CHAPTER 1

Embracing inclusion

Adrian Ashman

This chapter provides an introduction to inclusive education. It is intended to sketch the context in which inclusion occurs and describe some of the key features of inclusive teaching practices. It presents an ideal, a goal to which pre-service and experienced teachers can aspire, hopefully without feeling overwhelmed or inadequate in the process.

The world in which teachers work is ever-changing. The combination of society, the curriculum, the students, and the demands placed on teachers by education and political systems means that no teacher can achieve all that is required, or often expected. As a teacher with over 30 years of experience expressed it to me recently, "Choices have to be made." This chapter represents a menu of choices.

The ideas presented in this chapter will be expanded by the authors of the following chapters.

In this chapter you will read about:

- how young people are different;
- the concept of inclusion and why it's important in education;
- factors that influence successful teaching and learning; and
- a framework to help teachers respond to individual student's learning needs.

PROBLEM-BASED LEARNING INTRODUCTION

Ellen and Ewan McKay moved from the Shetland Islands where Ewan worked as a manager at the Sullom Voe oil and gas terminal, a large transfer and storage site connecting the North Sea oil fields with refineries around the world. Their daughter Devon and son Fraser are now enrolled in the same school and Fraser will be joining a Year 7 class in a week's time, about one-third of the way through Term 1. The principal told Fraser's new teacher, Melanie, that Fraser has a mild intellectual disability and some speech and language problems, but has "a gentle personality." The principal didn't anticipate that Melanie would have much difficulty dealing with Fraser or his learning needs.

The school is located in a largely middle-class neighbourhood and lacks the breadth of cultures represented in schools in nearby suburbs. Melanie knows the students in her class. Most are good-natured although there are a few "characters" who make some teaching days difficult to bear. None of Melanie's students have been diagnosed with intellectual disability so Fraser will certainly add a new dimension to her teaching environment.

How might Melanie approach the prospect of having Fraser in her class? Some teachers might say, "Well, I'd just wait until he turns up and go from there. No need to do any special planning at this stage." This is certainly one way of dealing with the situation. But it may not be the most effective, especially if you're not sure where the Shetland Islands are and have never had a student with intellectual disability in your class.

In this first section of the chapter, I'll raise some issues that might help you to collect some useful information about Fraser if you were in Melanie's situation. I'll begin by introducing the pillars on which inclusive education is founded.

Diversity and individuality

Everyone is unique. Even identical twins who begin life with the same genetic material grow physically, socially, emotionally, and intellectually as distinctive individuals. They might have a similar physical appearance, and say and do things that are surprisingly alike, but they learn about the world in which they live, and interpret their experiences, in ways that are often remarkably different. If you spend any time observing people in a shopping centre or at a sporting event, you'll see just how different we are. It is curious, therefore, that most of us have been educated in situations that imply that we have comparable **knowledge**, skills, and interests.

The most common formal education context over the past two centuries has been the large group. Most of us shared our school classrooms with 20 to about 26 others who had a collection of interests, abilities, talents, and gifts that were in some cases the same, and in other cases quite different, to our own. This diversity would have given our teachers some headaches in terms of how they could deliver the **curriculum** to such an assembly of students. It's certainly a challenge but one you can approach with growing confidence by the time you've finished reading this book.

My aim in this chapter is to focus your attention on ways in which you can identify students' needs, individually and collectively. It will place the later chapters into a broad framework, with each author expanding this framework to accommodate their particular topic. Let's begin with the notion of diversity.

knowledge
A conceptual or practical understanding of a subject, topic, or field. Note that *understanding* is the key element of knowledge, in contrast to *information*, which refers to facts or something learned. You can learn something without understanding it.

curriculum
Commonly refers to the structured content of schooling; often defined to include all planned experiences for students but can have a range of narrow and broad definitions depending on the context.

How diversity is projected

For the past few years you will have heard our politicians tell us about how Australia has become as a multicultural country. Over the course of many decades, our cultural eyes have been opened by the affirmation of Australia's important Indigenous heritage, and by the recent spotlight on immigration and refugees. As I write our national population is now above 23 million and the greatest

Most Australian classrooms include students who represent a rich diversity of cultures and individual differences.

contribution to population growth has been immigration. We tend to think of diversity in terms of ethnic or cultural differences, but in doing so we may forget that what distinguishes us from the person sitting beside us in a lecture, or standing next to us on a train or bus, is influenced by a constellation of genetic and environmental factors very different to our own.

In most textbooks on inclusion, there is an emphasis on disability and impairment. This is understandable as teachers are most commonly challenged by students' needs that exceed the expectations of the standard curriculum. You will find many references to disability and impairment in this book but it's important to draw attention immediately to the many ways in which humans can be obviously different and have learning needs that require support beyond that which is usually available in regular classrooms.

Consider, for example, the different needs of students with:

- exceptional gifts or talents;
- intellectual disability or acquired brain injury;
- a combination of physical, sensory, and intellectual impairments;
- serious academic learning problems in, for example, literacy or numeracy;
- seriously challenging behaviour;
- non-English-speaking backgrounds; and
- a traditional Indigenous upbringing.

Think also about other students for whom specialist materials, physical resources, and advice from health care professionals (e.g., occupational, physical, and speech therapists; specialist medical consultation) are essential to facilitate favourable learning opportunities. These include young people with:

- sensory impairments such as vision or hearing;
- physical impairments such as **cerebral palsy**;
- serious medical conditions (e.g., due to **epilepsy**, **diabetes**, or **muscular dystrophy**); and
- multiple impairments (e.g., a vision *and* a hearing impairment).

There are also students whose educational needs might ordinarily be met by the standard curriculum but whose cultural, social, and emotional needs affect their ability to take full advantage of that curriculum. These young people can benefit from support from, for example, guidance or counselling staff, social workers, or mental health professionals. These include young people who:

- live outside a family unit (e.g., homeless, or in detention);
- have a serious psychiatric disorder;
- are substance abusers;
- have been neglected or abused;
- live with a family member who has a serious medical or psychiatric illness;
- live in poverty or a household dependent on welfare payments;
- live in single-parent families;
- live in foster care arrangements;

cerebral palsy
A general term for a group of diseases that cause physical disability in human development by affecting areas of the brain. Cerebral palsy damages the motor control centres of a developing brain; this can occur during pregnancy, childbirth, or after birth up to about 3 years of age.

epilepsy
A neurological disorder that leads to seizure activity resulting from excessive discharges of cortical nerve cells.

diabetes
A metabolic disease associated with high blood sugar levels resulting from insufficient production of insulin.

muscular dystrophy
Considered to be an inherited disease of the muscles that leads to muscle weakness and death of muscle cells. Symptoms include muscle wasting, poor balance, and mobility difficulties.

- live in very traditional or culturally severe family units;
- are gay, lesbian, bisexual, or have a tendency toward a gender change;
- have experienced significant personal losses (e.g., death of a parent or sibling); or
- become pregnant during the school years.

All these students are at risk of delayed or impeded school progress, although this risk may never be realised.

This emphasises an important point: there is no single response that will adequately deal with the problems that face any student. For most, the answer is not found simply in adapting the curriculum or changing one's teaching style or approach. It involves a much broader understanding of the child's needs. Sometimes we fail to appreciate what it can be like to have a disability or impairment that limits the experiences of life that many young people take for granted.

For some young people (such as those with an intellectual disability or limited mobility), the opportunities to take risks are fewer than typically available to their peers because of intended or inadvertent constraints imposed by parents, carers, or life circumstances. For example, they may not have the opportunity to post a letter, or to use the telephone or common household appliances. They may have meals or snacks prepared for them, travel with a chaperone or support worker, and have their shopping and banking done by someone else. Other skills that are important to day-to-day living include short- and long-term life planning in matters of personal care, health, recreation, and even personal safety and self-defence. Box 1.1 on page 6 provides a picture of life-skill limitations experienced by one young man.

As might be expected, when complicating factors combine, the effect may be very serious. The purpose of learning may be totally lost or at least obscured. It's not unreasonable in such circumstances that the student's—and the teacher's—motivation and effort might wane and this is especially true for students who have a history of serious learning difficulties. In many cases, it's the culture and environment that impose limitations on students' school progress, and holistic approaches are required to encourage and facilitate learning.

The goal for teachers—and education systems in general—is to engage students' imaginations, the skills that each has developed over the course of a lifetime, and explore ways in which the school curriculum can dovetail with the students' personal characteristics, learning styles, and aspirations. In addition, there is a clear need for teachers to recognise learning opportunities that are readily accessible outside the classroom—plays, movies, exhibitions, public events (e.g., Anzac Day marches), Indigenous cultural displays and so on—and to seek ways of integrating the curriculum into these alternative learning environments.

I've referred several times to meeting the needs of all students in a classroom or other learning contexts, presupposing that these needs can be accommodated in the same classroom or learning context. However, there are times when this might not be realistic and you will be introduced to those in later chapters.

For the moment, let's consider the diversity of students' knowledge, skills, and capabilities that occur in any teaching–learning environment and how teachers can accommodate this vast range of differences. One way to do this is to consider what we mean by the term *inclusion*.

Inclusion

The concept of inclusion has evolved through a number of iterations over the past 40 years. In the first half of the 20th century, students who experienced considerable difficulties in regular classrooms found themselves attending special schools or classrooms in either state education or parent-run special schools. These schools were first established for children with hearing or vision impairments and, some years later, special schools opened for students with physical impairments. At that time, children with intellectual disability were often not expected to

attend school, and it was not until the 1950s that efforts were made to provide them with formal educational experiences.

