 'migrate' means? Brett, you have a go at that; it's a tough one.*
4. S	*Um, when people come to Australia.*
5. T	*Right, come to Australia. Good boy.*
6. S	*Come and live here in Australia.*
7: T	*Come and live and to stay. Different to people who perhaps just come for a holiday. Would you agree with that?*
8. S	*Yeah.*
9. T	*Because some people come to Australia just for a holiday, whereas other people decide: 'I'm coming to Australia to make it my home and I'm going to stay there and live there'. Who could just quickly put up their hand and tell me one reason why they think people might come here and live in Australia? I can think of lots.*
10. S	*Because of the goldrushes.*

[Discussion for a couple of minutes about how the discovery of gold affected migration. The discussion then moves on to consider convicts. Students are drawing on previous background knowledge in this discussion.]

11. T	*So this question here needs to be answered. There's a lot more answers apart from climate, goldrushes, convicts. So you think of other reasons why people would come and choose to live here in Australia.*

In the final exchange (11), the teacher reconstructively recaps (that is, she makes a summative statement that points out the focus of) the task for the students. This means that scaffolding has operated in two significant ways:

- It has built students' field knowledge by clarifying and elaborating upon the concept of migration.
- It has built a clear focus for successful completion of the activity to follow.

As a result, when they move into their groups to respond to the question 'Why do you think people might migrate to Australia?', the students will share an understanding about the nature of migration: namely, that it is permanent, and is motivated by intentions other than leisure. Equally, they will share an understanding of the sort of response that will satisfy the demands of the task. Because they have discussed climate, convict deportation and the goldrush, they have a frame of reference for the kind of motivating factors that represent valid and plausible responses to the task question. In all, the scaffolding provided by the questioning and discussion in the extract above sets the students up for success in this task.

Conclusion

The various transcripts discussed in this chapter show clear evidence of teachers carefully scaffolding activities so that students can make new connections from previous knowledge or experience. Rather than merely giving students a number of facts to be committed to memory, the two teachers have designed opportunities for their students to assimilate new ideas and transform their learning. Also significant is the way that the teachers use different oral scaffolding strategies at the point of need to assist students as they grapple with new ideas. The combination of the two aspects of scaffolding increases the likelihood that the students will take on the new information and apply it in other contexts. In so doing, it demonstrates a key feature of scaffolding: it increases the likelihood that the students will continue to control and develop their knowledge after support is withdrawn.

Through discussion and various planned tasks, the teachers in the two classrooms create an environment that captures the essential nature of good teaching (Corden, 1992:184):

'Being an expert is about more than possessing and transmitting information. It's about understanding how children learn, encouraging and creating effective learning climates, developing interpersonal relationships and knowing when and how to intervene productively.'

Knowing when and how to intervene is what scaffolding is about. It is about the teacher taking an informed and active role in guiding students' learning as they come to terms with new ideas and concepts. And as seen in the classroom excerpts, scaffolding is far more than simply 'helping out' so that a student can complete a task. It requires the teacher to act contingently, using a variety of strategies, so that students can gain understanding and confidence to work independently in applying new learning in new environments.

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Chapter 4
Scaffolding oral language
'The Hungry Giant' retold

Bronwyn Dansie

Introduction

In this chapter, I will describe and explore the role of the teacher as scaffolder in the development of oral English. To do this, I will draw upon research with a class of junior-primary students for whom English is a second language. The points that emerge about effective scaffolding are relevant to all teaching contexts. In particular, I will highlight:

- the way in which scaffolding can apply at both planned, whole-unit (macro) and immediate, responsive (micro) levels
- a macro scaffolding sequence – a teaching–learning unit – designed around the curriculum cycle discussed in chapter 2
- some examples of micro scaffolding practices employed as part of the teacher–student interactions that occurred during the teaching–learning unit.

Many commentators (e.g. Swain, 1995; Gibbons, 1998) have argued that pressure to produce language is an important ingredient in learning a second language. However, they also argue, as I will argue in this chapter, that the teacher must enable students to be *scaffolded into* these places of pressure by focusing on language and by providing activities which first allow them to practise language, and to practise different aspects of the target task, in less complex, less demanding situations.

In this chapter, I will look at ways in which effective scaffolding operates at the macro and micro levels described in chapter 1.

Macro-level scaffolding

At the macro level, the key elements of scaffolding are:

- the teacher's clear goals
- the teacher's understanding of the linguistic demands of the associated tasks
- knowledge of the students and of their current abilities and understandings
- careful sequencing of tasks designed to develop the practices required to achieve the goal
- a gradual but constant shift of responsibility for task completion from teacher to student.

Micro-level scaffolding

Micro-level scaffolding occurs within the broader macro scaffold. It is evident in the interactive student–teacher dialogue that occurs within individual activities. The key element of micro scaffolding, in my view, is the *contingent* nature of support. The teacher is constantly monitoring students' understanding and ability in order to determine the minimum support required. In response, the teacher is constantly removing or supplying support as needed to complete the task at hand.

While the micro level is a key component of the process of scaffolding, I want to argue that the micro without the macro would at best provide limited learning and growth. At worst, it could be confusing and frustrating for both student and teacher.

It is also my view that a well developed understanding of genre theory and grammar benefits the teacher who is aiming to scaffold appropriately. The teacher who is the focus of discussion in this chapter uses her knowledge of Halliday's (1994) and Martin's (1984) systemic functional linguistics, and of the genre-based curriculum cycle outlined in chapter 2, to build key macro elements into her teaching and to inform the steps she takes moment by moment. I will consider this teacher's practices closely in order to exemplify how a teacher can scaffold students to maximise their learning and enable them to achieve a specific goal independently. In particular, I will follow the teacher's interactions with one student, who we will call My, through a series of lessons. Along the way, My's oral English will be seen to develop through the:

- expansion of her everyday lexis
- extension of the grammatical structures that she employs as she moves from one- or two-word utterances and fragmented phrases to a fuller, more complete and cohesive, text.

The class

The data used in this chapter come from a junior-primary class of around 20 students of Vietnamese background. The class is in a previously designated disadvantaged school. Ninety per cent of students at the school are from non-English-speaking backgrounds. Of those, 90% are speakers of Vietnamese. While most of the students in the focus class were born in Australia, all spoke very little or no English when they commenced school. As a result, the school elected to run the class as an ESL or intensive language class. The class is shared by two teachers. The teacher who has the class for three days a week is an experienced ESL teacher. It is her teaching which is our focus here.

Several lessons were videotaped over a number of weeks. The lessons were part of a series in which the teacher chose to read big books with a narrative structure that fitted into the class's theme of food and procedural texts. They engaged with the same book every day for a week, completing associated activities as they did so.

As an ESL teacher, the teacher of this class is very aware that her students need opportunities to practise new vocabulary in context, supported by an explicit focus on aspects of spoken language. Because she sees oral language as fundamental to all learning, she makes it a major element of her planning and teaching. This is evident in the unit organisation, or macro scaffolding, that is described in what follows.

Macro scaffolding: The curriculum cycle

To support her students' oral language development, the teacher first identified:

- a specific, attainable oral language outcome
- the sequence of learning experiences that would enable students to achieve the outcome.

Outcome

While the *writing* outcomes of the unit focused on developing understandings and abilities in producing procedural texts, the intended *oral language* outcome was for students to be able to:

retell a story using a story map as support.

Sequencing of experiences

To build towards the outcome above, the planned sequence of associated activities followed the curriculum cycle (outlined in chapter 2). Although the curriculum cycle is usually used to teach written genres, in this case the teacher's

focus was on the spoken genre. To flesh out this sequence, the teacher first analysed the language demands of the retelling. This enabled her to plan activities that would develop students' familiarity and control over the language structures and features inherent in that task. Importantly, it would provide students with opportunities to take on and practise these aspects of language without being challenged by the level of complexity that would ultimately be required to complete the retelling.

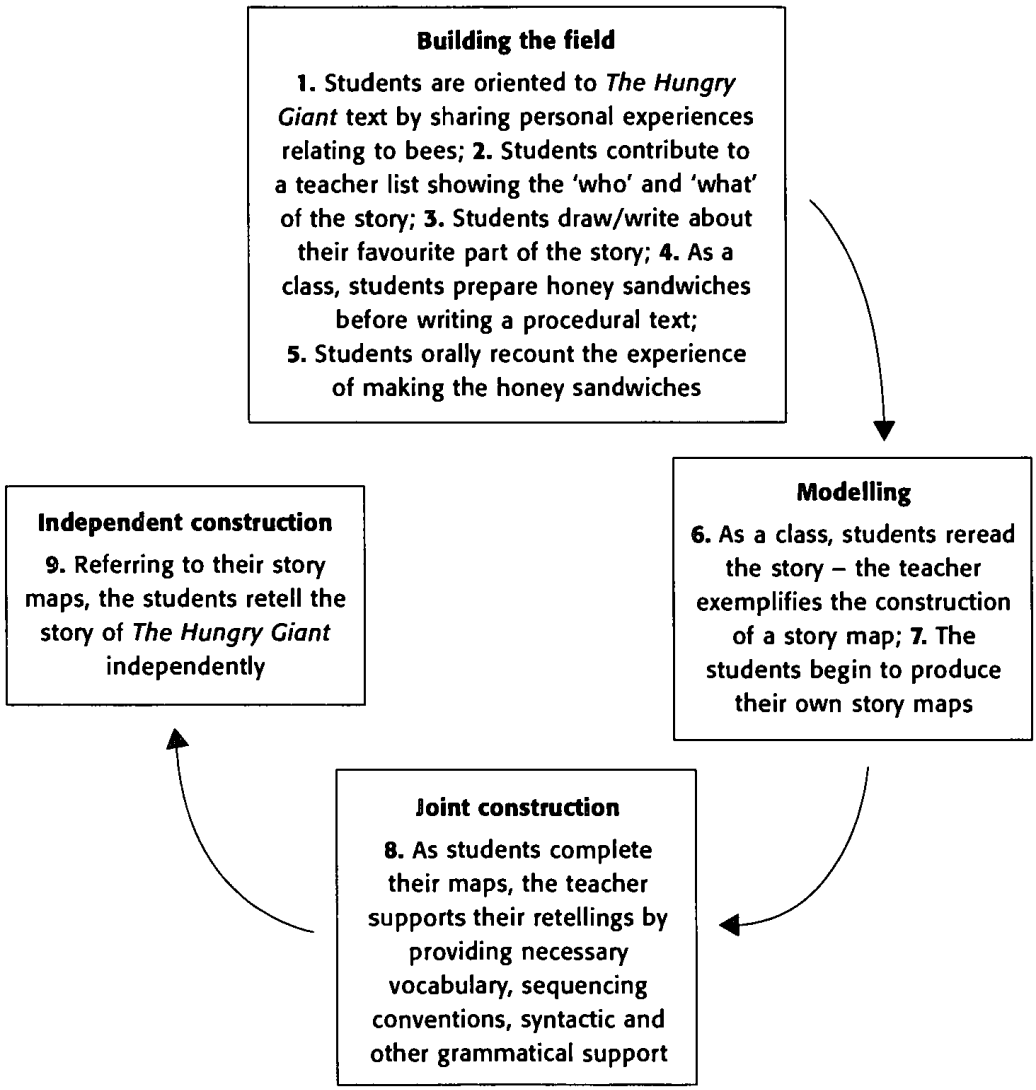
The class teacher recognised that retelling a story requires the teller to:

- name and describe characters, objects and actions, and provide details of when and where
- sequence events and use conjunctions to show relationships between events
- relate events through statement structure, for example: *Character* (participant/noun) *did this* (process/verb) *to object/character* (participant/noun).

