

Teachers, teaching and educational psychology

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TEACHERS' CASEBOOK WHAT WOULD YOU DO?

You are committed to being a great teacher, but teaching is a huge job. Fortunately, you're not alone. Every day, educators and researchers from around the globe post new guides and ideas for effective instruction. You enjoy using social media, online resources, and popular books to improve your teaching. You're drawn to the wisdom of those who are obviously great teachers. You bookmark these resources for activity ideas, innovative approaches, and tips for reaching your ever-changing student population. Also, you feel that staying current in your professional knowledge is important. On occasion, the advice you hear challenges your long-held beliefs about teaching and learning. But it sometimes feels overwhelming or contradictory.

Critical thinking

What makes someone a great teacher? How are 'best' practices determined? How do you evaluate the quality of others' advice about teaching and learning? What would lead you to conclude that someone else's advice is simply a trend or a sound educational practice? What kinds of research findings would convince you to change your practice?

Collaboration

With three or four other members of your class, draw a concept map or web that graphically depicts 'good teaching'. For an example of a concept map, see Chapter 7, Figure 7.7.

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CHAPTER OUTLINE

Like many students, you may begin this course with a mixture of anticipation and wariness. Perhaps you are required to take educational psychology as part of a program in teacher education, speech therapy, nursing, or counselling. You may have chosen this course as an elective. You probably have questions about teaching, schools, students—or even about yourself—that you hope this course may answer. This edition of *Educational Psychology* has been written with such questions in mind.

In this first chapter, we begin with education—more specifically, with teaching today. Do teachers make a difference in students' learning? What characterises good teaching? What role does individualised teaching play? Only when you are aware of the challenges and possibilities of teaching and learning today can you appreciate the contributions of educational psychology.

After a brief introduction to the world of the teacher, we turn to a discussion of educational psychology itself. How can principles identified by educational psychologists benefit teachers, therapists, parents, and others who are interested in teaching and learning? What exactly is the content of educational psychology, and where does this information come from?

LEARNING OUTCOMES

By the end of this chapter, you should be able to:

- LO 1.1** Explain why teaching matters. [APST: 1.3; 4.1; 6.2]
- LO 1.2** Define what good teaching is, and describe what expert teachers know and what expert learners do. [APST: 1.2; 1.3; 3.5; 4.1; 6.2; 6.3; 6.4]
- LO 1.3** Understand reasons for studying educational psychology and the roles of theory and practice in this field. [APST: 1.2; 6.1; 6.2]
- LO 1.4** Describe how theories and research about development and learning are related to educational practice. [APST: 1.2; 6.1; 6.2; 7.4]

LO 1.1

Explain why teaching matters.

CONNECT AND EXTEND GOALS OF EDUCATION

What are the goals of education, real and ideal? What does it mean to be an educated person? What makes a teacher effective? How do you learn best? What do you expect to learn from this course?

DO TEACHERS MAKE A DIFFERENCE?

Before we consider what defines good teaching, let us examine a more basic question: Does teaching really matter? Some early researchers reported findings suggesting that wealth and social status, not teaching, were the major factors determining who learned in schools (Coleman, 1966). However, other research on teaching has been conducted by educational psychologists who refused to accept these claims that teachers were powerless in the face of poverty and societal problems (Wittrock, 1986). In New Zealand and Australia, John Hattie conducted meta-analyses of almost 1,200 studies to identify and assess influences on school achievement nationally and internationally, and concluded that it is the teachers and the quality of their teaching and learning provision that contributes most to student achievement (Hattie, 2003; 2005; 2009; 2012; 2015). This outcome is supported by a literature review that 'clearly shows that teaching efficacy is among the most influential factors driving educational outcomes' (Deloitte Access Economics, 2017, p. iii).

The Preamble to the Australian Professional Standards for Teachers cites Ben Jensen (2010, p. 5) and recognises that:

The greatest resource in Australian schools is our teachers. They account for the vast majority of expenditure in school education and have the greatest impact on student learning, far outweighing the impact of any other education program or policy. (Grattan Institute, 2010, p. 5)

How can you decide whether teaching makes a difference? You could look to your own experience. Were there teachers who had an impact on your life? Did their thoughts and values inform your thoughts and values? Did their style of teaching and strategies inform the way you work? Being kind; having faith in students, an interest in their lives and a sense of humour; and effective teaching are important

(Cothran, Kulinna & Garrahy, 2003; Kriewaldt, 2015; Van Bergen, Graham & Sweller, 2020). For many people, the teachers they have had continue to affect their lives. But one of the purposes of educational psychology in general and this text in particular is to go beyond individual experiences and testimonies, powerful as they are, to examine larger groups. The results of many large-group studies speak to the power of teachers in the lives of students, which we explore in the following section.