At the beginning, special schools and classes were created with the benefit of the students in mind, and were places where students could receive an education appropriate for their particular needs, and where relevant resources could be gathered. However, because such schools existed, students who were difficult to manage for any number of reasons found themselves being transferred from regular to special schools. In other words, these schools became a dumping ground for students who didn't fit into regular education or didn't appear to benefit from the standard curriculum.

By the 1960s there was a groundswell, then a tidal wave, of protest against special schools. The solution was mainstreaming, then integration.

1.1 BOX

THE MUNDANE THINGS IN LIFE

Several years ago, Alan volunteered to participate in a research project that was intended to document the early learning experiences of people with physical and sensory impairments. The only thing I knew about Alan before meeting him was his age—31 years. As I waited for our appointment at a law office in one of the best office blocks in the city, I chatted to the receptionist who told me that Alan was quickly gaining an enviable reputation as a lawyer.

I was surprised when he appeared in a wheelchair, introduced himself, and nearly broke four of my fingers as we shook hands. He led the way to a small meeting room where tea, coffee, and biscuits were waiting on the table.

For about an hour, I recorded Alan's recollections of his childhood, his teachers, how the school accommodated his physical impairment, what adjustments were made for him, his friends and family, and his decision to study Law.

Toward the end of our session, I asked what he thought were the most limiting aspects of his early education and schooling. He frowned for about half a minute, looking out through the window across the city. Then he turned and looked straight into my eyes.

> *You know, I never got to do really mundane things. When my friends were young they'd be bundled into the family car and taken off to the corner shop or the shopping centre. I rarely got to do that. For Mum to take me with her to the corner shop to buy a carton of milk she had to go through the most amazing routine. She had to make sure I was presentable, then wheel me out of the house to the car. Go back and lock up. Bundle me into the passenger's seat, take the wheelchair around and pack it into the boot, then climb in and drive the 30 seconds to the shop, jump out, unpack my chair, wheel it around and manhandle me into it, push me into the shop, buy the milk and reverse the whole procedure to get me home. What'd take others two minutes would take Mum half an hour. So, the quick trips to the shop, and a lot of other really commonplace experiences, rarely happened.*

We talked more about what it meant to miss those everyday routines.

> *I used to get really angry at Mum for not taking me places, but now I know how unreasonable that was. And I remember crying in her arms like a baby one afternoon because I was so frustrated at my stupid body, and she held me really tightly until I settled. I suppose I was lucky in many ways because I loved to read and I learned about things through books that I could never hope to experience in real life. Having said that, I was 16 before I knew what a butcher's shop smelt like. Funny thing. I never found a scratch-and-sniff book about a butcher's shop.*

The term *mainstreaming* came into popular usage in the USA to describe the transfer of students with special needs back into the regular education system, albeit without funding or consideration of their learning requirements. The term *integration* superseded mainstreaming soon after; its guiding principle was the transfer of students into regular classrooms where they would undertake most, but not necessarily all, of their schooling. The significant difference between mainstreaming and integration was the increased level of resourcing for integration.

Over time the term *inclusion* replaced integration and **social justice** became the underlying doctrine in the segregation–inclusion debate. Inclusion is now a governing standard in education throughout the world. The term implies the complete acceptance of a student—regardless of any difference, impairment, or disability—in a regular class with **adjustments** being made to ensure that every student is fully involved in all class activities. Inclusive education is characterised by the physical design of schools and adjustments to the curriculum to provide for the needs of all students who seek to attend. Understandably, this has an impact on staffing and resources from preschool right through to tertiary education.

social justice
The concept of a society in which justice is achieved in every aspect; individuals and groups receive fair treatment and an impartial share of the benefits of society.

adjustments
Measures or actions taken to assist a student with disability to participate in education and training on the same basis as other students.

For inclusion to become a reality, it requires an intellectual and emotional commitment from teachers, teacher aides, educational support staff and other professionals, school and system administrators, and lecturers. It also requires an attitude of mind, that is, an acceptance of a responsibility to provide the most relevant, effective, and efficient learning opportunity for all students. As you will see as you read through this book, there is a basic requirement to know as much as you can about your students. It is difficult, if not impossible, to accommodate individual learning needs without an understanding of students' knowledge, skills, capabilities, and the motivations that drive them to learn. It is also difficult to ascertain the tangible outcomes of inclusion unless we are sure that the practices used by a teacher or teachers in a school are truly inclusive (see Box 1.2 on page 8 for a short comment on this issue).

To begin our consideration of inclusive education practices, we need to understand the influences that affect the outcome of any learning event. The interaction of these influences can be described as a teaching–learning ecology.

Teaching–learning ecology

Learning can be hard work. It requires many factors to come together to provide the right environment and conditions for a person to link what is already known with what is being presented.

The idea of a teaching–learning ecology is not new. Doyle and Ponder (1975) introduced the idea of a learning ecosystem and Ashman and Conway (1997) extended that idea to show that every learner—regardless of age, ability, or any other personal or cultural characteristic—is subject to influences that affect what, and how, they learn.

At a general level, learning involves a series of inputs (e.g., stimulus materials, an objective), various teaching and learning processes (i.e., ways of understanding and assimilating new knowledge), and a series of outputs (i.e., performance or achievement). The teaching–learning ecology has four components: the learner, the teacher, the setting, and the curriculum. The relationship between them is shown in Figure 1.1 on page 8.

The learner

Every learner has a unique learning history that comprises acquired knowledge, a mental and emotional disposition toward learning, and a set of strategies that are commonly used to learn and solve problems.

Knowledge includes specific detail (e.g., arithmetic or historical facts; 2 + 2 =) and information about how to perform mental and physical tasks (e.g., how to remember a friend's birthday, how to read, how to get home from work, how to use a smartphone). Knowledge is the accumulated total of all information gathered that forms the foundation on which every learner operates.

1.2 BOX

EVIDENCE-BASED PRACTICE: THE SUCCESS OF INCLUSIVE EDUCATION PRACTICES

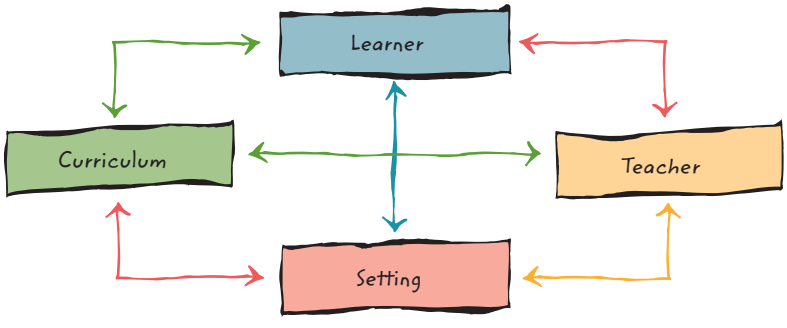
Over four decades, a vast professional literature on inclusion has emerged. There are substantial collections relating to the implicit philosophy and values, and a robust collection of commentaries on policy and practice (see Vlachou, 2004). Despite this, the number of data-based studies about the success of inclusive education, relative to the vastness of the literature, is small. For example, few studies report significant academic gains by included students, and those that do contain results that are anecdotal and often emphasise the social aspects of inclusive classrooms (see e.g., Hodge, Riccomini, Buford, & Herbst, 2006).

In contrast, there are many reports of positive attitude change toward included children as a result of contact with, or proximity to, good behaviour models. There is also a number of reports that are less optimistic. Prominent among these are studies involving students with emotional and behaviour disorders who provide significant challenges to classroom harmony. In addition, peer acceptance of students with intellectual disability is generally low although those with mild disability are better accepted in heterogeneous classrooms (see e.g., Pavri & Monda-Amaya, 2001).

A search through the literature while preparing this book has not convinced me to change my views on the central importance of implementing inclusive practices in the classroom. What is abundant in the literature now are articles that urge changes in school and teaching practices to ensure that all students have access to the curriculum and opportunities to demonstrate newly acquired knowledge and skills (see e.g., Cornelius & Balakrishnan, 2012; Florian & Spratt, 2013). Indeed, most of the articles and recently published books deal with ways in which inclusion can become a reality in today's classrooms, very much like the book you are now reading. The challenge for researchers is validating the academic and social advantages of inclusive practices, and, in some cases, even of the existence of inclusion itself. Huag (2012) wrote that it is difficult to identify incidents within a classroom that together represent inclusive practices.

While advocates of inclusive education are convinced of its value to most—if not all—students, the tricky part is showing in what ways and to what extent inclusion improves students' educational outcomes. This doesn't mean that there aren't tangible benefits of inclusion for students who have learning needs that are not readily supported by the standard curriculum. It only means that we need to see more work published that demonstrates the benefits of inclusion.

FIGURE 1.1 A graphic representation of the teaching–learning ecology



Successful learning outcomes, however, are not just about knowing things. The learner's emotional disposition to learning and the learning environment are also important because they predispose the learner to become, or not to become, engaged. Motivation is one of the more important emotional elements and is linked to past experiences and to the willingness to try new tasks or activities. When learners experience success, the likelihood that they will engage in similar or new learning activities increases. The reverse is true when there is repeated failure.