These requirements are embedded in the planned activities described below. As the students engaged with the activities, they moved back and forth between spoken, context-embedded activities and written, context-reduced activities. This allowed them to use and re-use much of the language and structures in much smaller segments than they would ultimately need. In this way, the teacher provided scaffolding for the students – that is, she removed some of the complexities required of the eventual retelling, allowing students an opportunity to participate successfully in tasks which built towards that end.

The unit begins with a choral reading of *The Hungry Giant*. The ensuing activities are numbered, described and discussed as they occurred within the four stages of the curriculum cycle: building the field, modelling, joint construction and independent construction (see Fig. 4.1).

Figure 4.1: Curriculum cycle in the unit under focus



Building the field

The construction of shared experiences, understandings and language is a crucial phase for ESL students. This teacher knows the importance of building the field for her students, and so plans numerous related activities. These activities weave experiences with both narrative and procedural text types. This approach appears to work well in building the field, since it provides:

- a focus on accurately sequencing events
- a need to specifically name objects (nouns) and actions (verbs)
- an opportunity to recycle key vocabulary and concepts through meaningful, concrete experiences.

The teacher talks explicitly about text purposes, and how these purposes are reflected in the language. Through her talk, she points out the focus and conventions of the different text types. As a result, the students do not become confused about the distinctive conventions of procedure and narrative.

1. Both before and after the choral reading of the book, the teacher takes up students' comments, inviting them to share their personal experiences and knowledge about a significant participant in *The Hungry Giant* story: bees. This not only encourages and extends their oral language, it relates the story events to personal experiences. While their sharing places less demand on the sequenced memory of events (they are not telling stories with a formal narrative structure), there is a need for the students to provide some form of context, to name objects specifically and to describe actions, as their experiences are not shared ones. Typically, the students' sharings centre around one or two events that have a quite simple relationship. This stands in contrast to the more complex relationships, and much longer sequence of events, that are typical of a complete narrative. Even so, this discussion anticipates and reinforces some of the participants and actions that feature in *The Hungry Giant* narrative.

2. The teacher then provides a deliberate focus on key vocabulary by asking students to help her list the 'who' and 'what' of the story:

   'We've been looking at books and we've been working out who is in the stories that we've been reading ... what I want us to do is to find out who is in this story, and what is in this story. Who, who are the characters, and what are the things that are in the story?'

In this focus on the 'who', or the characters of the story, the teacher points out one of the differences between the narratives they are reading and retelling, and the procedures they will be writing:

- When writing procedures, they will focus on the *action*, not the doer, so their sentences will begin with the action (verb).
- In a narrative, however, the *doer* of the action is very important, so students must be able to name the characters.

3. Referring to the who/what list and the big book, the students then draw and write about their favourite part of the story. Because they are relating just one event, they are able to take on a manageable amount of new vocabulary while practising the statement structure: *Character* (noun) *did this* (verb) *to character/object* (noun).

4. Later, the class makes honey sandwiches. This creates an opportunity to reinforce the language the students will need for their retelling. As they discuss this task (and in so doing scaffold one another), the students gain something that teachers might ordinarily assume to be 'prior knowledge', such as the labels and concepts for *honey* and *sandwich*. The students then write procedural texts: 'How to Make Honey Sandwiches'. In this task, remembering and correctly sequencing a number of events is important, as is specifically naming objects and actions. However, the events in this procedure are simply related by the order in which they are done; there is no need to express complex relationships of cause and effect, to infer character motive or to use the conjunctions that make narrative text cohesive.

5. When a student who was absent from the previous activity returns to class, the teacher takes this up as an opportunity for students to 'recount' their making of honey sandwiches. This requires them to sequence events correctly and to use the statement structures that they will need in their narrative retellings. In addition, because the student has not shared in the experience, it is now important that the language provides the context, and that it names objects and actions specifically. For example: *'We spread the butter on two pieces of bread'*.

This is in contrast to the language that they would have produced when making the sandwiches. At that point, their activity was embedded in the immediate context and their language *accompanied* action, meaning that it did not have to be so explicit: *'Can I use that next? Put it on here. And on this one, too. Now put that on.'*

At the end of this recounting, before students continue writing their procedural texts, the teacher points out the difference in purpose and focus of the two texts:

> ***'OK. You told James what we were doing, didn't you? What we did. OK. In your book, you were tell – you were writing this to tell somebody what to do. You weren't telling what we did. You were giving instructions to tell somebody, what they had to do.'***

Modelling

6. In a later lesson, the class rereads the story. The teacher models the construction of a story map, involving the students in her thinking and decision-making as she does. She then models using the story map to retell the story. At this stage, she holds the responsibility for the task – something she makes clear to the students when, at a point when they are calling out ideas, she says: *'This is my story map. I'm telling it.'*

7. Students then draw their own story maps. They will use these maps later to retell the story to a peer.

Joint construction

8. As the students construct their story maps, the teacher moves about the class, offering help where needed. Where students have almost completed their maps, she takes the opportunity to jointly construct their retelling. In this process, she offers any naming or action vocabulary that is not yet consolidated, as well as the connectives that link one part of the map to the next. This stage allows the teacher to hand over some of the responsibility to the students while still providing support, enabling them to do what they are not quite able to do on their own.

Until now, the teacher has carefully controlled the tasks in ways that have limited the demands on the students' language and thought. Now, the students must combine all that they have practised as they attempt the retelling. The teacher begins to remove much of the support that has been provided in previous lessons. The students are handed the main responsibility, the lead role. The teacher now takes a strategic monitoring role, assessing students' performance to gauge the least support that will be needed to complete the task successfully. Here, the contingent nature of scaffolding, through the adapting of strategies to the needs of each student, is strongly evident. This will be elaborated in the following section on micro scaffolding.

Independent construction

9. Finally, there is a full hand-over of responsibility to the student. The teacher has allowed one element of the scaffold to remain intact – the story map, which removes some of the burden of remembering and sequencing the events. Removing some of this pressure allows students to focus on and take up the difficult linguistic demands of the task.

Since the students are now able to complete the retelling, we can be satisfied that effective scaffolding has taken place. The organisation of the lessons has provided a macro scaffold, enabling students to move from strongly teacher-led contexts to achieve the intended outcome independently.

Micro scaffolding: Teacher–Student interactions

While the provision of activities in a well-planned sequence is important and necessary for ESL students, it is the teacher's talk and interaction with students that enables students to learn from these experiences (Mercer, 1992). Through

examining teacher talk during interactions with My, the focus student, it is possible to describe in more detail how a teacher can scaffold students' oral language development.

As this description unfolds, I will refer to learning experiences from the macro scaffold above by giving their corresponding numbers in parenthesis. For example, the first learning experience – the shared discussion around the topic of bees – is given by the number one (1); the last experience – the independent retelling – is shown by the number nine (9).

In **building the field**, the interactions are initiated and directed by the teacher, with student turns often limited to one- or two-word utterances in response to teacher questions. Below are two of many examples from this phase. They show the teacher in a directive role, being explicit about content and processes. The first example occurs before the initial choral reading (1):

> ***'What we'll do first, Lao, we'll read the whole story first. OK? We won't stop and talk about things. We'll just read the whole story. OK?'***

The second example occurs during the ensuing discussion of bees, when the topic has diverted to dragonflies:

> ***'OK. It's, it's really interesting to talk about all the different insects and all the different things we think about when we talk about the insects, but we're really talking about the bees and the hungry giant today, aren't we?'***

In the initial lessons, the only recorded utterances of the focus student, My, are one- or two-word labellings in response to teacher questions. The first instance occurs during the writing of the list of 'who' and 'what' (2):

T	***We've got the word 'people' from the words but what do we, can we tell from the pictures? That there are children. So we have got children. You can get information from the words and from the pictures. And what was the word in the story?***
M	***People.***
T	***People*** **[writing word on paper].** ***Thanks, My.***

The second instance occurs during the recounting of making honey sandwiches (4). The interaction here follows a typical IRF classroom pattern (Sinclair & Coulthard, 1975): teacher initiation (I), student response (R), teacher feedback (F):

T	*That was the story that we read. Who can tell us what we made? My?*
M	*Um, honey sandwich.*
T	*That's right, it was a honey sandwich. We made a honey sandwich.*

In the **modelling** stage, where there is a move towards shared responsibility, teacher and students share as initiators. Students' turns are longer, with the teacher often acting to extend their contributions. At the conclusion of the rereading (6), My initiates an interaction that has a quite different pattern:

M	*That, that's my funny.*
T	*Is that your favourite page, My? Why is it your favourite, My?*
M	*That's funny?*
T	*Do you think it's funny being stung by bees?*
M	*But* [goes to book to point], *but, but the giant did?*
T	*Sorry. Stop, please* [directed at other students who are contributing ideas]. *My, tell us.*
M	*But the giant did like that the bonky knocker. He holding.*
T	*He's holding his bommy knocker up. Do you think he's trying to hit the bees away?*
M	*Yes.*
T	*And what's happening, My?*
M	*And the bee follow the bom bommy knocker.*

An examination of the teacher's questioning and prompting strategies illustrates the nature of the micro scaffolding. The teacher has used a range of strategies. These are summarised in Fig. 4.2 opposite.

Figure 4.2: Summary of micro scaffolding strategies

Least supportive				**Most supportive**
Open invitation through imperative	Repeat back or recast last sentence	Ask 'What happened?'	Ask a what/ where/when /why question	Supply next piece as tag question

Consider the teacher's strategies in both the interaction above and in the joint construction following. The contingent nature of micro scaffolding becomes apparent: the teacher constantly monitors her students' understanding and demonstrated ability in order to determine the least support required, and removes or supplies support as needed.

