

# Introducing scaffolding

In this chapter, we look at language-focused scaffolded pedagogy (which we refer to as ‘scaffolding’). As noted earlier, the term ‘scaffolding’ was originally developed by Wood, Bruner and Ross to refer to negotiation between an adult–child dyad, such as a parent–child interaction (Wood, Bruner & Ross, 1976; Bruner, 1986). It was later applied to classroom dialogue, attending to the moment-by-moment interactions between teacher and students in a teaching and learning sequence (Gray, 1998, 2007; Hammond, 2001; Hammond & Gibbons, 2005). It is often loosely and incorrectly used as a generic term for any sort of explicit teacher support, but that is certainly not the intention of scaffolding pedagogy. It is sometimes confused with ‘shepherding’, where the teacher or teacher assistant metaphorically nips at the heels of students, nudging them through the gates towards some learning goal (Sugrue, 1997). The activity might be completed, but the student may not have any idea of how or why; they have just done as they’re told. Sometimes the adult even completes the task themselves in desperation. Shepherding is often carried out in a one-on-one situation with the adult sitting side-by-side with the student. It leads to, and sustains, habitual helplessness and dependency on the part of the student, and frustration for all. That is not what we mean when we refer to scaffolding. We will now explain some of the scaffolding principles that support our planning and evaluation of teachers’ work.

## WHY SCAFFOLDING IS LIKE TEACHING SOMEONE TO RIDE A BIKE

If you have ever learned to ride a bike, or taught someone else, you will understand the important role of the adult in this context. Before the would-be cyclist begins to ride, there is a social context that provides the motivation for bike-riding. They might have observed siblings having fun on bikes, or had



Figure 4.1 Scaffolding language is like learning to ride a bike

rides in a jockey seat or bike-trailer with a parent. These social experiences create a shared purpose and shared learning goal for bike-riding.

When instruction begins, the adult runs alongside the novice cyclist, hanging on for dear life, keeping the bike upright and moving forward, encouraging the rider and giving instructions. 'Keep your feet on the pedals. Look where you're going. Don't slow down!'

Gradually, the cyclist begins to take more control, learning to balance and steer, to co-ordinate the pedals, but getting stuck when it comes time to brake. Still the adult runs alongside, encouraging but able to let go from time to time; then mostly letting go and hanging on only when things get complicated, like going around a corner and braking at the same time.

When the cyclist can ride independently, it's time to take them onto a bike path with other people, and eventually onto the road where they have the new challenge of contending with cars. When the young cyclist accomplishes the first level of learning, riding the bike, the scaffolding increases again for a new level of learning. At this point the adult steps up the support once more, thinking out loud as a bike-rider, to support the novice. 'Look out for that parked car. Keep left. Slow down now. Watch out for the glass.'

This scenario is an apt metaphor for the scaffolding pedagogy we are proposing here. The adult expects that eventually they will be able to stand back and the child will ride by themselves. There is no thought that this child will need the adult to run alongside forever. At the same time, the adult tries to provide a contingent level of support at every point: not letting go too early, not hanging on for too long, but ready to increase the support if the child begins to look wobbly.

## THE THEORY THAT UNDERPINS SCAFFOLDED PEDAGOGY

Scaffolded pedagogy in the classroom is a negotiated, two-way transaction with an 'informed' or 'knowledgeable' other (usually an adult); where the teacher does what the student cannot do; where the student does with assistance what they could not have done without the adult; and with the expectation that, with the right kind of support, the student will take over the task with control (Bruner, 1986).