In the course of our lifetime, we develop a collection of strategies that allows us to learn and solve problems and adapt to new learning experiences. These strategies include setting priorities, evaluating available knowledge, making decisions, and planning with a particular outcome in mind. When learners are able to develop plans, set priorities, and make decisions, their ability to take initiative and work independently increases and their reliance on others decreases.

In summary, there is an intimate connection between knowledge, personality and affective variables (such as motivation), and executive mental capabilities (such as planning and priority setting).

The teacher

In the school setting, the teacher is the person usually responsible for delivering the curriculum. The teacher decides what will be learned and how learning will occur. Even in those situations in which the teacher passes control of some, or all, aspects of learning to the student, the teacher is primarily in control.

Teachers operate according to the same intellectual and emotional dimensions as their students (i.e., knowledge, emotions, organisational capabilities). Teachers determine the quantity and quality of students' learning by the way in which they interact with their students. For example, when a teacher is confident, supportive, and enthusiastic, those characteristics are communicated to the students with the result that the learning experience and the outcomes are generally positive. When the teacher fails to motivate the students or provide learning experiences that are aimed at satisfying their learning needs, comparatively little productive learning may occur. Consequently, teachers play a pivotal role in the teaching–learning process because they manage themselves and others involved in the learning environment.

Peers, family and friends, machines, and even educational media can assume the role of teacher. This is especially the case in informal learning situations such as the home, playground, skatepark, museum, art gallery, or even the beach.

The setting

The physical environment has a major impact on learning. Optimum levels of noise, light, temperature, and comfortable and accessible physical facilities are essential to maximise concentration and minimise distraction. Suitable resources, teaching materials, time, and space are also important elements in the environment.

While teachers and learners can adapt or habituate to adverse conditions, some of these conditions can seriously hinder their capacity to do so. For example, extremes of heat or cold can reduce a person's ability and willingness to learn because their attention is focused on maintaining comfort rather than on the task.

Social factors play important roles in learning. These include the culture and socioeconomic circumstances in which the learner lives, and the ethos of learning and respect that exists within the school. For example, when the language of instruction in a classroom differs from a student's home language, problems can arise not only in the process of instruction but also in communicating with family and peers. The level of support for education in the home can affect the student's disposition toward school and learning.

The curriculum

Finally, what is to be taught and learned and how this information is conveyed determine learning outcomes. The term *curriculum* can refer to all learning regardless of the learner's age or ability level (e.g., everything students are to learn in school), to a systemic curriculum (e.g., as defined by the **Key Learning Areas** in the Australian Curriculum), or to the content that a teacher might develop for a specific student (e.g., cooking or travelling skills).

Key Learning Areas (KLAs)
The main subject areas developed by the Australian Curriculum, Assessment and Reporting Authority (2010). The KLAs include the Arts, English, Health and Physical Education, Languages other than English, Mathematics, Science, Studies of Society and Environment, and Technology. Various Australian states use slightly different labels for their KLAs.

The curriculum is not just the body of specifics that is to be learned but a mosaic of strategies and learning skills that are part of the teaching–learning process. An Individual Education Plan or program (an IEP) might also facilitate the teaching process for students who have very high support needs. An IEP is a management tool that sets out a student's present level of education performance, how the student's disability influences participation and progress through the general curriculum, and measurable annual goals. Take a look at Smith's (2011) *Steps in the IEP process* <www.education.com/reference/article/steps-ndividualized-education-program-IEP/> for a more expansive explanation of IEPs. Chapter 2 also provides further information.

The four components (learner, teacher, setting, curriculum) must be in harmony if a successful learning outcome is to be achieved. Success can be measured in a number of ways, for example, by a prize for outstanding achievement received at the end-of-year speech night, entrance into a preferred university program, or the gleeful squeal that a young person with severe mobility impairment makes after being able to walk half a dozen steps unaided. Whatever the measure of success might be, each achievement, or lack of it, influences the way in which learners perceive themselves. This in turn affects their reactions to teaching–learning events.

self-assessment ONE

This section appears in all chapters. Its aim is to highlight some of the key content in the previous section(s) and prompt you to recall it. Each author will deal with the self-assessments in different ways, giving a short list as the answer or slightly extended commentaries to the questions. If you can't recall the information sought, flick back over the previous few pages until you find the relevant information. The answers to the self-assessments are located at the end of each chapter.

1. Earlier I referred to 23 situations that young people might experience that could require a teacher's special attention. They appear as bullet points in the text. Can you name 10 of these situations?
2. The teaching–learning ecology has four components. What are these components? For each component, give two examples of situations that would affect that component.

PROBLEM-BASED LEARNING REVIEW 1

Melanie's situation would be familiar to many teachers. Let's start by thinking about Fraser's situation. This is all speculation, of course, but there are real advantages to knowing as much about your students as possible before they arrive in class.

Coming to a large city and a large suburban school is likely to be challenging for Fraser. Think about it. Sullom Voe is a very remote location. Fraser will find his new school to be strange with more students than he's ever seen in one place. To get an idea of how significant this might be, take a quick trip to Fraser's last school at <www.mossbank.shetland.sch.uk>.

Melanie's class will have 27 children, all of whom speak in a dialect very different to Fraser's. This might be fascinating to his classmates, who may have never heard a strong Scottish brogue, but it could also raise comprehension issues. Melanie has been told that Fraser has a mild intellectual disability but at this stage

has no idea about the extent to which this compromises his learning. She also hasn't met Fraser's parents so she won't know if there are any special family characteristics that might have affected Fraser's early schooling, or his response to his new city and school, until that meeting.

The teaching–learning ecology can be a great help. The factors that affect each component (you'll find these in the answers to Self-assessment 1 on page 31) can prompt Melanie's scrutiny of her classroom and its dynamics.

You don't know much about Fraser yet but it would be of value to spend just a couple of minutes thinking about how Fraser might respond to his new school environment. Beyond that, how can Melanie maximise Fraser's learning outcomes? In the next section, I'll give you some ideas about how she could achieve this goal.

Responsive teaching

The professional education literature is full of instructional theories, models, frameworks, designs, approaches, practices, processes, tips, hints, tricks, and advice. It is hardly surprising that there is considerable overlap about what educators believe will improve the delivery of the curriculum in schools and students' learning outcomes. Of course, not all of these theories, practices, and tips lead to the successes expected by their advocates. Until relatively recently, it was hard to judge which of these innovations were successful and which were not. In an extensive review of educational interventions, Hattie (2009) argued that almost any teaching innovation undertaken by a committed teacher will have a positive impact on students' learning. However, his review of research that reported over 50,000 studies shows that many innovations have little effect and are hardly worth the time and effort devoted to their implementation.

So, what works best? Hattie's (2009) review gives us some clear indicators. Among the best performers is feedback. It is worthwhile quoting him here.

> The mistake I was making was seeing feedback as something *teachers provided to students* … It was only when I discovered that feedback was most powerful when it is from the *student to the teacher* that I started to understand it better. When teachers seek, or at least are open to, feedback from students as to what students know, what they understand, where they make errors, when they have misconceptions, when they are not engaged—then teaching and learning can be synchronised and powerful. (p. 173)

Among other high performers, in the sense of producing good student outcomes, were, not surprisingly: students' ability, the quality of instruction, advice to students about how to improve their performance, students' motivation to learn, the classroom environment, and realistic goal setting. Innovations among the least successful were reduction in class size (down to about 15; below that number the positive effect increases), team teaching, the use of multi-grade age grouping, and testing.

While Hattie's results were based on an accumulation of studies from preschool to tertiary settings, they provide the best evidence we have about the relative merits of educational innovations. His results point to the importance of teachers' responsiveness to their students and the dynamics of the teaching–learning process. Responsiveness is a touchstone advanced by others within the professional literature, particularly in regard to inclusive education (see e.g., Algozzine & Anderson, 2007; Rock, Gregg, Ellis, & Gable, 2008; Tomlinson, 2003). Significantly, the term *responsive teaching* places emphasis on a positive reaction by teachers to individual student needs.

At its most basic level, responsive teaching is about providing learning opportunities that make the curriculum accessible and comprehensible to all students. The key to achieving this is to eschew

approaches that focus on characteristics that the teacher can't change or influence and concentrate on those components of the teaching–learning ecology that are most amenable to change (see Howell & Nolet, 2000).

Student characteristics that can't be changed by the teacher include (among many others) the student's cognitive ability, physical attributes, home environment, and cultural heritage. Those that can be changed (i.e., they're alterable) include aspects of the teaching–learning environment (e.g., space, resources), the teacher's characteristics (e.g., beliefs, attitudes, and practices), and the curriculum and the way it is delivered. Focusing on these alterable features enables teachers to respond to each student's needs to promote successful learning outcomes.

Truly inclusive classrooms minimise the concept of special learning needs because *every* child has a special learning need. It is up to the teacher to create environments that anticipate—rather than react to—those needs. When teachers concentrate on communicating knowledge effectively rather than heeding disability or impairment labels they become responsive teachers. Labels provide little (if any) information about how to maximise students' academic and social development.