During the **joint construction** phase, the teacher indicates that she is handing over responsibility by inviting My, through an imperative, to *'tell the story'*. Later, after it is necessary for her to intervene, she hands back responsibility to My through a command: *'Keep going'*. The teacher only steps in when My seems unable to continue, or when the meaning is somehow unclear. Her questions and responses focus on lexis; she is aiming to ensure that My has both understood the story and is able to relate her understanding of it clearly:

T	***My, this is an interesting story map. Tell us what's happening here.***
M	***The giant said 'Get me some bread or I hit you with my bommy knocker'. And the, the people get some bread some the um, um, the giant ...***
T	***Yes, they gave the bread to the giant.***
M	***'Get me some butter. Get me some butter or I hit you with my bommy knocker'. And the people get some, some, um, get some butter and give to the giant.***
T	***Yes, they gave the butter to the giant.***
M	***Yeah, and the giant said 'Get me some, some honey or I hit you with my bommy knocker'. And the people find everywhere in honey, can't see it.***

T	*They looked everywhere, didn't they?*
M	*Yeah, yeah, and look in the bridge and looking in ...*
T	*Whereabouts in the bridge did they look?*
M	*Oh* [draws people on map].
T	*Uh huh. Where are they?*
M	*Under.*
T	*They looked under the bridge, did they? OK, and did they look on top of the bridge, too?*
M	*Yes.*
T	*Uh huh. Keep going.*
M	*People in there* [drawing more people on her map]. *They, they see a beehive.*
T	*And what was in the beehive?*
M	*In the bee.*
T	*The bees were in the beehive.*
M	*Yeah and, and some ...*
T	*Is that where the honey was? Was there honey in the beehive? Was there honey in the beehive?*
M	*In the tree.*
T	*Where was the honey?*
M	*Honey?*
T	*Yeah, where was the honey?*
M	*In the house? No.*
T	*No, it wasn't in the house.*
M	*In the tree.*
T	*It was in the tree. The honey was inside the beehive.*
M	*... hive. And they and someone bring some, some ... some beehive and the, and, and the, that's not honey, that's not honey but the, the, the giant hit the beehive, and is got bees inside it, and ... there, they, uh, next thing they, they, there are beesa.*

T	*And what did the bees do?*
M	*Um. The bees ... the bees ... chasing the, the giant.*
T	*The bees chased the giant, didn't they? And what did they do to the giant when they caught him?*
M	*Um, um ...*
T	*What did the bees do to him?*
M	*Um, follow him.*
T	*Yes, and when they, they caught him though, some of them caught up to him and they got him. What did they do to him when they got him?*
M	*Sch ...*
T	*They stung him.*
M	*Stung.*
T	*Right?*
M	*Yes.*
T	*Have you ever been stung by a bee?*
M	[Shakes head.]
T	*No. Well, you're lucky. Can you tell me, My, how did the people get the beehive ... down from the tree? How do you think they could take the beehive ... from the tree to the giant?*
M	*Mm, hold the beehive and pull it.*
T	*Do you think so?*
M	*Yeah.*
T	*Do you think the bees would sting them?*
M	*No.*
T	*Why not?*
M	*Because, because, um ...*
S	*They pull it gently* [another student's contribution].
M	*They pull it gently.*
T	*I think so. That's a good idea. OK, finish off your story map. That's a good story map, and it helped you tell the story really well, didn't it?*

The teacher here employs a number of strategies which focus on vocabulary. In the student's first turn (line 2 of the transcript), My has become 'stuck', unable to find the necessary vocabulary. The teacher recasts the last sentence, showing that she has understood the meaning My is attempting to make, and providing the 'missing' vocabulary: *gave*. In her next turn, My picks up and uses the supplied vocabulary, though she amends the tense, instead using *give*.

My's third turn, in line 6, shows her struggling with precision of vocabulary as she confuses the subtle meanings of *find*, *see* and *look*: *'And the people find everywhere in honey, can't see it'*. The teacher again shows that she is attending to and understanding the student's meaning as she recasts My's last sentence and supplies the word *looked* through a tag question. In her next turn, in line 8, My then picks up and uses this, again changing the tense: *'Yeah, and look in the bridge and looking ...'*.

Further on in lines 9–13, the teacher uses questions to elicit the correct preposition, *under*. On this occasion, she does not need to supply the word. The teacher knows that My knows this word and only needs her attention directed toward it.

The teacher's questions and responses at other points focus on My's understanding. In lines 17–29, she checks whether My has understood that there was honey in the beehive. There is a great deal of negotiation of meaning; it seems that My, like the giant, has not realised there was honey in the beehive.

My's **independent construction**, given below, indicates that this understanding has stayed with her, and she has been able to make connections with an earlier second reading of the text where the teacher had said *'and that's the honey splashing out of the hive'*. In her independent retelling, My uses the word *splash*, though it was not used in the joint construction.

My's independent retelling also demonstrates that she has been able to retain the lexical item *give* but, as she continued to use give rather than *gave*, it appears

that the element of tense is at present beyond the zone of proximal development (see chapter 1). It also appears that the words *look*, *see* and *find* are beyond My's control, or that she has not yet differentiated the meanings of the words, since, in her independent retelling, she reverts to *find* rather than *look: 'And the people find everywhere but they not'*. On the other hand, *under* is obviously within her reach, though still at a very conscious choice stage, as she corrects herself and uses *under* as the appropriate preposition: *'in the, under the bridge'*.

My's retelling

> ***'The Hungry Giant. The hungry giant say "Get me some bread. I hit you with my bommy knocker" and the people ran, ran get the bread and give to the giant. And the giant say "Get me some butter or I hit you with my bommy knocker". And the, and the people give to the butter and give to the giant. The giant say "Get me some honey or I'll hit you with my bommy knocker" and the people find everywhere but they not. In in house a in the under the bridge. They, they um, they see some beehive. The beehive in tree. And the people give to the giant and the giant hit the, hit the um, hit the bommy knocker and they splash and there, there's the bee. And and giant ran and ran the way home.'***

And so, My is able to construct a reasonable retelling of the story independently to a partner. In doing so, she produces around 12 clauses – by far the most extended and cohesive stretch of language she has produced in these lessons.

Conclusion

The teacher practice examined in this chapter has been shown to maximise student learning, providing both high challenge and high support (see chapter 1, page 4). Through the interplay of macro and micro scaffolding, the teacher has:

- created conditions in which there is a push or pressure on students to produce language
- scaffolded students into these places of pressure, through a focus on language and through activities that first allow them to practise language and aspects of the retelling in less complex, less demanding situations.

The macro scaffold was critical. It provided the overall framework from within which the teacher worked intentionally to support students' language and understandings. Through the macro scaffold, the teacher planned to build and develop new vocabulary resources, sequencing and connecting strategies, and understanding of the text-type conventions inherent in narrative. In doing so, she provided focused procedural writing tasks that were within the students' capabilities. Clearly, if the understandings and abilities necessary for the retelling had not been developed, there would have been an over-reliance on the teacher for task completion, or a need to reduce the demands of the task to the students' current levels of ability. Both of these scenarios would have resulted in minimal student learning.

The macro scaffolding also shaped and connected the micro scaffolding. The clear goal in mind, along with an understanding of the linguistic demands of that goal, focused the teacher's approach and her interactions. It enabled her to see and seize opportunities for teaching and learning, and to select from the innumerable offerings those that would build the particular abilities needed to achieve the intended outcome. Moments of learning, of developing new understandings and abilities, occurred in a meaningful, connected way that allowed for repetition, practice and reinforcement.

Particularly crucial was the deliberate planning focus on oral language. Students were afforded opportunities for extended talk – a feature often found missing in classrooms where interactions predominantly follow the closed IRF pattern (see pages 40 and 60). While the building the field stage showed this pattern, the interactive patterns were quite different in the modelling phase (where the teacher took on different roles and the students could initiate interactions) and during joint construction, where the teacher handed over responsibility and encouraged students to extend their turn. In the early lessons of building the field, My only offered one or two words in response to teacher questions. If this were the only context in which My had opportunity to produce oral language, it is likely the development of her language would be limited indeed.

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Chapter 5
Mind in the classroom

Pauline Jones

> ***'Scaffolding is a concept that rests finally on the relationship between the activities of the lesson, the states of minds of the learners, and the intentions of the teacher'*** **(Freebody, 2000).**

The term 'scaffolding' means a range of things to teachers. Many of us have developed understandings about scaffolding through our efforts to enhance literacy pedagogy. However, discussions of scaffolding take us beyond English curriculum to core issues of teaching and learning – that is, to beliefs about cognition and learning.

In this chapter, I draw attention to some assumptions about the social nature of learning, and relationships between thought and language, that are inherent in the concept of scaffolding. Whatever the intentions of the teacher, these assumptions affect the activities of the lesson and the states of mind of the learners. Drawing on recent collaborative research, I show how teachers and learners can hold

differing beliefs about the processes of learning and knowing, and about the place of language – particularly talk – in those processes. We see those beliefs shaping classroom events as a common scaffolding strategy unfolds quite differently in two classrooms, with the result that students in one classroom are more able to take advantage of the teachers' interventions than those in the other.

While scaffolding practices develop in local settings, as Freebody suggests above, I believe that the practice of scaffolding rests on a 'social' view of the mind. That is to say, productive scaffolding relies on the extent to which teachers and students subscribe to the views that:

- knowledge is socially constructed
- learning takes place in shared contexts
- talk plays a crucial role in mediating learning.

The mind and scaffolding

Bruner's scaffolding theory builds on the work of Vygotsky, who sought to explain the relationship between culture and the human mind. Briefly, Vygotsky's ideas most relevant to this discussion (1978, 1986) are that:

- cognitive development is both biological and socio-cultural
- individual learning has collaborative origins
- language is central to learning.

To Vygotsky, cognitive development takes place through the interweaving of two lines of development: the biological and the socio-cultural. The biological or 'natural' line accounts for basic mental functions such as involuntary memory, perception and attention. However, this line is intersected early in infancy by a socio-cultural line which derives from the practices, beliefs and artefacts accumulated and reproduced through daily interactions over time by a culture. (The exchange between Nigel and his parents on page 11 provides a small picture

of this socio-cultural line of development.) The socio-cultural line transforms those basic mental functions into 'higher mental functions' such as generalising, abstracting and volitional memory.

Vygotsky distinguished between involuntary or spontaneous memory and volitional memory. In involuntary memory, something is remembered. The sight of a product on a supermarket shelf may remind me that I need to purchase that item (involuntary memory). On the other hand, volitional memory may be stimulated through the conscious use of a list of grocery items. Artefacts such as journals, photographs, lists, notched sticks and string around the finger extend the workings of the human memory beyond its original biological potential (Vygotksy, 1978). Thus an individual's cognitive development is not just a matter of biological maturation but involves cultural practices developed over time, in institutions and played out in local settings.

Vygotsky was also interested in the interpersonal aspects of cognitive development. He believed that what we achieve collaboratively is a better indicator of our cognitive functioning than what we achieve individually. Through interaction in a shared, culturally meaningful context, the external collaborative activity becomes internalised, thus driving individual cognitive growth. Vygotsky (1978:57) described this process of internalisation in the following way:

> ***'Every function in the child's cultural development appears twice: first, on a social level, and later, on the individual level; first,*** **between** ***people*** **(interpsychological),** ***and then*** **inside** ***the child*** **(intrapsychological).'**

In contrast to Piaget's view of development, which maintained that development (or maturation) *drives* learning, Vygotsky saw the relationship between learning and development as one in which learning takes place *before* development (Cohen, 1983). Learning takes place as a result of interaction with others.

A third strand in Vygotsky's work elaborates the role of language in learning. In this view of learning, language performs two roles. It is the *means* by which the activity, whether it be shopping or learning to read, is undertaken collaboratively. And, as external speech (or 'thought on the way inwards'), it provides the *basis*

for internal speech via a phase of egocentric speech (Wells, 1999). While Piaget saw egocentric speech as a remnant of early pre-socialised behaviour which eventually disappears with increasing maturation, Vygotsky saw egocentric speech more as 'physical thought' – something crucial to cognitive development (Vygotsky, 1934/1986). To Vygotsky, then, cognitive development was very much concerned with activity mediated by talk. It is the role of oral language in learning that is particularly relevant to this chapter.

Bruner (1985) drew on Vygotsky's social view of mind when he coined the term 'scaffolding' to refer to the ways in which the teacher or caregiver's interventions act as 'a vicarious form of consciousness' for the learner. Other educationists working in the Vygotskian traditions describe the mind as 'distributed' – not located merely inside an individual's head but involving the body engaged in activity together with other people and artefacts in the environment. This is what it means to say knowledge is collaboratively constructed; it is built, rebuilt and transformed by teachers and learners through participation in successively elaborated sequences of scaffolded activities. Although activities may involve a range of meaning-making resources, language – particularly talk – has a special role in negotiating knowledge, as it is the means through which meanings are made available, modified and contested among participants.