### Scaffolding as reframing

The teacher 'lends' their cognition, thinking out loud as the student appropriates new ways of thinking and talking. From a Vygotskian point of view, thinking doesn't belong to the individual, but is shared among members of a community, such as the members of the world of science. Thus it is the responsibility of the 'knowledgeable other' to share scientific thinking, through language, with the novice so that they can begin to develop a shared perception of the world, to be able to see the world through scientific eyes. If the learning is new, it requires a re-orientation to the world. This is progressed by the teacher reframing the student's experience with new forms of language. Imagine standing behind the lens of a camera, and trying to point out to students what is important for them to see. The process of reframing has been given many labels. Just choose the one that makes sense to you: recontextualisation, recasting, reconceptualisation or redefining. Each term highlights the required shift between old and new perceptions as a result of teaching and learning experiences.

### Who decides what to learn?

There is a commonly held belief in the top-left progressivist quadrant that teachers should be guided by students' interests. In the subversive quadrant, this is not necessarily the case. If there is an imperative

for completing a particular topic or activity, for example, if it's in the curriculum for this term, or if it's a fundamental scientific topic, then it's the teacher's role to recruit student interest through their own enthusiastic and interested teaching. (Yes, this is sometimes easier said than done, but nevertheless, it's something for which we take responsibility.)

## Sharing the learning goal

For scaffolding to be successful, there must be a shared understanding between teacher and students of the goal, even if some of the steps to attain that goal are out of reach for some students. During any activity, the teacher draws the students' attention to what is important and maintains their 'gaze' on the important features of the task. The teacher demonstrates or models parts of the task that the child cannot do independently in a way that supports the child to imitate the adult's actions for successful completion.

## Contingent levels of support

Contingency is one of the most important properties of successful scaffolding (Wood & Wood, 1996). By that we mean the teacher's ability to judge the right level of support to keep students learning: not too little support so that they don't understand what they're supposed to do, nor why they're doing it. But not too much support either, because that leads to dependency as discussed earlier. Contingency requires the teacher to monitor student uptake lesson by lesson, and moment by moment. When students show signs of success, the teacher hands over more control. If they begin to fail, the teacher provides more help, taking back some control. Consistently finding the contingent level of support is difficult to reach, even with one adult and one child. It is even more difficult in a class of thirty students. Nevertheless, it is central to our work as teachers.

## Scaffolding and power

Scaffolded pedagogy is not democratic. At the beginning of a topic, the teacher has a lot to say, and it is their responsibility to share the goals, motivations and processes with students. Power relationships between teacher and students change as a topic progresses. As students gain control of the thinking and language of the topic, they also take over power, beginning to initiate and problem-solve for themselves in authoritative ways, while the teacher takes more of a back seat (but always ready to intervene if students begin to falter).

This shift of power is known as the gradual release of responsibility (Pearson & Gallagher, 1983). We call it 'handover', short for handover of knowledge, language and responsibility. Figure 4.2 represents this process of handover.

Early in any topic, when common understandings and language are absent, the teacher has control and a lot to say. As understanding grows, and students develop a common language with which to negotiate learning, the teacher can begin to step back and allow more independence, trusting that the students understand where the learning is heading and have the language to continue negotiating learning.

Handover is not, in reality, a nice straight line, but more like a pedagogic shuffle. Contingency requires that the adult is always prepared to shift the balance of responsibility, taking it back or handing it over whenever the student needs it.