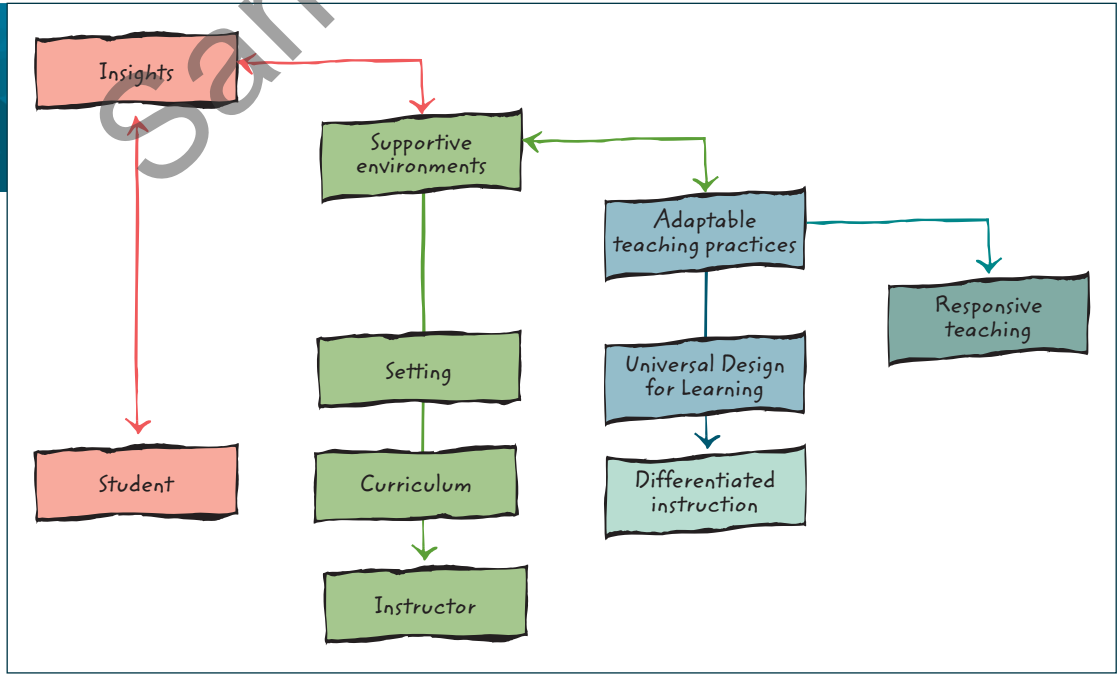
In a very simplistic way, the key to achieving responsive teaching is planning, and this involves:

- knowing each student's learning characteristics and capabilities;
- focusing attention on the teaching–learning environment that maximises human and physical resources; and
- developing instructional styles and techniques that accommodate learner diversity.

Let's consider each of these bullet points.

Figure 1.2 is a graphic representation of a responsive teaching approach. It is *not a single approach* but a template that encourages invention and innovation. In this figure, I've separated the learner from the other three components of the teaching–learning ecology to emphasise the point that teachers can't change many learner characteristics, but they can gain considerable knowledge about the student's cognitive capabilities, their family/cultural backgrounds and influences, and their learning histories.

FIGURE 1.2
A graphic representation of responsive teaching



In the template, I refer to the learner component as *insights*. My intention here is to minimise the emphasis on formal assessment and testing, although I hasten to add that there *is* a place for formal assessment and relevant testing in responsive teaching. Indeed, it might be an essential component of the process involved in discovering as much as you can about some students.

Insights into students

Policies about inclusion and the need to achieve the best outcomes for all students mean that assessment is not simply about identifying how much a student has learned. It involves gaining an understanding of how each student learns, the difficulties they experience, and how contextual issues (teaching approaches, a student's history, cultural and social factors) have affected, and will continue to affect, learning.

Insights can be gained from observing students and engaging in dialogues with them. Other insights may come from **formative assessments** and **summative assessments** that are inherent in classroom procedures. These include interviews, observations, authentic learning tasks such as portfolios and reflections, and system or national assessments (e.g., **NAPLAN**). Interviews with parents and other stakeholders (e.g., cultural leaders, education and related professionals) can augment personal observations about how a student approaches a range of learning tasks and discussions. Talking with teachers who have taught the student can supplement information collected from school counsellors and other education professionals.

Valuable insights also come from an understanding of a student's learning preferences and interests, their interpersonal and **social skills**, and their social, emotional, academic, and career goals and aspirations. All of this information can be recorded in a teacher's diary (a living record of students' achievements). The teacher could collect insights under a number of headings, such as Academic (e.g., "Reads just below grade level, can answer most content questions; prefers to work alone"), Social (e.g., "Sometimes amuses classmates"; "Sometimes enjoys showing/talking to teacher before class"), Emotional (e.g., "Will team up with any willing partner"), and Family (e.g., "Mother responsive when contacted by school counsellor").

I'm a great believer in keeping notes about projects in which I'm involved, usually in a notebook. Some colleagues keep journals on their computers because they can add notes, digital portfolios, and pictures that relate to their students' progress. So, entries about students in a teacher's diary or journal can ensure that knowledge about students' progress, learning characteristics, and responses is not lost. Some aspects of the diary could be shared with colleagues who teach your students in later years to identify what you've found that works and what doesn't work well during teaching sessions.

It takes no more than 10 minutes to create a diary entry for a particular student but these entries must be objective. Stick to the facts—don't write subjective comments as the diary/journal could be requested by others, such as school administrators. A class set can be completed in one or two weeks. Box 1.3 on page 14 is an example of a teacher's first entry about 12-year-old Kara. A few blank pages can be left after the first entry to allow for more ideas at a later date. In some states, teachers are also required to enter details of incidents on the system's database.

Teacher–parent partnerships

Parents or guardians are perhaps the best source of information about their children, although some teachers are reluctant to engage with parents. School counsellor Margaret Ballinger emphasises the importance of teacher–parent partnerships, particularly when a child has a disability, as you'll see in her practitioner's perspective below (Box 1.4 on page 15).

The insights that you gain about your students will help you to create a supportive and familiar environment that will encourage learning, problem solving, creativity, and initiative. Let's now consider the characteristics of supportive environments.

formative assessments
Evaluative procedures used during a learning activity that aim to determine if teaching and learning methods need to be modified to improve students' learning outcomes. Feedback can come from the teacher to the student or the student to the teacher.

summative assessments
Assessments that monitor learning outcomes or achievement, such as end-of-unit or end-of-year exams.

NAPLAN
An Australia-wide program, part of which is a series of tests in Australia every year, in which all students in Years 3, 5, 7, and 9 are assessed on their reading, writing, language conventions (spelling, punctuation, and grammar), and numeracy skills.

social skills
Skills that relate to human interactions (e.g., waiting for a turn, asking questions politely, responding when spoken to, shaking hands when appropriate).

1.3 BOX

TEACHER'S DIARY ENTRY: KARA (FIRST ENTRY)

March 10

Kara's strengths

Academic:	Performs near the top of her class
	Maths and Science are the best
	Good general skills
	Reads well, understands context
	Answers questions readily
	Generally easy to motivate
	Stays on task & can ignore distractions
	Listens well & takes directions
	Inventive
	Likes working alone but OK in groups
Social:	A class leader liked by others, helps others (even when not asked!)
	Stands up for kids who get bullied
Emotional:	Stable personality, good sense of humour
Family:	Supportive mother
	Haven't talked to father – works long hours
	Wants K to do well – professional career

Where I need to focus

Academic:	Can be impulsive, esp. when lesson drags
	Homework looks hurried
	Wants to spend more time on the computer
Social:	No issues here
Emotional:	Moody sometimes, but gets over quickly
	Weary after lunch break
Family:	Would like to see more of mother (ex-teacher)
	Maybe she could volunteer sometimes

Supportive environments

The setting, curriculum, and teacher all have a role to play in creating supportive environments for learning.

The setting

The setting in which learning takes place is the starting point for teaching adaptations. In this case, I'm talking about formal learning environments—an early childhood centre; a primary, middle years, or secondary classroom; a university tutorial; or a library, museum, or any other place where structured learning activities occur. Generating a written assessment of the environment can help the teacher, lecturer, or early childhood educator identify where changes might be needed.

BOX 1.4

PRACTITIONER'S PERSPECTIVE: TEACHERS AND PARENTS

Margaret Ballinger, school counsellor, Queensland

Teaching a classroom of children for six hours a day, five days a week is a big responsibility. Parents put their trust in their child's teacher and hope that the teacher will respect, understand, and appreciate the individual needs of their child just as much as they do. If the child has a disability, parental concerns are generally even greater than usual. For some parents, the years prior to the child starting school have been stressful and, in some cases, traumatic. Parents are often the first to recognise that something is not quite right with their baby or toddler. Subsequently, the seemingly inevitable round of medical specialists, therapists, and early interventions can confound as well as comfort. Handing their child's welfare over to a stranger takes courage. Some parents have spent the previous five years immersed in the study of their child's disability and have become very knowledgeable in the area. Imagine their concern when they meet a new graduate who may know little, if anything, about their child's specific disability and learning needs.

How should you deal with this situation? First, you need to make time to hear the parents' story. Listen to and note their concerns; some will be more school-related than others. These parents are a valuable resource. Often, parents will have suggestions about the management of daily routines and behaviours, such as toileting, medications, and frustrations the child might encounter. Sometimes the techniques parents suggest might benefit other children in the class as well.

After meeting with the parents, go and do your own research. Graduates today only have to turn on their computers to uncover a wealth of information. As a result of your research you might have specific questions to ask about the child, and the parents are the best source of information. You may also have something new to contribute that the parents have not considered. They will greatly appreciate the efforts you have made, especially that you've taken their concerns seriously, and will feel comfortable about leaving you in charge.

This relationship is a true partnership. Both parties want the best for this child. As a teacher, you will also feel great pride when you see this little person achieve things that his or her parents never thought possible.