In a social view of the mind, then, cognition is a *consequence of interactions* which take place in socio-cultural practices such as those of schooling. This view of learning may sit uneasily alongside more individualistic ideas about the mind, the nature of knowledge and learning – ideas in which the mind is a largely private matter, knowledge is fixed and finite, and learning tends to revolve around 'activating' or 'enhancing' the learners' natural abilities and capacities. In such individualistic views of learning, language tends to be seen as a neutral conduit or a reflection of a body of knowledge rather than the means of negotiating classroom meanings suggested in Vygotsky's work. (These issues are discussed in more depth in chapter 2.)

Halliday (1980) is also concerned with the role of language in learning. He describes language as a resource for making meaning in socio-cultural contexts. He argues that for students, learning language and learning to mean in the culture are one and the same (Halliday & Hasan, 1985). His influential work informs the view of language underpinning many current English curriculum materials.

When Halliday (1980) pointed out that students are learning language, learning *through* language and learning *about* language, he gave teachers a useful frame for language-based approaches to learning. More recently, the pedagogy developed from Martin's genre theory gave teachers very clear examples of scaffolding in terms of broad curriculum directions as well as in specific interactions (Murray & Zammit, 1992).

While these developments may have informed language and literacy curriculum and pedagogy, teachers have not necessarily had opportunities to revisit their beliefs about learning and knowing, and the place of language in learning and knowing. It was these beliefs that interested me and my fellow teaching practitioners in the collaborative research discussed under. We wanted to 'slow down' our practices and take a close look at the ways in which meanings are negotiated in the classroom talk. In the following discussion, I will draw both on Halliday's theory of systemic functional linguistics (1994) and Vygotsky's theories of cognition (1978) to point out how ideas about knowledge (and the mind) emerge in the language used by learners in the classroom.

The school contexts

There are both similarities and differences between the two schools involved in the research (see Fig. 5.1). Both schools are designated disadvantaged, and receive additional funding. Through this funding, the teachers are involved in projects aimed at enhancing students' language and literacy outcomes. At the same time, they are simultaneously implementing the revised NSW *English K-6 Syllabus* (Board of Studies NSW, 1998) and the *State Literacy Strategy* (NSW Department of School Education, 1997a).

Figure 5.1: Overview of the focus schools

Crystalvale	Briary Road
Rural	Inner urban
Enrolment of 20	Enrolment of 400
Uniformly English-speaking backgrounds	Mostly language backgrounds other than English
One full-time teacher with part-time support staff	Multiple staff supported by ESL, LOTE, literacy, library specialists
Few PD opportunities; significant local community demands	Language-based PD programs supported by uni and dept personnel
Class: K-6 composite	Class: 4-5 composite
Teacher: Kate	Teacher: Tisha

Kate is the teaching principal at Crystalvale, a one-teacher school in rural NSW. There are 20 students spanning Kindergarten to Year 6. All are from English-speaking backgrounds. Crystalvale is a small, close-knit community; several of the students are related, and come from families who have resided in the community for two or more generations. The town consists of a number of houses and some essential services such as a shop, a hotel and a school. There is a bus service to larger towns and other services further down the highway. There are few local jobs; recent industry closures in the district have spelt hardship for some families. The school is deeply embedded in the community; it is frequently called upon to resource a range of community activities and welfare-related needs. It has a reputation as a 'hard' school; achievement on system-wide tests is below state average, and there are several students with learning and behaviour problems. Kate has been appointed quite recently, and she is working hard to enhance students' academic achievement. The sole full-time staff member, Kate must travel considerable distances to participate in professional development. Because she worries about disruptions to her students, she is reluctant to attend professional development activities.

Tisha has a Year 4–5 composite class at Briary Road, a large, multi-lingual school of some 400 students in Sydney's inner west. Of the 29 students in her class, 28 are from homes where a language other than English is spoken. The language

groups represented in the school population include Arabic, Cantonese, Mandarin, Greek, Vietnamese, Hindi, Fijian and Indonesian. Tisha is a very experienced teacher who has been at the school for a number of years. The school is situated on a major road, exposed to the vandalism and hazardous litter associated with poor urban environments. Despite this, the school is a cheerful place; refurbishments have been done in recent years. The school has a good reputation amongst parents and teachers; it recently won a national literacy award, and the school results on system-wide tests are above state average. The relatively stable staff consists of a number of classroom teachers supported by specialists in areas such as English as a second language (ESL), community languages, literacy support and library. Because of the English-language learning needs of the students, the school's professional development program is focused on developing teacher expertise and resources in this area. For several years, the staff has been engaged in school-based projects aimed at enhancing language- and literacy-teaching practices. These projects, funded through the equity program, have outside involvement from university or departmental staff, but are designed by the school staff and community to suit local implementation of curriculum. One of the results has been the development of core curriculum units across K–6. These units, which incorporate syllabus outcomes, take the language demands of learning areas as their starting points. In this way, a language-based approach to programming has become an important part of school practices.

The research

In both classrooms, we set out to explore talk and learning practices during a unit of work planned to follow the curriculum cycle developed to support genre-based pedagogy (see chapter 2, page 28). The lessons, simultaneous interviews and conversations about talk and learning were audiotaped for later analysis. This material was supplemented by samples of students' texts, classroom charts, joint constructions and chalkboard texts. In both classrooms, I planned and taught with the teachers; however, the more extended analysis is my responsibility.

At Crystalvale, a short unit of work on natural disasters was planned around general goals only, with specific tasks negotiated 'on the ground' in response to what we perceived as learners' wishes and needs. Kate was keen for her senior students (Years 3–6) to develop confidence in using language associated with the learning areas, and to provide more opportunities for collaborative work. The unit would enable her students to research and present individual projects, a task they were accustomed to and enjoyed.

At Briary Road, Tisha wanted to continue some earlier work using the text-based grammar of the curriculum to support critical literacy through a sustained unit of work. The unit develops around a text entitled *Pilawuk*, an account of a young Aboriginal woman's experiences as one of the stolen generations (Brian, 1996).

The scaffolding practices in the classrooms

The focus on practices is significant because, as Chouliaraki and Fairclough (1999:21) observe:

> ***'A practice can be understood both as social action, what is done in a particular time and place, and what has hardened into a relative permanency – a practice in the sense of a habitual way of acting. This ambiguity is useful in that it points to the intermediate positioning of practices between structures and events, structure and agency – practices have partly the character of both.'***

Our repertoires of teaching practices can be thought of as 'social', both in institutional and personal terms. They are shaped through:

- our enculturation in educational systems, universities and professional bodies
- the curriculum and professional-development materials developed and circulated
- the accumulated daily experiences of teaching.

Scaffolding was not a concept we discussed at any great length during the research; however, because it is inherent in our 'habitual ways of teaching', there are numerous instances of scaffolding in our teaching and learning activities.

Analysis of the classroom documentation

Space prevents me from describing the two units in detail here, but our documentation reveals that scaffolding opportunities occurred at the macro level of the planned programs and the micro level of specific interactions. Macro-level scaffolding took the form of teacher support through the staging and sequencing of activities, and the use of worksheets and concrete materials. Micro-level scaffolding was evident in interactional prompts and strategies such as joint construction. There was a multi-modal focus throughout; talk was used in conjunction with written and visual texts in the form of worksheets, chalkboard notes, charts and strips of card. These materials were carefully designed and developed or modified to build on sequences of tasks. Scaffolding strategies were frequently both retrospective and prospective – that is, they referred to ideas, events and vocabulary from previous tasks at the same time as they foreshadowed future interactions. Such integration, a common feature of both classrooms, was a major means for shared knowledge-building.

Despite their many similarities, the classrooms were quite different to work in. At Briary Road, there seemed to be a shared sense of purpose. In addition, the curriculum cycle had been developed in response to the learners' concerns. The students engaged with learning tasks with an enthusiasm and confidence that was not quite so evident at Crystalvale. The curriculum cycle was much shorter at Crystalvale; our decision to 'hand over' was taken earlier than originally anticipated. This was not because we felt the students were ready to complete the task independently, but because we sensed their resistance to engaging in the collaborative tasks designed to negotiate knowledge, to model and to jointly construct text. It surprised me that the curriculum cycle I had used so often to plan and program did not work in this classroom. Despite the students' lack of experience in cooperative work, I wondered whether there were other reasons for the tensions.

Illuminating a scaffolding strategy

In this section, I will focus on the analysis of one task. By coincidence, each classroom began its unit with activities using 'floorstorming', a scaffolding strategy we had noticed in recent curriculum materials. 'Floorstorming' is a variation of brainstorming.

Brainstorming is frequently used at the beginning of a curriculum unit, to stimulate and record learners' existing knowledge of the topic area under study. It may be done individually or in small groups, with someone acting as a scribe to record all of the contributions. The scaffolding or support is made available through joint production of related vocabulary, associated ideas, and questions.

Floorstorming is a small-group activity. It requires teachers to prepare a montage of pictures related to the topic; the montage is usually placed on the floor or in a central place. Hence, floorstorming has the additional scaffold of images designed to support students' contributions.

Some curriculum documents describe both strategies as useful for allowing all students to participate and to encourage "a free flow of ideas" (e.g. NSW Department of School Education, 1997b:12). Borrowing from the curriculum model underpinning genre-based pedagogy, these documents identify brainstorming and floorstorming as ways of 'negotiating field knowledge' – that is, of developing a shared context for the work to come. Although I did not set out to compare the classrooms, this strategy unfolded differently in each. This difference gives insights into the varied ways in which the overall curriculum cycle was enacted in the two classrooms.

I wanted to understand a little more of how the students viewed learning, knowing and the associated role of language. I began by analysing the language used by the students as they completed the floorstorming tasks because, as Painter (1996) argues, language choices can provide insights into a learner's meaning or conceptual system.

The following extracts are drawn from much lengthier transcripts of the students' language as they completed the floorstorming activities. First, we look at the activity as it unfolded at Briary Road.

Here, we had constructed a montage of images from the text that the students were about to read. The images represent such things as:

- a young woman (Pilawuk)
- an older woman
- the young woman embracing a woman of similar age
- an extended family group
- a map of Australia highlighting Darwin and Adelaide
- a building with a flagpole in front of it
- a class photo
- a housefront protected by a hedge and a large tree.

We also added some printed instructions:

> **LOOK AT THE PICTURES CAREFULLY. DESCRIBE WHAT YOU SEE. WHAT DO YOU THINK THE BOOK WILL BE ABOUT? DO YOU KNOW ANYTHING ABOUT THIS TOPIC? IF SO, TELL THE OTHER MEMBERS OF YOUR GROUP.**

A small group of students (Sam, Patsy, Kenneth, Frank and Simone) are seated around the montage.

Extract 1

Patsy	***Okay, Sam. What do you think about this girl?*** **[pointing to one of the images]**
	Who do you think she is?
Sam	***Don't ... I don't know.***
	I think that she ...
	I think that she is an Aborigine white girl.
Kenneth	***An Aborigine white?***
Frank	***Yeah, an Aborigine can be a white or black.***
	It depends whatever colour their skin is.
Simone	***No, because there's Aboriginal thing here.*** **[indicating image]**

As the discussion unfolds, the students are joined by a teacher.

Extract 2

Teacher	*Okay.*
	Let's see.
	You think this is her family here?
Patsy	*No.*
	I think that's the family she was moved to.
Teacher	*Right.*
Sam	*No, I don't think so.*
	Because is that black ... light brown?
	And she is white.
(Unidentified)	*Look.*
	That's a drawing.
Frank	*Look.*
	That could be her.
Kenneth	*That lady was a baby ...*
	... and that's a baby.
Sam	*Yes, I know.*
	But a black man or woman can't have a white baby.
Patsy	*Yes they can.*
	I have seen it in the newspapers.
	Because I have seen two black people, and their, and their babies are fair.