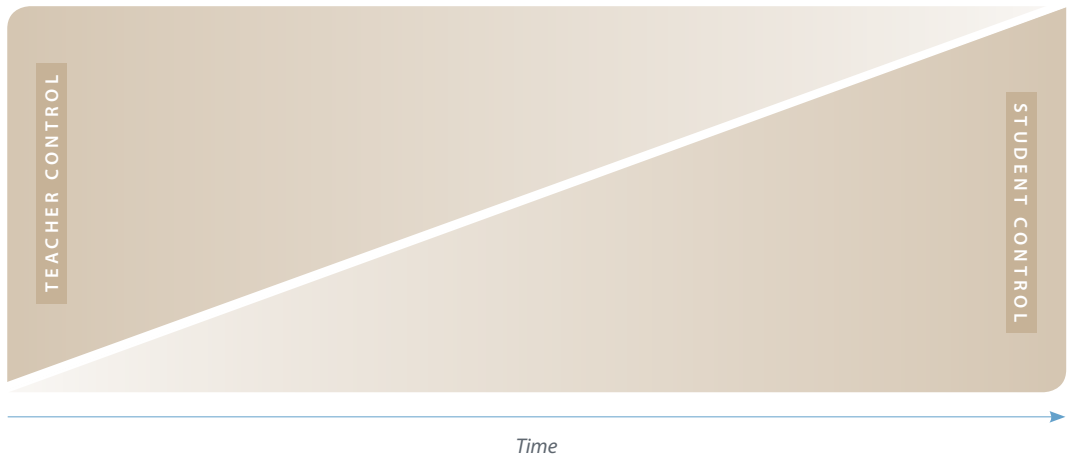


Figure 4.2 The gradual release model of teaching and learning

## Development of concepts

Scaffolding is language-centric, but we don't assume that the learning is finished simply because a student has begun to use new language. On the contrary, learning can then proceed more effectively because the student now has the language skills to negotiate meaning through ongoing interactions with talk and other scientific activity. Conceptual development takes time, takes many repetitions and can be shaky to begin with.

## The role of imitation in learning

New learning begins with imitation (Vygotsky, 1986). Children imitating adults in their social worlds is completely acceptable, and social media are full of cute little children dancing or rapping or singing in imitation of their parents. Yet in the Australian classroom, imitation is often regarded as anathema, as not 'real' learning. However, in the context of a scaffolding pedagogy, imitation is an active process that begins once a student understands the goal of an activity, when they borrow language from the teacher and other students in order to achieve that goal. When language is being imitated by students, they are 'mouthing' scientific words until they become their own (Wertsch, 1998). For scaffolding teachers, imitation is not the same thing as rote learning or 'parroting' but is rather a sign that student learning has begun. Imitation is of course not the end of learning, but it is an exciting beginning.

## MICRO- AND MACRO-SCAFFOLDS: A DIFFERENCE OF SCALE

The idea of scaffolding in classroom settings has, in recent years, been expanded from Wood, Bruner and Ross's original idea (Gray, 1998, 2007; Hammond and Gibbons, 2005). Our introduction to scaffolding so far in this chapter is regarded as the 'micro-scaffold': the moment-by-moment teaching and learning negotiation occurring through dialogue with students. The notion of scaffolding in schooling has been expanded to focus in a broader way on planning, on the scope and sequencing of a topic over a series of lessons, creating a 'designed-in' predictable format to support students in tracking the logic of a topic. This is described as the 'macro-scaffold' (Hammond, 2001). Going back to the bike metaphor, the macro-scaffold is the decisions made by the adult about the context of learning: beginning in a quiet car park or back lane, moving to a shared bike path, before sharing a road with cars.

While most of the theory introduced in this chapter attends to the micro-scaffold (that is, purposeful pedagogic dialogue), scaffolding academic language for educationally marginalised students also involves attention to the macro-scaffold. In this book, we work from the outside in; that is, from the macro to the micro. Part 2 looks at macro-scaffolding strategies. Chapter 5 introduces a very useful planning and teaching tool, the focus text, and Chapter 6 provides support on how to develop a systematic and purposeful teaching and learning sequence. Part 3 shifts to the micro-scaffold by attending closely to classroom talk (Chapters 7–10).

## IN SUMMARY

### SCAFFOLDING

Scaffolding is contingent, goal-oriented support provided by a culturally knowledgeable other to novices with the intention of supporting the gradual handover of knowledge and the appropriation of knowledge by the learner. In the process, the scaffolder builds a bridge between the known and the unknown, gradually moving the learner towards new meanings and forms of language which express those meanings. Within the classroom, scaffolding is used to refer to the macro-structures of programming, that is, the scope and sequencing of learning, as well as the micro-scaffolds of language used in negotiating learning within lessons.