Spaces

Optimum teaching–learning spaces are flexible work areas where furniture and resources can be arranged and rearranged to suit learning activities. They contain age-appropriate materials and furniture (e.g., for reading tasks or time-out), suitable ambient lighting and shading, break-out capacity for individual and small-group work, and storage for resources and project work. There are also on-campus areas such as the library and off-campus community facilities (libraries, galleries), environmental education centres, camps, and adventures. You might get an idea about how popular these are by a quick look at this Queensland Education website: <http://education.qld.gov.au/schools/environment/outdoor/stanleyriver.html>.

Time

Productive learning can occur at any time at home, during vacations, and during private discovery. At school there are times that seem more ideal for some activities than others. For example, mornings tend to be the most successful times for cognitively demanding activities and afternoons for physical activities.

Grouping

Teachers and early childhood educators can make use of a range of group configurations depending upon the objective of the task and available time. These include whole-group sessions, small-group work, and individual and independent work in a library. Family activities can provide practice time to reinforce reading and numeracy skills and there are many opportunities for personal discovery learning (e.g., in books or via computer searches).

Equipment

Items of equipment are so numerous and varied that any list is bound to be incomplete. Teachers often make their own resources and teaching equipment but there are also many commercial and free products that you can find by typing your subject area or topic plus the word "materials" or "resources" into your web browser. Interactive whiteboards, computers, and peripherals are common in most schools today and there are **augmentative and alternative communication** devices that are widely available. Equipment also includes web access, software, digital storage, curriculum-specific resources, digital cameras/smartphones, and assistive technology. Ruth Croser will cover these forms of equipment and resources in Chapter 6.

augmentative and alternative communication
Non-speech communication systems including manual signs, picture-based communication boards, or specialised electronic devices/software with symbol-based displays.

Human resources

When we talk about resources we might overlook the human resources available to us. These include our teaching colleagues, co-teachers, teacher aides, volunteers, community visitors, mentors, experts, technical/digital support personnel, and other support professionals. John Munro will cover this area extensively in Chapter 3.

The curriculum

It might be unusual to think of the curriculum as a supportive environment; however, recall that the curriculum is not just the content—what is to be learned—but also the *processes and practices* that enable the content to be transmitted successfully to the students. Hence, the curriculum may need to be adapted in some way to ensure that it is accessible to all learners. It is hardly equitable if only some students in your class can achieve the goals set out in the standard, the Australian Curriculum.

Lesson planning

This is a key element in providing inclusive education. The aims and key question(s) need careful consideration, as do articulated curriculum goals (i.e., they should be suitable for all students in the class). The teacher needs to be sure that students have the prerequisite knowledge for the task and that the resources needed are available. Consideration must also be given to the levels of knowledge that individual students require, the learning outcomes, and how students might demonstrate that they have achieved the learning goals (e.g., via the completion of a project or worksheet, or the preparation of a unit portfolio).

Teaching and learning issues

Along with lesson planning, the teacher needs to consider the essential literacies required for successful transfer of the curriculum, encouraging independent learning and problem solving, and any remediation and support that one or more students might require if they experience difficulties. If there are very bright students in the class, extension activities may be needed (e.g., enrichment activities, discovery, reflection, additional practice, or generalisation of the acquired skills to other related tasks).

The teacher

You will recall Hattie's (2009) finding that the most successful form of intervention that improves student outcomes is feedback, not only to the students but also to the teacher. Teachers must observe and listen to their students—about what they know and understand, where they make errors, and

when they're not engaged in the teaching–learning process. So, here are two key elements that affect the teacher's contribution to a supportive learning environment.

Self-appraisal

Teachers must be aware of the beliefs and attitudes that guide their interactions with students. They must have content knowledge and experience, be confident when dealing with diverse student needs, be willing to seek support and address challenges, and be proficient in the use of **information and communication technologies (ICT)**. In essence, competent teachers know their job.

information and communication technologies (ICT)
The range of technologies integrated into school environments as part of the infrastructure for learning. ICT encompasses the broad range of technologies used for finding, gathering, manipulating, presenting, and communicating information.

Personal development

Competent teachers also recognise that what they learned during their initial teacher training is just the beginning of a career-long process of professional development. Teachers must be aware of their personal needs, the types of support that can be provided within their school from colleagues and the school administration, how to work effectively with support personnel (including teacher aides), how to juggle workloads and extra-curricular responsibilities, and where to gain access to continuing professional development. It seems a lot when you read it, but it doesn't happen all at once.

Box 1.5 on page 19 shows a brief self-assessment by a Year 6 teacher of his classroom and practices using the Setting/Curriculum/Teacher framework. This would be a useful way to identify areas where innovation and change could occur.

Notice that the teacher has three students with special learning needs (although from these notes, we don't know anything about them). Notice also that the classroom has reasonable computer resources and an interactive whiteboard, but the teacher doesn't make much use of them when delivering the curriculum—even though he writes that he has good IT skills. He writes that he'd prefer to teach younger students but presently does most of his teaching to the whole class. In Year 6, there are many opportunities for student self-discovery and small-group work that could be very advantageous to students with special learning needs.

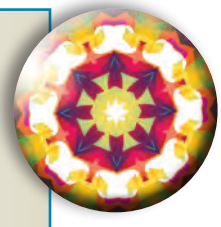
The snapshot in Box 1.5 can be expanded in diary form as the teaching year progresses and as the teacher experiments with different ways of working with his class. Keeping a teaching diary from the start of each school year provides an opportunity to review progress over the year. Such a document becomes a work-in-progress and a useful reference for a teacher's reflection on changes and innovations: What works? What doesn't work?

self-assessment TWO

It's time for a quick review. Give some thought to these two questions.

1. Responsive teaching has three primary components. Recall that it is not prescriptive in terms of any teaching–learning strategy that you must use but is an *approach* to guide your classroom (or teaching) practices. I haven't covered every aspect of responsive teaching yet but from your memory, what are some of the key issues on which a teacher might focus?
2. What are some advantages of writing a teacher's diary?

PROBLEM-BASED LEARNING REVIEW 2



Melanie can't change Fraser's background, including his experiences at school in Scotland. But she can work toward ensuring that his first few days in his new school will be enjoyable and rewarding and begin the integration process.

For the next couple of weeks (at least), Melanie's primary focus will be gathering information about Fraser's knowledge, his skills, his attitude toward learning, and the way in which he interacts with others. So, her focus will be *insights*. Fraser's parents will be her primary source of information, so she has made

an appointment to meet with them early one evening to talk about Fraser and how her class operates. This is a dialogue—a two-way street.

Another possible source of information is Fraser's previous school. Indeed, it's a long way away but email contact with the principal and his teacher could give some useful hints about what works and what doesn't work for Fraser. This may have the added bonus of establishing a link between the Australian and Shetland Island schools. Fraser could be the conduit for sharing stories, photographs, cultural information, and friendships. Melanie knows she needs to be careful about initiating contact without speaking to Fraser's parents. He might have hated the school so contact could be seriously counterproductive.

Once Melanie is briefed by Fraser's parents, she begins to think about supportive environments. She speaks to the class in advance of Fraser's arrival to let them know about "the new boy" and encouraging them to be supportive. She plans a buddy system to ensure that Fraser can be included in all classroom and playground activities. Melanie thinks about amending the way she teaches whole-class groups, and using the teacher aide to work with the class will give her the opportunity to work one-to-one with Fraser, at least in his early weeks. Finally, Melanie thinks about what professional development she needs to improve her knowledge of intellectual disability.

Of course, at this stage Melanie cannot know the extent to which she will need to adjust her teaching practices to support Fraser. She does, however, need to think about adapting her usual teaching approach or style to accommodate his needs. So, let's move on to consider adaptable teaching practices, the next component of the responsive teaching framework.

Adaptable teaching practices

Responsive teaching is not an instructional system or approach that is to be taught, accepted, and applied to the exclusion of already established and tested practices. And while the teacher is not in control of every aspect of the teaching–learning ecology (the learners' characteristics remain largely unalterable), the teacher has considerable influence over the remaining components, such as evaluating and adjusting the setting, considering the demands of the curriculum and how it can be adjusted to suit the needs of students, and being willing to change one's own approach through self-appraisal and professional development.

Responsive teaching assumes that the teacher is willing to embrace change where it is needed but always within the teacher's comfort zone and the existing resource environment. Many teachers express concerns about their ability to accommodate the broad diversity of student characteristics they encounter in their classes. A commonly asked question is, "How can I present the curriculum in a way that's right for a student with a learning difficulty but also provide enrichment experiences for gifted or talented students?"

peer-mediated learning
Includes a number of approaches in which students help each other to understand information or master a task they are required to complete.

explicit teaching
A teacher-directed approach to learning where students learn by a process of guided learning. The teacher models the steps, which the students then practise.

Two sets of teaching principles (not approaches or systems) can help. Both are widely known and used across Australia. They are Universal Design for Learning (UDL) and curriculum differentiation. Each of these involves making adjustments within the teaching–learning context. Neither denies the teacher any instructional innovation or teaching method that has been found to be successful, such as **peer-mediated learning** approaches or **explicit teaching** (sometimes called explicit instruction). My intent here is to introduce you to Universal Design for Learning and differentiation in the context of responsive teaching. Several of the authors in this book write more extensively about the principles and their application in later chapters.