The talk unfolds around the topic-specific knowledge that the teacher wishes to develop: Pilawuk, Aboriginality, skin colour, family. We can also see how the images are a basis for reasoning: *'Because is that black ... light brown? And she is white'; 'I have seen it in the newspapers. Because I have seen two black people and their, and their babies are fair.'* There is little evidence of regulative matters such as attention and turn-taking. In negotiating the task, the students fall back on the written instructions. This is evident when Frank exhorts the others to *'Look'*: in other words, 'Observe, you're missing this'.

A close look at the students' language can tell us more about the nature of their engagement during the activity. In particular, process or verb choices are a major way in which we represent our experiences of the world, which include mental activity (thinking, sensing and feeling), verbalising (saying), acting (doing or happening), relating (identifying and classifying) or simply being (Halliday, 1994). In this analysis, because I am interested in how the students see the experiences of learning, I am focusing on the distribution of verb types throughout the talk.

The written instructions frame this activity as one which involves sensing (LOOK), thinking (THINK ... KNOW) and saying (DESCRIBE ... TELL). Thinking, sensing and saying are significant resources for negotiating and construing meanings. When we look at how the students use these resources, we see something of how knowledge construction is taking place. There are a good many cognition clauses – that is, clauses with a thinking verb: *'I think this is her family'* (so I know what it is about).

Patsy often uses cognition clauses as she takes a strong facilitative role in the group, shaping the direction of the talk and, to an extent, the nature of engagement required. We see this in extract 1, where she presents *'What do you think?'*-type structures which model and invite responses such as *'I think ...'*. In the full transcript of the activity, there is also a number of clauses with a sensing verb which functions to test or give evidence: *'I have seen it in the newspapers'*. These learners at Briary Road are using thinking and sensing verbs to reason within a field of evidence framed by the images. For them, thinking and knowing are bound up with reasoning. It's interesting that Sam challenges the teacher: *'No, I don't think so'* – reasoning is also a matter of negotiation.

The other major verb choices evident include relating and action categories. There is a large number of relating clauses: *'They are Aborigines'; 'She is white'; 'That's her family'*. These are used by the students as they work to identify and classify the images and relationships suggested on the montage. Although not illustrated in the extracts, the action verbs tend to occur as the events in Pilawuk's life are reconstructed: *'She <u>was separated</u> from her family'*. This use of action verbs becomes particularly significant when we look at how action verbs occur in the language choices made by the students at Crystalvale.

Floorstorming at Crystalvale

Here, a small group of students is working around a montage relating to natural disasters. The montage depicts such images as strewn debris, a rescue helicopter, a flooded street, a rescue crew at work. The students have been asked to tell each other what they know about the topic, using the images as clues. Jenny is writing contributions on small cards for later categorisation.

Extract 1

Mel	*Your turn, Jenny.*
Jenny	*I know.*
	I got a good one.
	No one said this, did ya?
	Did they?
Tammy	*That one?* **[pointing to an image]**
David	*Doesn't have to be on this.*
Richie	*I bet you it was that.* **[pointing to another image]**
	I bet you it was that.
Jenny	*No, landslides.*
	No one thunk it.
David	*Are you talking about that?*
Richie	*Landslides!*

In due course, the students are joined by a teacher.

Extract 2

Teacher	*How are we going?*
Jenny	*I got all that.* **[looking up from writing and pointing to cards already completed]**
Mel	*And look what I give her.*
	'Icebergs'.
Teacher	*'Iceberg'; excellent.*

Jenny	*I saw 'Titanic' last night right down ...*
	Because under the bottom ...
Richie	*It's my turn.*
Mel	*No ... oh, yes.*
	It's your turn, Rob.
David	*Titanic, Titanic!*
Mel	*Just write 'Titanic'.*
Richie	*No.*
Jenny	*Yeah.*
Richie	*It's mine.* [turn]
David:	*It's right.*
Richie	*Who cares?*
	I don't want it.

The talk in this extract from Crystalvale ranges around types of natural disasters, popular culture and turn-taking. The management talk often collides with, and at times usurps, that of the field-specific knowledge. For example, when Jenny begins to reason, she is cut off by turn-taking issues.

I should stress here that cooperative work is one area that Kate, the teacher-principal, has identified as an area in need of development. This type of task is new to the students and, understandably, they are anxious to 'get it right'. Here, 'knowing' is as much about knowing when it is your turn as having field-specific knowledge. Knowledge here is less to do with negotiation than with identifying and laying claim to discrete objects. When Mel says *'And look what I give her'*, she is drawing attention to her contribution. Contributions and turns seem to be concrete possessions to be given, taken and at times refused, as Richie does: *'I don't want it'.* Where the montage of images is used as a basis for reasoning at Briary Road, here it becomes a source of contestation. *'I bet you'*, while idiomatic, suggests that a piece of knowledge has now become a matter of wager or change.

The patterns of verb choice in the students' talk at Crystalvale vary considerably from those in the Briary Road transcripts. Here at Crystalvale, thinking and sensing

verbs are almost entirely absent; instead, action verbs dominate. Frequently, these are to do with the physical dimensions of the task (*'I wrote it down'*), managing behaviour (*'Stop it'*), or at times the 'giving' of answers (*'I gave her a good one'*). Saying verbs are usually about claims to what has been said. Relating verbs are to do with ownership of ideas and turn-taking rather than describing and identifying relationships: *'I've got a good one'; 'It's my turn'*. The subjects of these verbs were often the personal pronoun 'I', signifying the individual or personal position of the learner.

Reflecting on the documentation

For the students in these two classes, the 'floorstorming' strategy is enacted in quite different ways. Because we were concerned with learning in the upper-primary years, I expected to find the meaning-making processes of thinking, knowing, believing and wondering in the language used – that is, I expected to find those processes important for academic success. However, learning for students at Crystalvale is firmly grounded in action rather than in cognition. Knowledge is not co-constructed but, rather, is a commodity to be owned or swapped in interaction. Learners here are owners, givers or receivers of knowledge rather than the sensers, knowers and thinkers contributing to a joint endeavour as is suggested in the language of the Briary Road students.

In the research, I sought some of the students' views on talk and learning, and began to understand a little more about the role of talk in the classroom events. To the students at Briary Road, talk is a tool for learning. They speak of using talk to share ideas and to help one another:

Patsy	***Like when I share my thoughts, and like when I'm working with other people, that helps me to learn.***
Frank	***Like if you don't know something, they [friends] might help you. Like if you don't know an answer in a question.***

Simone recognises the scaffolding provided by her teacher when they jointly construct ideas:

Simone *She, um, teaches me that when she says something and she uses half the words so, like ... and then by the end of the day, like, I try to use those words so get [better].*

Briary Road students are also aware of the importance of interaction in learning:

Sam *At the end of the year I reckon there'll be lots of people that will be getting As and Bs because they contribute.*

In contrast, students at Crystalvale describe talk as a different mediating tool; it is less about *negotiating* knowing and more for *regulating access* to knowledge. Talk is a way to get help (if listening in the first place isn't adequate) and for helping others who are in difficulties (without divulging answers). Here are two of the students' responses when asked about the role of talking, listening and learning.

Trudy *[talking and listening helps you with your learning because] taught you to listen. When the teacher is talking to you. And you say, 'What was that, Miss Sweet?'. And if you listen carefully, you don't have to say 'Can you repeat that?' or something. You listen, and you learn more.*

Michael *Tell them how to do it. But not the answers.*

Perhaps this latter point reflects the particular organisational features of small schools, where older students are often encouraged to assist younger ones, and where being able to work independently is important. Students at Crystalvale also identified opportunities for telling personal anecdotes:

Trudy *Students can get up and talk.*

Zac *Like news.*

Trudy *A lot of time if the work's going good, or tell the teachers about things.*

The appropriate manner in which to speak was often a concern for the Crystalvale students:

'Talk kindly.'

'Don't talk like a baby.'

'You don't use offensive language when you are speaking.'

The assumptions about talk that underpin tasks like 'floorstorming' – that talk is natural and beneficial – do not sit comfortably with these learners. Too much talking and listening is not considered a good thing:

Trudy	***My mum, she reckons I'm ... She calls me something. Because I have me ears open all the time.***
Zac	***Students should be seen and not heard.***
Michael	***Mum always calls me 'chatterbox'. Because I always keep chattin' and chattin' and chattin' and chattin' and chattin'.***

Nor, it seems, is the type of spontaneous 'free flow of ideas' it's designed to activate:

Michael	***Every time I'm tryin' to say something, I always bugger up. I should think about what I'm going to say first.***
Mel	***That's why think before you say it.***

These snippets of talk give us glimpses of the distinct systems of ideas about what it is to be a learner circulating in these classrooms. Briary Road students recognise the collaborative nature of knowledge-building and the importance of talk in that process. In contrast, knowledge at Crystalvale is a more individual matter, something to be 'traded' rather than made. Mel, Michael, Zac and Trudy are conscious of talk in a different way; it is extraneous to the business of knowing, important as a tool with which to help others or to fix up one's own shortcomings as a learner.

We may wonder how students come by their ideas about learning and thinking. Certainly, home is important, but I suggest that ideologies of learning and knowing are shaped over time through routine participation in the everyday practices of schooling. Students at Briary Road are more obviously orientated toward the socio-cultural underpinnings of scaffolding. When Simone talks about the scaffolding role of the teacher, she identifies learning as a kind of cognitive 'apprenticeship' in which the learner, through interaction, is assisted toward independent performance. Here the view of learning resonates with the social and interactive endeavour described by Vygotsky. A major reason for this is Tisha's repertoire of teaching practices, which put language at the heart of learning. In our conversations about talk and learning, Tisha describes interaction and the adult role as central:

Tisha ***The key ingredient in effective learning is interaction – interaction with the people around you. [The adult role is] to facilitate that there is an interaction, a learning activity going on ... if I'm having a discussion or when I'm instructing ... to scaffold that.***

Tisha has been involved in professional development provided through the equity program for some time, and talks of the changes to her practice as a result:

Tisha ***It [my practice] has changed a lot, because I mean ten years ago, I thought that learning had to be an acquired activity. But since I've been involved with DSP [Disadvantaged Schools Program] and all these new strategies, it has changed, actually.***

While this professional development has taken the form of collaborative literacy projects, it has gone beyond literacy. When Tisha describes teaching students to write an explanation of how the ear works by speaking and acting out the process, her account is reminiscent of Vygotsky's notion of "thought on the way inwards" (1934/86:94):

Tisha ***Now if I didn't do that – dramatise it – and talking about it and as they say it, they were saying, you know, it was being done. They were saying it. I don't know ... how I could help make them understand the different stages of the explanation. Then it becomes easier for them to write, because they are ... actually have rehearsed it in their head, that this is what happened, and now I'm ready to write it.***

The professional development has brought about changes in Tisha's theories of learning and knowledge; 'social' ways of thinking about cognition and the mind have been made available to her, topics which are usually the domain of psychology and child development rather than language studies. These new beliefs influence the beliefs of her students and, in turn, their behaviours as learners. In this way, her students are positioned to take advantage of the learning potential of scaffolding strategies in a way that students at Crystalvale are not yet able. Students in Tisha's classroom are indeed engaged in a flow of ideas, building on each other's contributions so that they are well into the topic of their unit at the end of the activity. Through further scaffolded activities, these young learners go on to consider the politics of race in Australia.