Universal Design for Learning (UDL)

Universal Design (UD) derives from the fields of architecture and the built environment, and the belief that buildings and spaces must be designed so that they're accessible to everyone, including those with

disability or impairment. Its origin is a result of initiatives taken during the 1981 International Year of Disabled Persons and was inspired by product development and design concepts of the American Ron Mace (see Mace 1998). Accessibility is now a fundamental principle in merchandise design and architecture such that products, spaces, and places must be accessible to everyone to the greatest extent possible without the need for adaptation or specialised construction. The availability of ramp access to public buildings is possibly the most obvious architectural example of Universal Design. These days such access is incorporated into the design of public buildings right from the start.

BOX 1.5

TEACHER'S DIARY ENTRY: CHARACTERISTICS OF THE CLASSROOM

My classroom log — Year 6 Blue February 15

- Traditional classroom layout – desks in rows (2 to a desk)
- Teacher's desk at front of room – at the moment
- Space for small groups – but congested
- Six PC desktops – one laptop – interactive whiteboard
- Limited software
- No school computer lab – Internet access in class
- Digital camera (teacher's own)
- No school digital storage system
- No extra money for resources (this year)

Curriculum

- Literacy / Numeracy focus
- Need to plan activities for three students with SLNs
- Conservative lesson plans ☹
- Limited use of IT
- Use of themes (sometimes) to help deliver "C"
- Use of worksheets is common
- Formal assessment by written assignment or mini test
- High achievement goals emphasised by admin

Me ☺

- Primary trained – would prefer younger kids
- No out-of-school CPE yet
- Prefer whole class teaching
- Would like help to develop cooperative learning
- Good IT skills
- Usual teaching load & supervision
- Lesson planning done on weekends and at night ☹
- Have a uni lecturer as a friend
- Really good colleagues at school

In the 1990s, UD was introduced into the education domain as the momentum for inclusive education grew. A fundamental consideration of inclusion has been the need for appropriate curriculum planning to ensure all students can access and participate in the education system so that their progress through this system will satisfy their needs. Universal Design was clearly relevant to full inclusion. Those who worked in the application of UD to teaching and learning invented the term **Universal Design for Learning (UDL)**.

Universal Design for Learning (UDL)
A set of principles for designing curriculum that provides all individuals with equal opportunities to learn. Teachers plan for the needs of all learners by creating tasks in which all students can participate and demonstrate their learning. Then, if a new student joins the class, the teacher does not need to go back and "retrofit" the lesson to accommodate that student's needs.

UDL emphasises development of a curriculum that does not involve adaptation or retrofitting. In other words, it is not an add-on to the standard curriculum. Adjustments to the curriculum and a teacher's instructional approach are built into teaching plans right from the start. A fundamental component of UDL is the exchange of the power base associated with the transfer of knowledge. UDL gives students control over the way in which they gain access to information, which encourages their independence in learning and problem solving. It provides for equal access to all by removing barriers to knowledge and learning without diminishing the challenges (see Bauer & Kroeger, 2004).

UDL involves the application of three primary principles:

- *Representation*—that is, using various ways of *presenting* essential concepts. There is no single best way of presenting the curriculum that will satisfy all students. For some, it might be by way of lectures. Making lesson notes available to students along with the oral presentations might help other students. Using graphics, drawings and photographs, transcripts, even YouTube clips that can be downloaded from the web can also help. *A warning here: make sure that your school system permits downloading YouTube clips.*
- *Engagement*—that is, ensuring that learning activities are designed so that they caters for students' skill levels, preferences, and interests. This might involve providing materials that capture the interest of the students based upon their reading capabilities, experiences, and interests. Remember that motivation is a core element for learners in the teaching–learning ecology.
- *Expression*—that is, using alternative means of expression that allow students to demonstrate mastery of a topic, skill, or acquired knowledge in a variety of ways. Not everyone writes well. Some students find it difficult to write a story or a report, perhaps even a letter or email. So, providing a range of options that includes written, oral, or multimedia presentations like dance, painting, or even show-and-tell will help students demonstrate their achievement of the curriculum goals. This is a double-edged sword, of course, as allowing students to avoid using skills that are not well-developed means that they might continue to lag further behind if the skills are not practised. You can find a range of interesting ideas at the National Center on Universal Design for Learning at <www.udlcenter.org/aboutudl/udlguidelines/>.

You don't need to be terribly creative to find ways of allowing your students the freedom to choose how to demonstrate that they've learned those aspects of the curriculum that you've presented in any lesson or unit. A description of one teacher's approach in a writing lesson is shown in Box 1.6 but his approach can be used across the years of schooling, and even into tertiary education.

UDL also involves the application of seven teaching and learning features (sometimes also referred to as *UDL principles*, which confuses matters: see <www.ncset.org/topics/udl/faqs.asp?topic=18>). These are critical features of the resources and teaching methods necessary to facilitate the three main principles (i.e., representation, engagement, and expression). Think of the features as design specifications. So, here they are:

1. *equitable use*—the same technology or resources are available to, and useable by, everyone (e.g., most commercial digital mathematics programs have materials that cover a range of student capabilities);
2. *flexible use*—the same technology/resource is used for a number of purposes (e.g., arithmetic/social/language);

BOX 1.6

ASSESSMENT OPTIONS: PRIMARY SCHOOL WRITING ACTIVITY

The assessment relates to a task in which the students read an age-appropriate book and then were to prepare a "Report." Students chose a number of assessment activities from a menu. The activities were weighted depending upon the demands/effort required to complete them. Each activity was assigned points (1-, 2-, and 4-point) and students selected sufficient to make 10 points. A very small section from the menu is given below.

1-point

- Make a picture book of the most important parts of the story for children aged less than 5 years.
- Write a poem about the story.

2-points

- Write another ending for the story.
- Design and make a simple game based on the story.

4-points

- Prepare and present a talk to the class on "My book is the best ever written."
- Write a diary that may have been kept by one of the main characters.

This approach to assessment can be used in almost any curriculum area and across the years of school. Activities can be designed for students' capabilities and learning preferences. The teacher's imagination is the only limitation. It's also much more interesting to the teacher when it come to marking assignments.

3. *simple and intuitive application* (e.g., everyone knows how to look for a book in the library, or use the web to search for information);
4. *perceptible information*—the technology communicates essential information to the user regardless of the user's capabilities (e.g., instruction and guidelines);
5. *tolerance for error* (e.g., the learning process includes recovery processes if errors occur);
6. *low physical effort* (e.g., the teaching process is accessible to students with sensory or mobility impairments); and
7. *size and space* (e.g., accommodates students with particular needs, such as locating a student with a vision impairment at the front of the class).

At its most basic level, UDL is about tools and resources that are useable by all students in a classroom. Burgstahler (2001) distilled the initiatives achieved in design and architecture into a set of features relating to classroom application. These are:

- *inclusiveness*—a classroom environment that respects and values diversity;
- *physical access*—classrooms, resources, and equipment that are accessible to all students;
- *delivery methods*—employment of varied instructional methods;
- *information access*—use of, for example, captioned videos, electronic copies of printed materials, etc.;
- *interaction*—different ways in which teachers and learners interact;
- *feedback*—effective and timely prompting and feedback; and
- *demonstration of knowledge*—multiple ways for students to demonstrate their knowledge.

UDL focuses on adaptations to the way in which the curriculum is delivered and emphasises ICT. It promotes teaching practices that allow for equal access to information, student control of access to information, and facilitating learning through flexible teaching methods while recognising that some students will always need individualised support. Research evidence suggests that relatively modest training in UDL has useful effects on lesson plan design (Spooner, Baker, Harris, Ahlgrim-Delzell, & Browder, 2007). While there has been a significant evolution in UDL since its inception (evident in the expansive website at <www.cast.org/udl/>), there remains a disposition toward the *way* in which the curriculum is delivered rather than *what* is delivered.

Curriculum differentiation provides additional propositions that augment UDL's principles. If there is a difference between UDL and differentiation, it is that UDL urges extensive preparation so that later adjustments to a teaching approach are unnecessary, while differentiations emphasises flexibility to accommodate students' cognitive capabilities during the learning process.

Differentiation

Differentiation is a core element of responsive teaching. The concept appears in the professional literature under several headings: curriculum differentiation, differentiated instruction, and multi-level instruction. Differentiation refers to a flexible approach to teaching that addresses the different capabilities of individual students. It ensures that the teaching–learning context provides an appropriate fit for each student's cognitive needs while retaining a common instructional intent. For example, the goal might relate to arithmetic operations; the delivery might vary depending upon students' pre-existing knowledge. This can be achieved through adjustments to the curriculum so that students work toward slightly (or vastly) different goals in terms of content mastery (e.g., learning ideas and skills to be acquired), concept mastery (e.g., systems of knowledge to be acquired), and process mastery (e.g., research and information management skills to be acquired). Therefore, curriculum differentiation involves management of the:

- *content*—what is taught and learned (e.g., by providing activity-based tasks through to the conceptual and abstract);
- *process or methods for acquiring content*—how knowledge is delivered (e.g., accommodating preferred learning styles: visual, auditory, tactile, kinaesthetic);
- *methods for assessment*—how learning success is evaluated (e.g., using authentic tasks that involve real and relevant problems); and
- *resources required*—including material and human resources (e.g., equipment, ICT, teacher aides, volunteers, experts).

The idea of differentiation is not new. Maker (1982) suggested ways in which the curriculum might be modified to take into account learners' characteristics, their skills and knowledge, the pace of presentation, the complexity of the information, and the depth of learning required. The emphasis is not placed on the student, but the teacher who needs to consider each student's capabilities, the pace appropriate for content delivery to facilitate **deep learning**, complexity sufficient to challenge the learners' desire for exploration and discovery, and the depth of knowledge sufficient to encourage the learner to continue exploring areas of particular interest.

deep learning
The critical analysis of new ideas, linking them to already learned concepts and principles. It produces understanding and retention of ideas. In contrast, *surface learning* relates to the recognition of information and short-term recall only.

Establishing a mindset that sanctions flexibility is the first step toward realising responsive teaching. The second step has to do with managing the teaching–learning environment. Teachers often overlook the valuable role that librarians can play when planning their lessons for a term, or year. Di Wilson is a very experienced teacher librarian who gives us her perspective on this in Box 1.7. This moves us on to considering some practical applications of responsive teaching ideas.

BOX 1.7

PRACTITIONERS' PERSPECTIVE ON THE TEACHER LIBRARIAN

Di Wilson, head of Library and Information Services, Caulfield Grammar School, Wheelers Hill Campus, Victoria

A crucial question for all teachers is how to cater for difference in students' interests, abilities, and needs in the classroom. Curriculum standards and course documentation state the end point of learning and provide content description and elaborations (i.e., knowledge, understandings, and skills) for each year level. As useful as these are, teachers also need to identify the starting points for learning: What content, understanding, and skills do the students already have and what resources does the school have to **scaffold** the learning of each student? The teacher librarian is one of the people in a school who can collaborate with teachers as they identify the starting points for learning. They can assist teachers to plan and resource learning activities to engage student interests, and to meet the knowledge and skills outcomes articulated in curriculum standards.

scaffold
Refers to teacher support that prompts or guides a learner toward an answer, solution, or other learning outcome. The teacher gradually withdraws the prompts or supports as the learner develops an understanding of the process or the goal and is able to work independently.

The pervasive nature of digital technology along with easy access to an ever-expanding volume of information and greater emphasis on evidence-based practice has seen teacher librarians reconsider the curriculum roles they can—and should—play in schools. These factors drive teacher librarians to reimagine the physical and virtual library spaces available within the school and decide how they can be used effectively to support students' learning outcomes. Putting it simply, contemporary teacher librarians strive to make their school libraries vibrant centres of learning. This is good news for teachers, who can tap into the resources through the school library's physical and virtual spaces and the expertise and knowledge that teacher librarians have about curriculum planning and delivery. So what expertise and knowledge can the teacher librarian bring to your teaching practice?

Teacher librarians have expertise to identify and locate resources that meet students' learning needs. These resources might be traditional hard copy resources (such as books and magazines) or websites and other digital material. They can make resources available in a variety of formats to facilitate multi-modal learning. Through their professional networks they are up to date on the latest and most useful resources that teachers can use.

A great Australian digital resource that teacher librarians can help you to gain access and use is Scootle <www.scootle.edu.au/ec/p/home>. Scootle is a content discovery portal containing more than 16,000 teaching resources. The resources include interactive **learning objects**, and print, audio and video resources from Australian museums, galleries, libraries, and specialist collections throughout Australia. It includes features that support the organisation of these resources into learning paths and easy student access to the digital content. All documentation and support resource materials for the Australian Curriculum can also be viewed through Scootle.

learning objects
Digital resources that can be used in a range of teaching and learning situations. They have clearly defined aims, are often self-contained, and are structured so that the content and activities are interesting to learners at particular age or year levels.

Teacher librarians can collaborate with teachers to plan units of work that integrate web tools such as VoiceThread <http://voicethread.com>, Glogster EDU <www.glogster.com>, Dipity <www.dipity.com>, Padlet <http://padlet.com>, and Socrative <www.socrative.com>. These tools allow students to develop and demonstrate their understanding of key concepts and capabilities when they are integrated into a research task based on the Big6 or the Guided Inquiry model. Teacher librarians can team-teach with you when you want to introduce your students to these types of web tools.

Anywhere–anytime access to resources and tools such as those mentioned above is possible through the virtual spaces that teacher librarians create in their libraries. In my library, the LibGuides we've created with teachers have been really popular with teachers and students. Have a look at <http://libguides.caulfieldgs.vic.edu.au/homefrontww2> where primary sources were the focus, or <http://libguides.caulfieldgs.vic.edu.au/asylum> where students were grappling with asylum seeker and refugee issues. Using LibGuides or other content-sharing platforms, teacher librarians

Teacher librarians work with individual students, as in this photograph, or with class groups to provide guidance and encourage students' creativity and exploration of digital and hard copy resources.

throughout Australia create pathways and resource collections to support research activities at all year levels.

There is a large body of research evidence to show improved learning outcomes when teachers and teacher librarians plan and teach collaboratively. Engaging students in learning tasks and enhancing their achievements is what all teachers and teacher librarians work toward. Make sure you tap into this great resource in a school library near you.

Responsive teaching in practice

Over many years, I've had the privilege of observing amazingly capable teachers in early childhood, primary, and secondary school settings. During conversation, however, more than you might expect admit a lack of confidence about how to respond to their students' diverse capabilities, interests, and motivations. When this happens, I often ask teachers if they've considered the factors that affect student achievement and then talk to them about a simple way to begin their transformation to responsive teaching.

The first consideration is the student, and the diary entries are useful for bringing together insights gained from an exploration of students' learning histories. The second consideration is the evaluation of the teaching–learning environment via an ecology assessment, ideally two to four weeks into a new teaching year.

Read over the teacher's notes in Box 1.5 on page 19. What suggestions could be made?

Let's look at the setting first. There is useful ICT provided. The computers are in working order with current software. The learning space can be converted into whole-class and small-group settings by planning how furniture can be moved quickly and efficiently to minimise congestion. With limited school-based resources, the teacher would need to generate digital resources, perhaps in collaboration with a colleague, teacher aide, or volunteers. Resources such as Photo Story, The National Digital Learning Resources Network, **Inspiration® and Kidspiration®**, and pictorial resources could be used in specific lessons and by a range of students. Toward this end, the teacher could identify two or three future lessons for which resources would be developed, taking into consideration the needs of students who experience learning difficulties. These lessons could become templates and stored with other resources as a basis for future lessons. Templates flag the need for general goals, resources, expected teacher and student inputs, and target curriculum content (e.g., concept, skills, mathematical or scientific facts or formulae); they provide examples of the application of the content, and ways in which students become familiar with or practise operations related to content.

Inspiration® and Kidspiration®

Useful software packages for assisting primary- and secondary-school teachers and students to plan a mind map (i.e., a diagram that shows the connections between ideas). The software contains templates for various curriculum areas, such as English, science, and humanities subjects.

One teacher who uses ICT regularly told me that his teaching improved immeasurably by preparing templates that he could modify to deliver lessons and topics effectively and efficiently. Over two years, he set up an impressive collection of mini-lessons using PowerPoint, and web resources that included images and examples of learning and work products. The templates greatly reduced lesson-planning time.

The teacher who prepared Box 1.5 is lucky to have an interactive whiteboard but it's important to use all of its capabilities to make it worthwhile. An after-school professional development session

might be an option, or a demonstration by the supplier's representative, to ensure all its features are being utilised for learning.

Students these days are tech-savvy, and digital still and video photography (e.g., using an inexpensive video camera or smartphone) is an excellent way to create learning resources and learning records. Photo presentations can be used to present information via web access, digital resources, or PowerPoint (think UDL *Representation*), and to record excursions, learning events (think *Engagement*), and learning outcomes (think *Expression*). The teacher or other adults need to be computer-literate and work inventively with the ICT resources in their school. Digital resources can be stored on the school's server so that they are accessible to students and other teachers.

For classes in which there are students with limited capabilities, software like Photo Story could become popular. VoiceThread and other websites that provide images and sound clips might also offer resources to support students who are visual/enactive learners. Movie Maker could be effective if students have an interest in multimedia, although this might be a whole-of-school initiative targeting a specific topic or theme.

It is important to remember that responsive teaching is not a new or novel set of propositions. The fundamentals of responsive teaching date back to the 1970s. It does not require teachers to learn new ways of doing their job but simply offers a structured way of drawing together knowledge about students, the learning environment, and the actual curriculum content that is to be taught. Teachers are not required to embrace every aspect of responsive teaching described above to achieve some teaching and learning gains. Focusing only on knowing the students will make a significant difference to teaching practices. Focusing only on thinking about how ICT can be used effectively in the classroom will make a significant difference. Thinking about how a student can gain access to the curriculum in accordance with their capabilities will make a significant difference. Encouraging teaching colleagues to do the same will make a significant difference.

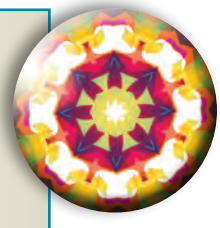
Teaching is, itself, a learning process. As teachers gain experience, they learn to adapt to the changing environments of their classrooms and become comfortable with an ever-increasing diversity within the student population. It seems to me that the expanding body of literature on teaching models, approaches, hints, tips, and tricks can entice teachers to explore alternative ways of teaching and move them out of their comfort zone. Responsive teaching is one key that will unlock the Pandora's box that we call inclusion. It may not be the only key; many other methods are described in Ashman and Conway (1997), in Buffum, Mattos, and Weber (2010), and in other sources too numerous to report here. But it is one option and you are invited to consider it.

self-assessment THREE

Here are the last two review questions.