Conclusion

In the absence of opportunities for professional development such as Tisha has had, many teachers rely increasingly on curriculum support materials – materials which are not 'theory neutral'. We have seen how one such curriculum strategy, floorstorming, is inscribed with socio-cultural ideas about learning – that is, assumptions about the role of talk in learning and the social nature of coming to know. Such assumptions are not always shared by learners.

Students' beliefs are built up through what Hasan (1996:136) describes as "innumerable small moments of everyday life" – that is, over time, through participation in daily schooling practices. In this way, students' beliefs derive from teachers' collective practices. The students in these two classrooms have been enculturated into quite distinct sets of learning practices. In one school, the prevailing educational practices, built as they are on a language-based approach to learning, align closely with the ideas of Vygotsky. Here we witness how productive scaffolding strategies can be. On the other hand, we see the difficulty of implementing curriculum when working against the grain of students' beliefs – beliefs which appear to be heavily influenced by Piagetian and behaviourist views of the mind, learning and knowledge.

How, then, might we proceed to make the most of the pedagogical opportunities offered by socio-cultural learning theory? I propose that, instead of approaching language as one thing and cognition as another, we look to the connections between Halliday's view of language as resource and Vygotsky's social mind. Recently, Halliday & Matthiessen (1999) have argued that if we approach cognition as meaning rather than thinking, then the meaning-making or language choices made by learners are useful in explaining cognition. In other words, language can make the processes of knowledge-building more explicit and visible for us. Such an approach would require acknowledging the full complexity of language in schooling; that is, it is not only a curriculum area and a means of expressing curriculum content, but 'a maker and shaper' of classroom meanings. This complexity is difficult to embed in English curriculum materials, which are often seen to address language and literacy separately from matters of cognition.

A starting gesture might be to accompany the implementation of curriculum with the kind of professional development to which Tisha had access; that is, long-term, supported, and situated in the classroom. Such a project would assist teachers to examine their beliefs and practices about language, learning and the mind with a view to understanding how these ideologies find expression in classroom practices. As I have argued, these teacher practices, in their turn, shape students' beliefs about language and learning, shape their behaviours as learners, and thus shape their responses to teachers' scaffolding intentions.

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Chapter 6

Learning about language

Scaffolding in ESL classrooms

Brian Dare & John Polias

Introduction

Students who have English as a second language (ESL) learn through a language that they are still acquiring. This fact has implications for the kind of pedagogy that will ensure successful learning outcomes in ESL classrooms. In our view, the major implication of learning a language while learning *in* a language is that there also has to be learning *about* the language (Halliday, 1980).

The ensuing question is: What theory of language will underpin this learning about language? The answer to this will shape the kind of scaffolding that is successful in ESL classrooms. In this chapter, we will argue that scaffolding is most effective for the language development of all ESL learners when it is informed by understandings of a functional model of language, and when a language to talk about language – a metalanguage – is shared as part of the scaffolding itself.

The social basis of the functional model of language, and its relationship to Vygotsky's (1978) work, has been explored elsewhere in this book. We will use these perspectives, with their emphasis on the centrality of language in teaching and learning, to highlight the importance of taking language into account in the classroom, in general, and to draw attention to the role of language in scaffolding, in particular.

We believe that the most useful and productive model for teaching about language is Michael Halliday's functional model (1975, 1985, 1994). It relates text to context, and has an elaborate description of the lexico-grammatical resources, the words and wordings through which meanings are realised. The model therefore provides a metalanguage for talking about not only cultural and situational contexts, but also lexico-grammatical resources. We would argue, as Hasan and Williams (1996:xvi) do, that any effective pedagogy around language should have, at its core, teaching about the grammar:

> ***'... no literacy education program is worthy of that name if it ignores the richest and most effective resource which resides in the lexicogrammar.'***

Any serious account of language in scaffolding in the classroom must have teachers and students sharing a metalanguage. Developing a metalanguage allows learners to develop the means for reflecting on language.

ESL learners and language

While language plays a crucial role in all students' learning, there are specific aspects of language that need to be considered in relation to ESL students. ESL students are learning English and learning in English. In general, they do not have the same kinds of control of English that many of their peers are assumed to have. A useful way of thinking about developing English as a second language in Australia is to see it as a continuum between two extremes (see Fig. 6.1).

Figure 6.1: Development of English continuum

Learners use a language other than English as the primary resource for making meaning		**Learners use English as a primary resource for making meaning, just as if English were their only language**
Their world has been constructed through their first language(s) and, in the initial stages, they are learning the English for meanings they can already make in their first language.	English is the language in which new technical meanings (the curriculum) are being made and required to be made, yet without the learner having developed control of English.	English is playing a major role, if not the most significant, in the construction of the learners' worlds.

At one end of this continuum, ESL learners have no English at all on entering the educational context. They depend upon intensive support from specialist English-language teachers. Their world has been constructed through their first language(s) and, for some time, they are learning the English for meanings they can already make in their first language. At the other end, learners use English as their primary language – or at least as one language in truly bilingual or multilingual contexts. English is now playing a major role, if not the most significant role, in processing and mediating their understandings. Along the continuum are ESL learners who might be receiving some few hours a week of specialist support but, in essence, spend most of their school time trying to learn English, and the curriculum content, through English. In other words, these learners are attempting to make the meanings that education demands of them using a meaning-making resource, English, over which they have varying levels of control.

If ESL learners are to move towards the right-hand end of this continuum, they need to develop increasing control of English. In order to do this, they need to focus, more so than their non-ESL peers, on all aspects of the language, across contexts in which we can assume that their peers exercise greater degrees of language control. And because they are unfamiliar with so many of these aspects of language, there is a need for explicit teaching of language, and for students to revisit those aspects frequently.

Most crucial is the need to develop the breadth and depth of students' linguistic resources in English. To do this, teachers will identify some obvious areas for close attention, including tense and pronunciation. However, singular attention to these more apparent aspects of English language development can mask the enormous task students face in controlling deeper grammatical elements, for example expressing interpersonal metaphor (*'Would you like to take a seat?'* meaning *'Sit down'*) or building up information in the nominal group (*'the old gum tree'* rather than *'the gum tree old'*). All this highlights the need to articulate clearly educational goals (including language goals) and to consider the kind of scaffolding that will enhance language development for ESL learners.

In this chapter, we will focus on two teaching and learning contexts in which we see effective scaffolding taking place. Each example demonstrates the features of effective scaffolding set out in chapter 1 (see pp 3–6).

Examples from the classroom

As pointed out above, ESL learners can find themselves in a range of learning contexts, from intensive language centres to mainstream classes. Let's consider specific classroom contexts now. In examining these classrooms, we will focus on the ways in which teachers drew both on notions of scaffolding and on systemic functional grammar in order to assist their ESL students.

The first classroom under discussion features 5- and 6-year-olds learning English in an intensive language program; the second is a more 'mainstream' classroom setting involving 11- and 12-year-olds. As we discuss a sample unit in each setting, we will point out why we think the teachers are scaffolding so well, and how the teaching of grammar is a meaningful and integral feature of this scaffolding. What is apparent in these two classrooms is that the students are being scaffolded in a way that enables them to develop their English through developing their understandings *about* language.

Example 1
Scaffolding beginning speakers of English

Our first example features a teacher who brings her understanding of both genre and lexico-grammar to shape the *what* and the *how* of a series of classroom activities for Reception/Year 1 students in an intensive language class. This understanding also informs the contingent scaffolding that she provides as the activities unfold. In this class, most of the students speak Vietnamese at home, and most began school with little or no English.

The teacher wanted to teach her students how to write a simple procedural text. This was a logical development from the work she had already done with the students on recount- and report-writing earlier in the year. As part of this unit of work, she also wanted to introduce her students to relevant aspects of the lexico-grammar for the first time, and to do this in a meaningful way. As a starting point, she chose to focus on action processes.

Simple procedural texts provide an ideal opportunity to teach students about the grammar of processes, participants and circumstances (Halliday, 1994). In a procedure, these elements are, in a sense, close to material reality. Also, because procedures generally have action processes as the first element in the clause, they are easy to identify. We can identify the processes, participants and circumstances in the following step from a procedure.

Pour	*the milk*	*slowly*	*into the bowl.*
Action process	Participant	Circumstance of manner	Circumstance of place

The teacher decided that the first step in understanding this element of the grammar was to develop her students' understandings of action processes like *pour, add* and *stir*.

To do this, the class worked through a set of activities in which students:

- brainstormed actions and wrote and illustrated them on charts
- cut out pictures of actions from magazines, which the teacher then labelled with action processes
- used commercially produced action pictures and labelled them in both English and Vietnamese
- played miming games and matching games
- found action processes in big books read together in class.

The teacher gave careful thought to the timing and nature of these activities. In the first place, she engaged her students in straightforward but challenging tasks that they were able to manage with her (considerable) support. As well, she used the students' first language as a bridge to learning the words in English. Importantly, these initial activities were the starting point in the development of her students' metalinguistic understandings about a critical aspect of the grammar associated with procedural texts: the use of action processes. Just as important is the fact that these micro-level activities were informed by a careful consideration of the broader goal of developing the students' ability to write a simple procedure.

From here, the teacher introduced the students to procedural writing. This was made somewhat easier because of previous work on report- and recount-writing. The students already had some understanding about the purpose and structure of these different written text types. However, while these text types share some similarities, there are some differences in both the structure and the lexico-grammar. One key difference here would provide considerable challenge for students of this age: the nature of the processes of procedural texts, which are in the imperative mood and present tense, rather than the declarative mood and past tense found in recounts. The fact that the students had so little English, and that they were being introduced for the first time to explicit discussion of aspects of grammar, added greatly to the task.

To build their understandings about the schematic structure of a simple procedural text, the teacher decided to use a recipe for vegetable soup (Fig. 6.2).

Figure 6.2: Recipe for vegetable soup

Vegetable soup

What you need

onions	*a pot*
carrots	*a knife*
potatoes	*a vegetable peeler*
celery	*a stove*
tomatoes	*a blender*
cabbage	
zucchini	
pumpkin	
brussels sprouts	

What you do

1. *Wash your hands.*
2. *Peel the vegetables.*
3. *Cut up the vegetables.*
4. *Put the vegetables into the pot.*
5. *Fill the pot with water until the vegetables are covered.*
6. *Cook the vegetables on the stove.*
7. *Stir the vegetables from time to time.*
8. *When the vegetables are cooked, blend them in a blender.*

The first kind of teacher support was to identify and label the recipe's stages:

- a goal
- a list (what you need)
- a series of steps (what you do).

Here, the teacher scaffolded in two ways. Firstly and primarily, she identified the stages. However, importantly, she provided a kind of secondary and less obvious scaffolding of those stages by using more commonsense wordings: *'what you need'* for *a list* and *'what you do'* for *a series of steps*.

Significantly, as a continuing part of the text analysis, the teacher now focused on the language. With her students, she identified action processes such as *wash, peel* and *cut up*, and circled them in green (Fig. 6.3). It was a colour that had been deliberately chosen to represent action processes; the teacher had explained that it represented the traffic light for go, for action. With simple procedures, identifying the processes in this way shows a pattern in which all the steps typically begin in green. Being able to see the patterns of colour is part of the scaffolding which helps students to recognise the linguistic patterns associated with different text types.