1. Universal Design for Learning (UDL) has three primary principles. Name the three and describe their purpose.
2. What are some similarities and differences between UDL and differentiation?

PROBLEM-BASED LEARNING WRAP-UP



Melanie is faced with a situation that will be familiar to most experienced teachers, namely, inducting a new student into her class group. In this case, Fraser offers some challenges: he comes from another English-speaking country but from a very remote part of it; and apparently has intellectual disability (although the extent of any disability is not yet known).

Melanie's first job is to meet with the parents to learn as much as she can from them about Fraser's earlier learning experiences and to understand under what conditions or circumstances he learns most

effectively. Of course, she's not setting anything in concrete because she'll want to get to know Fraser and develop a relationship with him before she makes any teaching decisions.

Melanie also knows that Fraser will come into a class full of students, most of whom know each other from previous years. Introducing Fraser to his classmates won't necessarily be hard, but she'll need to encourage them to be friendly and helpful, especially if Fraser doesn't seem to learn quite as quickly as everyone else.

Melanie is an old hand at using UDL. She has a large resource collection and has PowerPoint templates for those occasions when she teaches the whole class. These include a brief introduction about the lesson, the big ideas (i.e., key concepts, rules, or principles), and ways in which the lesson will proceed. Because she knows most of the students in her class, she appreciates that some learn better when they listen and others learn better when they use concrete materials or use computer-based resources. Some learn better in groups, others by themselves. She will spend a week or two observing Fraser carefully to decide what might work most effectively.

Applications

It is not overly difficult to raise awareness of difference and diversity in any curriculum area although arguably it is easier in humanities subject areas than in the sciences and mathematics. Each of the chapters will include some teaching templates, often in the form of lesson plans that could be adapted to your classroom. Of course, your curriculum lecturers might have particular ideas about the best lesson plan model, so you will need to pay close attention to their expectations.

The contributors to this book have all approached this Applications section in slightly different ways, emphasising the fact that there are no right and wrong ways of planning lessons, simply different approaches. You might prefer one way, while lecturers or practising teachers might prefer others. Even so, you can look at the content of the plans provided in this book and adapt them to suit your particular needs or preference if they will work for you.

LESSON PLAN

The first plan was prepared with the assistance of Associate Professor Annette Hilton. It takes into consideration two students who have special education needs.

Shad has a diagnosis of mild intellectual disability, and Katrina has mild vision impairment but otherwise is achieving at a high-average level in the class. This is the second year that the SOSE teacher has taught both students and has developed effective ways of supporting them using student peers. Both students have good social skills and display no disruptive behaviour. The teacher has a positive relationship with Shad's parents, who are keen to support his learning at home. The lesson is one in a series of four aimed at preparing a report on colonial attitudes and practices in the 17th and 18th centuries.

Unit: SOSE: European Exploration
Lesson: 2 of 4
Class: 8JC
Length: 70 mins

Prior learning

In the previous lesson in this unit, students considered the changes that were occurring in Europe toward the end of the 1600s and why there were incentives to discover the unknown world.

Resources

- Teacher-prepared reading guide
- Blackboard/whiteboard group session to share and review ideas
- Library- and/or web-based search
- Task sheet to guide students' note taking
- Scaffold analysis of information (electronic version on school Intranet for students to download)

General objectives for the unit

- To develop students' understandings of historical concepts such as chronology and sequencing, national priorities, and causes and effects of colonialism.
- To encourage recognition of the explorers' values and attitudes toward those who inhabited the "unknown world," and the conflicting values and circumstances of societies with which explorers came into contact.
- To relate these values and attitudes to current beliefs about cultural differences.

Specific instructional objectives for the lesson

- Students will develop an understanding of historical events through primary and secondary sources.
- Students will locate evidence to construct a chronology of exploration in the 17th and 18th centuries.
- This lesson will provide an introduction to the following lessons in this unit in which students will complete an extended research task that has the following objectives:
  - to identify the social and cultural imperatives of national identities in Western Europe that led to exploration and colonialism; and
  - to develop skills in identifying attitudes such as cultural supremacy and exploitation.

Introduction

TIME	KEY QUESTIONS AND TEACHER INSTRUCTIONS	STUDENT ACTIVITIES	STRATEGIES FOR SUPPORTING SHAD AND KATRINA
3 mins	[Housekeeping]	Collecting work materials.	Set up pairs to work with S & K.
7 mins	What are some issues we talked about yesterday about colonial views in countries like Spain and England? What do you think their attitudes might be to people they "discovered" in the unknown world? What would the attitudes of the discovered people be toward the Europeans? In today's lesson you will research exploration by Europeans in the 17th and 18th centuries. The information you collect will be used to create a chronology or timeline.	Sharing of ideas in small groups/pairs. Whole-class discussion of key questions with key words on the whiteboard.	Include S & K in the discussion. Peer support to ensure S & K have notes.

Body

Ensure students have the reference materials provided during the previous lesson.

Divide class into library and in-class groups.

TIME	KEY QUESTIONS AND TEACHER INSTRUCTIONS	STUDENT ACTIVITIES	STRATEGIES FOR SUPPORTING SHAD AND KATRINA
45 mins	Focus on key questions: Who were the main explorers of the 17th and 18th centuries? What were their nationalities? Where did they explore? What areas did they "discover"? Who were the people already living in these areas?	Library and Internet searches for the main explorers. Identify their nationality and the areas/regions that they explored/"discovered". Downloading task sheet and completing questions while researching. Taking notes using task sheet as a guide and saving notes to students' personal files.	S & K will be in classroom work groups. The teacher spends as much time as necessary with S & K's groups. The teacher models and encourages peer-support practices. K will be able to use accessibility functions of the computer to allow her to read the information onscreen.
10 mins	What did you find? What were the patterns or trends that you noticed (e.g., in nationalities of explorers, regions explored, etc.)?	Discuss findings with whole group. Homework activity to collate and structure the information collected.	Prompt to get S to contribute. Ensure K has downloaded material onto her personal laptop.

Review

TIME	KEY QUESTIONS AND TEACHER INSTRUCTIONS	STUDENT ACTIVITIES	STRATEGIES FOR SUPPORTING SHAD AND KATRINA
5 mins	Where will you be exploring next class? Homework is to collate information into a timeline and to make notes on the patterns noticed.	Students note homework activity and are encouraged to continue research at home.	Complete S's school/home diary with notes to parents.

In the next two lessons, students will undertake research into the following questions:

1. What were the national priorities?
2. Why did they have those priorities?
3. What led to colonial intentions?

Students will make their notes using task sheets to scaffold their research, then report on their research findings by creating a multimedia product.

Practical activities

The practical activities suggested in this section throughout the book offer ideas for further studying and for exploring the topics in more detail. In the four activities suggested below, I'm inviting you to think about differences and diversity because responsive teaching requires the teacher to look at the student as an individual rather than only as a Year 2, Year 7, or Year 11 student.

The activities can be undertaken in any setting at any level, from preschool through to senior secondary. You only need to adapt them to suit your specialisation or circumstances.

1. Working with some study friends, list as many characteristics of education that reflect your society as you can. These might include being able to read, having ready access to galleries and museums, having a computer at home, using a phone to take pictures, and so on. (Your list could be huge.) Then consider the circumstances of young people who live in an African country (e.g., Sudan) or in an Asian country (e.g., Thailand) in respect of your list. You might start with a web search to find out about the country you choose. How might a student who comes from one of these countries respond to a school in your area?
2. Visit a community library or the library at your tertiary institution. Locate resources about Indigenous cultures. Look for material that relates to educational practices in those cultures. Make a list of the important issues and list ways in which you might use these resources in your own teaching.
3. Spend a couple of hours on the web, looking specifically at the websites of the various education systems around Australia, to find resources about social and cultural issues. For example, if you went to <http://det.wa.edu.au/about/detcms/navigation/education-a-z> and looked under "A" you'd find quite a few resources on Aboriginal education. Develop a small resource package on one specific issue you choose to explore. You might share your package with your student colleagues.
4. Talk to three or four of your teacher colleagues who represent a range of experiences—one who has been at the school for a long time, another who is a relative newcomer, and someone you particularly respect. Talk to them about ways in which the school has embraced inclusive education. Focus your interview on the range of teaching strategies that your colleagues use to deal with students new to Australia.

Suggested reading and resources

Brisk, M. E. (Ed.) (2007). *Language, culture, and community in teacher education*. Boca Raton, FL: Taylor & Francis.

Clarke-Stewart, A., & Dunn, J. (2006). *Families count: Effects on child and adolescent development*. Cambridge: Cambridge University Press.

Florian, L., Rouse, M., & Black-Hawkins, K. (2000). *Achievement and inclusion in schools*. Abingdon, UK: Routledge. [An excellent omnibus volume that covers a broad range of topics on inclusion.]

Forlin, C. (2012). *Future directions for inclusive teacher education: An international perspective*. New York: Routledge. [Presents a range of ideas relating to professional development for beginning and experienced teachers in regard to inclusive education.]

Harrison, N. (2004). *Indigenous education and the adventure of insight: Learning and teaching in Indigenous classrooms*. Flaxton, Qld: Post Pressed. [Contains useful material about Indigenous education.]

WEBSITES

Center for Applied Special Technology <www.cast.org>. Learn more about Universal Design for Learning.

DifferentiationCentral <www.diffcentral.com>. Maintained by Carol Tomlinson, a leading advocate of differentiated instruction, and her colleagues at the University of Virginia.