Figure 6.3: Recipe steps with action processes highlighted

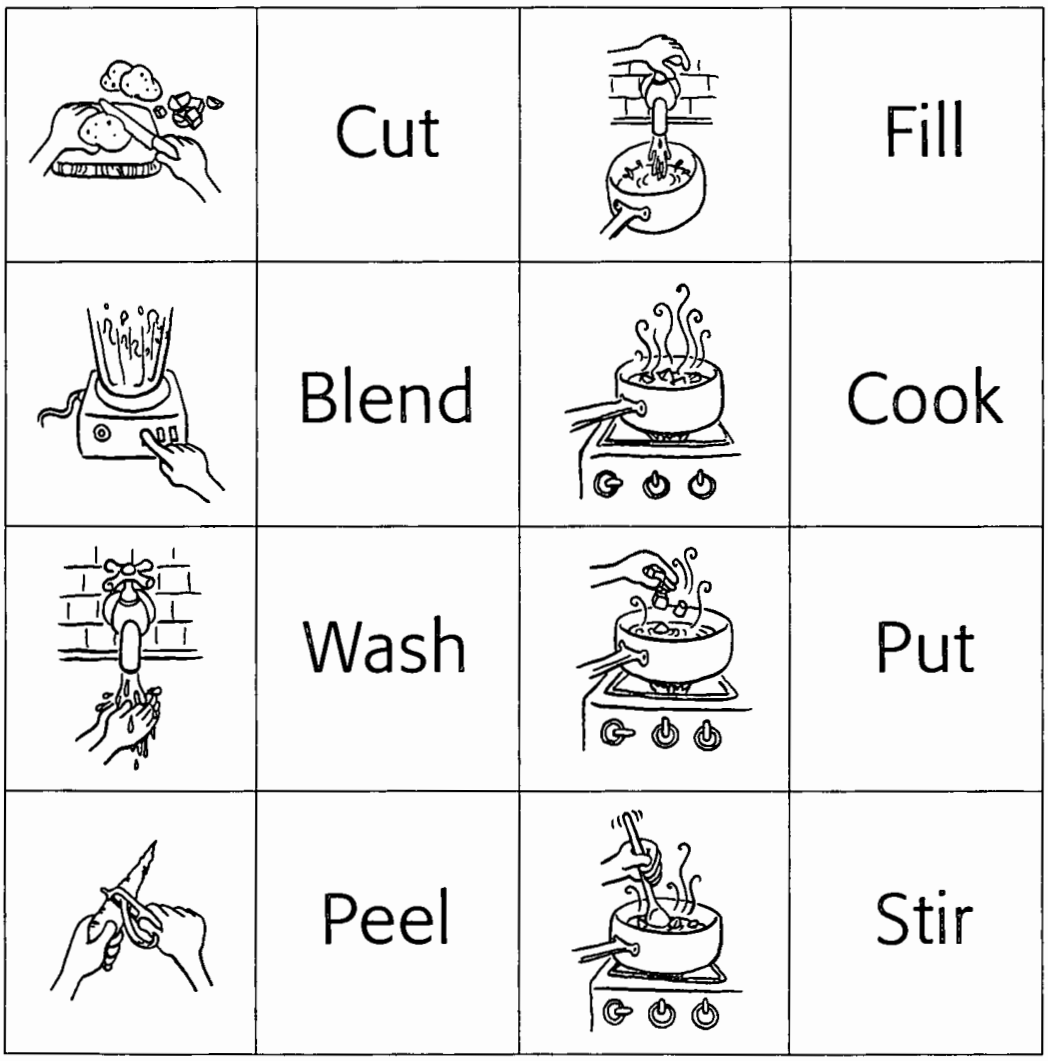
What you do

1. *Wash your hands.*
2. *Peel the vegetables.*
3. *Cut up the vegetables.*
4. *Put the vegetables into the pot.*
5. *Fill the pot with water until the vegetables are covered.*
6. *Cook the vegetables on the stove.*
7. *Stir the vegetables from time to time.*
8. *When the vegetables are cooked, blend them in a blender.*

One of the key features of good scaffolding is working within the zone of proximal development (ZPD) in any given interaction (see chapter 1). Carried out with non-ESL students, the above activity would present less difficulty; it is highly likely that such students would already know the meanings of words like *wash, peel, cut up* and *put*. But without high support, the presence of such words would present too high a challenge for the ESL learners in this class – they would be operating

outside the ZPD for this task. To address this, the teacher provided an activity in which the students, in pairs, matched action words with pictures of the actions in a series of games (Fig. 6.4). These interactions between the students themselves provided an opportunity to learn and consolidate the meanings of these common words in English.

Figure 6.4: Cards used to match action words with action pictures



Students undertook a number of activities with other procedural texts, including re-ordering the three jumbled elements of the schematic structure (goal, list and steps). A similar re-arranging activity was done with the various jumbled steps. This was followed by a further activity, which was the joint analysis of the students' own texts as well as procedural texts taken from various other sources, such as commercial cookbooks. Overhead transparencies of these texts were jointly analysed at the text level to identify the various stages, and at the clause level to identify the action processes.

These activities were significant in shifting the students' texts away from their early attempts at procedure-writing, which looked more like recounts than procedures. While the shift to present tense was readily achieved with support, the shift in tenor, to a less personalised voice, presented more challenge. To address this, the teacher had to respond contingently. She provided further models of procedural texts, supported by explicit identification of the more generalised form 'you need' (moving students away from the collective 'we') and the series of 'commands' that form the method.

The figures below show one student's early attempt at a procedural text (Fig. 6.5) and a further attempt, produced two weeks later (Fig. 6.6), following the scaffolded activities.

Figure 6.5: A student's written procedure

How to make a cheese sandwich

we get a slice of bread

then we spread margarine then we put a slice of cheese on it then we get another slice of bread then we spread margarine then we put bread on top then we cut it

Hoang

Figure 6.6: A later written procedure by the same student

How to brush your teeth
You need:
Watsh
tooth teethx paste
tooth brush
squeeze a little bit
put the toothbrush in the water
brush your teeth
rinse etc
Hoang

Even though the students had, by this point, developed some control of procedural texts, many were still not representing the method as a set of discrete steps in their writing. Having observed this evidence as part of her ongoing assessment, the teacher now made a strategic response: she used a text, 'How to Make Fruit Jelly', which clearly showed the goal and a list of what was needed, but had the sequence of steps of the method missing. The students were asked to complete the steps required to make the jelly. A number of days later, students were incorporating this stage into their texts. Kevin's text, Fig. 6.7 below, illustrates the inclusion of steps.

Figure 6.7: A student's procedure with explicit steps included

How to brush your teeth
You need tooth brush tooth paste water
1. get a cup of water
2. squeeze a little bit
3. then you brush your teeth
4. spitt
5.
6.
Kevin

Commentary

The choice of procedure for this Reception/Year 1 class was made on the basis that such written texts are close to the spoken language that accompanies action. Since it deals with actions, this text type provided an ideal departure point for exploring specific elements of the grammar with young students. Because the processes come at the front of the clause, they were easy to identify.

Further, the functional model of language informed the scope and sequence of the teaching–learning activities. Following this learning sequence, the teacher moved on from processes to explore with the class the patterns of participants and circumstances in the text.

Example 2
Scaffolding in a unit of work on arguments/expositions

Our second example features two ESL teachers who collaborated with the classroom teacher to teach the argument, or exposition, text type to a class of 11- and 12-year-olds. These students were not ordinarily supported by a specialised language program. The teachers used a simple version of the curriculum cycle initially developed by Callaghan and Rothery (1988) and widely used by the Metropolitan East (NSW) Disadvantaged Schools Program (1992):

- build the field knowledge
- follow with a text deconstruction
- develop a joint construction
- conclude with an independent construction.

The process used by these teachers highlights the importance of understanding the functional model of language and being able to move between analysis of text structures and analysis of language features.

Building field knowledge

This unit did not sit within a conventional 'topic' structure. In this sense, the 'field' of the investigation did not pertain to a focus issue around which students might develop an argument (e.g. a school policy, a council plan, the value of homework). Rather, the field here revolved around the contexts and purposes of argumentation. In order to build relevant knowledge of this area, examples of argument texts were collected from a range of media. These texts were used to discuss the social contexts in which they were located, as well as to determine their purpose and schematic structure.

Deconstruction

In the deconstruction stage, a model text was used to identify and highlight the schematic structure of an argument. This was followed by a discussion of a frame of an argument (see Fig. 6.8). It was explained to the students that this frame would be a first step in the process of writing an argument and that, as they continued through the process and developed their language, they would be taking on the responsibility of making other, more complex, choices. For ESL students, providing this level of strong scaffolding is an essential starting point.

Figure 6.8: A frame for an argument or exposition

Argument framework

1	I believe that _____ There are many reasons to support my argument, and these include _____
2a *or*	Firstly, _____ The first reason is _____
2b *or*	Secondly, _____ In addition to this, _____
2c *or*	Furthermore, _____ The third reason is _____
3 *or*	Finally, _____ In conclusion, _____

At this point the teachers began to explore some of the significant lexico-grammar of arguments/expositions. They chose to focus on the language that communicates modality (e.g. *might, perhaps, I think*) and on conjunctions, which help to organise and sequence the text (e.g. *firstly, finally*). The teachers and students drew up wall charts of these conjunctions and modal resources. Since they could be referred to at need, the charts acted as part of the ongoing scaffolding.

With respect to modality, the teachers decided on using knowledgeable peers as a further scaffolding resource. In conjunction with the teachers, these peers supported students in identifying and discussing possible choices of modal resources. The students planned in groups and then acted out role-plays of actual events in their own lives where modality was the main issue. For example (SA Department of Education, Training and Employment, 2001:6):

> While working on her homework, a girl was interrupted by her friend. Her friend wanted to play, but she didn't have time to do that. She used varying degrees of modality to try to persuade her friend to go home, but it was only when the highest degree of modality was used that the friend heeded the command, e.g.
>
> She started with *'Perhaps, you'd better go home. I have too much to do.'* Her friend ignored her, so she said, *'You really should go home now.'* Once again she was ignored. She finally told her friend, *'You must go home now'*. Only after she used high modality did she achieve her goal.

Next, the class referred to a written text, identifying and discussing its modal resources. The teachers and students jointly analysed the degrees of modality evident. They then experimented with altering these and discussed the results and implications of the changes – that is:

- what changes were possible
- how those changes could be realised in the grammar
- the meanings made by the changes
- the implications and consequences of the changes to the relationship between the interactants in each context.

Joint construction

The joint construction stage began with the collaborative choice of the topic of the argument. Once that had been decided, the students were given a planning sheet to support them in organising their arguments and supporting evidence. Then the joint construction of the text began, with a brief review of aspects covered so far, as well as the charts on the wall of the classroom. The appropriate tenor of the text was determined jointly, as was the appropriate degree of modality. Throughout the joint construction, the teachers provided non-directive support by asking:

- Does this make sense?
- How will we write this?
- Can we use a different word here?
- Is this how you spell the word?
- Let's look at the charts and find a suitable word.

These questions encouraged the students to reflect on their writing and to appreciate the importance of continual rereading while writing. They were reminded that their reflections would work to ensure that the text flowed well through appropriate choice of themes (the element foregrounded in a clause) and conjunctions.

Independent construction

The students now revised and edited their written arguments with a minimum of teacher support. On reflection, the teachers felt that the joint construction had played the most significant role in the students' ability to construct an argument independently.

Commentary

It was clear to the teachers that the support provided for the students' learning needed to focus on different levels of texts:

- One level of scaffolding focused on text type and register, and discourse.
- A second level focused on lexico-grammar (clause, group and phrase, and word).
- A third level of scaffolding focused on graphology (spelling) in the writing and phonology (stress and volume) in the role-plays.

Clearly, too, the resources that were drawn upon included the teachers, the knowledgeable peers and physical resources such as plans and charts. Overall, the scaffolding provided by the teachers in their organisation – both of the unit as a whole and of each individual activity in the unit – was highly successful. The

learners were moved forwards in supportive steps, and the transfer of responsibility for the learning occurred both at the local level of individual activities and at the macro level of the unit of work.

By way of extension, the classroom teacher might continue from an introductory consideration of modality to an exploration of more complex realisations (e.g. how *'Go home'* could be realised through *'It's time you went'*, or *'Don't you have any homework?'*, or *'Could you leave me to do my homework now?'*).

What the examples show

The success of the teaching by these specialist ESL teachers and the learning by their students can be attributed to two broad factors:

- the role of scaffolding
- teachers' own knowledge of language.

The role of scaffolding

When we consider the above contexts, it is clear that a lot of care has been taken in selecting the activities, as well as their nature and timing. The activities build on past learning in a supportive way: they are structured, appropriately sequenced, linguistically principled and sufficiently challenging to ensure that learning takes place. Activities such as these provide the support necessary to enable effective English-language development so that the students are increasingly independent in their language use.

Teachers' knowledge of language

Working with a functional model of language means that decisions about which aspects of text type, register and language to address are theoretically informed. This would include, for example, the choice and sequence of text types, the

decisions about which aspects of the lexico-grammar to attend to first, and the degree of delicacy in dealing with those elements.

The example of teaching arguments illustrates other key features of the model, and why it is helpful. For example, it shows that any consideration of text type is superficial unless context is considered, and unless the context is then linked to the patterns of grammatical choices made. In writing their arguments, the students had to consider choices in modality so that their texts were 'pitched' appropriately for their intended audience.

Conclusion

The central issue for ESL learners is their ability to use English in an increasing range of contexts. To develop this ability successfully, they need to have an understanding of the cultural and situational contexts in which they have to use language, and then have the language resources to realise the meanings appropriate to those contexts. This is an enormous task, very demanding for beginning ESL learners but in other ways equally demanding for those other ESL learners who have already developed some control of English, especially in spoken modes.

In order to facilitate this development, the ESL teachers in the above examples draw productively both on their understanding of scaffolding and on their understanding of the functional model of language. These teachers are able to provide the appropriate scaffolding around language because they have the necessary metalinguistic understandings. As the case studies show, the students, too – even the very youngest – can and need to develop a shared metalanguage. When the students develop their understanding of how language works, it changes the way they can engage with the various spoken and written texts constructed jointly and independently in the classroom. This functional orientation shapes the total pedagogic picture of the classroom, determining the 'designed-in' and 'point-of-need' scaffolding (see chapter 3) that can and will take place.

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Afterword
Further questions

Jennifer Hammond

The various contributors to this book have addressed issues and questions regarding:

- the nature of scaffolding
- the contribution of scaffolding and its underlying theories to our understanding of effective teaching and learning
- the relationship between Hallidayan and Vygotskian theoretical perspectives, and the contribution of each to a more fully theorised model of scaffolding.

The importance of language in mediating learning has been a central theme in all chapters – in particular, the importance of the face-to-face spoken-language interactions that occur in negotiation between teacher and students in the overall learning process. While I think we would all agree that language in face-to-face interaction plays a vital role in learning, questions remain about whether language is the only means by which learning is mediated. Is it possible to learn if a teacher

is not physically present? What, if any, are the roles of other semiotic modes (such as art and music) in mediating learning? What are the implications of such questions for students who are studying in distance mode, and what is the possible role of technology in mediating learning? Here I want to explore, briefly, questions regarding the role of semiotic modes other than language.

Other semiotic modes

In a discussion of Vygotsky's theories and of the place of language and other semiotic modes in learning, Wells (1999) argues that, while spoken language plays an important role, learning can be mediated by other means. He writes (1999:319):

> ***'There is no doubt that in Vygotsky's view, speech played a critical role in the child's learning in the zpd and, hence, in the associated processes of instruction and collaborative assistance. However, as is increasingly being recognised, to focus exclusively on face to face interaction mediated by speech is seriously to limit our understanding of the range of modes of semiotic mediation that play a role in both interpersonal and intrapersonal thinking and problem solving.'***

He points out that Vygotsky himself (1981:137) recognised a number of 'psychological tools' that may be involved in mediating learning, including "various systems for counting; mnemonic techniques; algebraic symbol systems; works of art; writing schemes; diagrams, maps, and mechanical drawings; all sorts of conventional signs and so on".

Wells (*ibid.*) goes on to argue that if we recognise that learning can be mediated by a range of modes, then we recognise that there are other sources from which learners can receive assistance in the ZPD. Thus, in addition to deliberate instruction and assistance from others who are physically present, learners may benefit from symbolic artefacts such as written texts, charts, mathematical formulae, and so on. The implication of this, according to Wells, is to enlarge considerably the concept of learning and teaching in the ZPD. Such artefacts, he

argues, provide a powerful means of self-instruction as the reader appropriates the thoughts of others and makes them his or her own (and in so doing, extends the upper limits of the ZPD).

Such arguments have implications for how we think about learning and about scaffolding. Most people who have spent years participating in formal education systems would recognise their own abilities to learn through reading, through engaging with maps, diagrams, mathematical formulae and so on (although not all may benefit equally from each of these 'symbolic artefacts'). Others may recognise their own abilities to learn through semiotic modes such as art and music. Clearly, learning *can* occur without the mediation of spoken language in face-to-face interactions.

However, by reflecting on the practices and abilities of mature learners, we raise other questions. Can young or inexperienced learners learn without the mediation of spoken language? If you have not as yet learned *how* to learn, can you cope without a teacher or a more experienced other to support and guide your learning?

It is my belief that less-experienced learners do indeed need the mediation of spoken language for successful learning. Spoken-language development precedes understanding of other symbolic artefacts and hence, I believe, the mediation of spoken language is required in order to learn their social and cultural significance. Once this has been learned, then such artefacts may well be able to assist and support further learning. But I would suggest that spoken language is essential in the early stages of learning how to engage with such artefacts and, more generally, in learning how to learn. We can't do without the teacher, at least in the early years of schooling!

Scaffolding and other semiotic modes

So where is scaffolding in all of this? The criteria used by Mercer and his colleagues for identifying scaffolding (outlined on page 7) stress the role of teacher or knowledgeable other. The first three criteria state that:

- students could not succeed without the teacher's intervention
- the teacher aims for some new level of independent competence on the students' part
- the teacher has the learning of some specific skill or concept in mind.

Such criteria imply that spoken, face-to-face interaction is central to scaffolding.

We can argue, however, that it is possible to meet such criteria in distance-education programs. It is possible for distance-education materials to specify clear goals for new levels of independence in specific skills or concepts, and to include carefully sequenced activities to assist students in achieving these goals. As many learners who have successfully studied via distance mode can attest, good distance-education materials can indeed 'scaffold' learning.

However, learning in this context is mediated primarily in written mode, and the ability to engage effectively with written texts (supported by interactive technology) is central to learner success. In the case of young school students who study via distance mode – for example, students who live in remote regions of Australia and have no access to schools – it is understood that parents or other 'tutors' are required to help. Their role is to mediate the young students' engagement with learning materials, be they written, audio, visual or interactive. Again, it appears, spoken, face-to-face language interaction is required to mediate learning with young students.

Interactive texts

I have argued that young and inexperienced students need spoken-language mediation in order to be able to draw on various symbolic artefacts. I suggest this remains true in terms of ensuring that young (or technologically inexperienced) students know how to access and use the Internet. But once students are familiar with ways of engaging with interactive texts, what then?

In our criteria for what constitutes scaffolding, deliberate intervention on the part of the teacher has been a central feature. Active engagement with interactive texts,

and with peers via chat rooms, however, raises questions about the extent to which we may need to modify our understanding of scaffolding. While, clearly, interactive texts can mediate learning, does this mean that students can therefore scaffold their own learning? There are interesting questions about agency here. Do we need a teacher who makes decisions about appropriate educational goals, or can students simply direct their own learning? Do we need some way of assisting students to evaluate critically the texts that they encounter, or is *any* learning that occurs through such encounters good learning? For that matter, is *any* scaffolding good scaffolding?

I do not intend to provide answers to these large questions but, rather, to leave readers to reflect on them. The metaphor of scaffolding provides a powerful, practical stimulus to thinking about processes of teaching and learning. It resonates with teachers' experiences and beliefs about what constitutes their core activities. Yet, as the above questions indicate, further work remains to be done on scaffolding: on its nature and role in teaching and learning; on what is and what is not scaffolding; on the boundaries of what we accept as scaffolding; on whether all scaffolding is necessarily a good thing; and, more generally, on developing a more fully theorised model of scaffolding that articulates the contribution of a socially oriented, language-based theory of teaching and learning.

Short glossary of terms used in this text

agency identifying the 'doer' of an action: the notion of the agent, or intermediary, often applied to the teacher's role in children's learning.

choral reading the simultaneous, whole-group 'reading aloud' of a text.

circumstances provide the circumstantial information relevant to a *process*, such as the where, when, how and why of the process. They are typically realised by prepositional phrases and adverbial groups and are identified by asking, for example, where, when and how the process is taking place.

constructivism a theory of learning that emphasises learners' participation as they draw upon prior knowledge to build new understandings. 'Social constructivism' extends the notion to include collaboration, or co-construction of understandings.

contingent pacing the 'at need' adjustment of the progress of a teaching-learning event, or sequence of events, so that students are supported to work within attainable limits.

functional model of language a term that follows from the work of Michael Halliday (1978, 1994) by locating language as a socially embedded system which constructs meanings that are realised within a particular context. See PETA's monograph *What Is a Functional Model of Language?* (Ewing, 1995/2001) for an accessible overview of the functional model.

lexico-grammar as the hyphen suggests, an area of the language that considers words along with their patterns of relationship and organisation – loosely described as 'language features'.

lexis the whole resource of words that may be drawn upon in the language.

metalanguage the language that pertains to language itself, enabling users to talk consciously *about* language.

nominalisation the process of rerepresenting a process as a participant, e.g. 'You can store the step-ladder easily' might be nominalised as 'Storage of the step-ladder is easy'.

noun group a word or words that give information about 'who' or 'what', e.g. 'They ran'; 'The car started'; 'He opened a door coated with flaking red paint'.

participants the people, things, issues, concepts or phenomena involved in *processes*. They are realised by *noun groups* and are identified by asking who or what is involved in the process.

processes the actions, sensings, sayings, and states of being and having in the world. They are realised in the language through a *verb group*, and are identified by asking what central process is going on.

semiotics the field of inquiry involving signs and the meanings that they signify. As a sign system, language is sometimes referred to as a 'semiotic'.

systemic functional linguistics a theory of language, following from the work of Halliday (1978, 1994), that relates language to function – what the language does, and how it does it. The theory identifies four language strata: context, semantics, lexico-grammar and graphology-phonology. See also *functional model of language*.

verb group a word or words that generally refer to an action or state, e.g. 'She understands'; 'She could have been injured'.

zone of proximal development often known by its acronym, ZPD. A concept proposed by Vygotsky (1978) to describe an area of learning capability or potentiality. See pp 9–11 for Vygotsky's definition and further discussion.

'Scaffolding' is more than help. This book explains where this much-used educational term comes from and what it means, then journeys into classrooms that demonstrate effective scaffolding in practice. In the process, its expert contributors show that 'content' cannot be taught apart from the language about that content.

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