Teacher–student relationships

Bridget Hamre and Robert Pianta (2001) followed 179 children in a small school region in the United States, from the first year of school until Year 8. They concluded that the quality of the teacher–student relationship (defined in terms of the level of conflict with the student, the student’s dependency on the teacher, and the teacher’s affection for the student) in the first year of school predicted a number of academic and behavioural outcomes in Year 8, particularly for students with high levels of behaviour problems. Even when the gender, ethnicity, cognitive ability, and behaviour ratings of the students were accounted for, the relationship with the teacher still predicted aspects of school success.

Students with significant behaviour problems in the early years are less likely to have problems later in their schooling if their first teachers are sensitive to their needs and provide frequent, consistent feedback. Of course, forming positive relationships with challenging students is not easy. When students act out, teachers can respond negatively and the cycle of student behaviour problems and teacher conflict continues. Forming positive relationships with students also means breaking the cycle of conflict by teaching the students better ways to deal with anger and frustration—the role of social and emotional learning (de Jong, Koomen, Jellesma & Roorda, 2018).

The connection between teacher relationships and student outcomes is widespread. Pianta’s research team has documented the importance of teacher–student relationships in a number of studies that followed students over many years (e.g. Ansari, Pianta, Whittaker, Vitiello & Ruzek, 2020; Crosnoe, Morrison, Burchinal, Pianta, Keating, Friedman & Clarke-Stewart, 2010). Daniel Quin (2017) reviewed 46 studies, including studies that followed students over time, and reached a similar conclusion—better teacher–student relationships predicted student engagement. Similarly, in Australia, positive teacher–student relationships were associated with academic participation, enjoyment, and aspirations for secondary school students (Martin & Collie, 2019). In Germany, secondary school students who reported higher levels of teacher support also were more satisfied with school, and in the United States, positive teacher–student relationships predicted social-emotional development and reading achievement for primary school students (Rucinski, Brown & Downer, 2018). And as we note in the chapter ‘Teaching for learning’, teacher warmth is one element of effective teaching (Dennie, Acharya, Greer & Bryant, 2019; Van Bergen, Graham & Sweller, 2020).

Positive relationships with students are important for teachers as well. Teachers who have close relationships with their students experience high levels of accomplishment and self-efficacy, and teachers who report more conflict in student relationships feel more emotional exhaustion and burnout (Rajendran, Watt & Richardson, 2020). So, evidence is mounting for a strong association between the quality of teacher–student relationships and important outcomes for both students and teachers.

Read the *Stories of Learning: Tributes to teaching* feature to put a face on the power of positive teacher–student relationships.

Teacher quality

In widely publicised studies, John Hattie (2003; 2012; 2015) investigated different influences on student achievement, and concluded that expert teachers—whose practice is characterised by feedback to students, instructional quality, use of direct instruction, remediation, challenging goals, and encouraging mastery learning—strongly influence learning, with their students showing more integrated and coherent understandings, and a higher level of abstraction when compared to other students.

Expert teachers who establish positive relationships with their students appear to be a powerful force in those students’ lives. Students who have problems seem to benefit the most from good teaching. So, what is good teaching?

CONNECT AND EXTEND TO THE RESEARCH

For a perspective on teacher preparation, read the paper by Linley Cornish and Kathy Ann Jenkins (2012). Encouraging teacher development through embedding reflective practice in assessment. *Asia-Pacific Journal of Teacher Education*, 40(2), 159–170.

- What evidence is there that teachers make a difference to student outcomes?



STORIES OF LEARNING

Tributes to teaching

Kay was in the park with her young children when she noticed a young teenage boy on a bike watching them from behind some bushes. She called the children a little closer and encouraged them to play on the climbing frame rather than chasing and hiding from each other.

The boy rode his bike a little closer and started to circle them. Suddenly he came close and asked, 'Are you a teacher?'

'Yes,' replied Kay a little cautiously. 'Why do you ask?'

The boy said, 'Are you Mrs Kay?' Kay nodded.

'You used to teach me when I was five.'

Suddenly Kay remembered the curly-haired little boy she had taught, and how challenging he had been to settle into the class and to keep engaged. 'Why, Marco, how are you? How are your little sisters?'

They chatted and Kay learned that Marco was in Year 9 at school and planning to go to university. She was quite amazed when he said, 'I have never forgotten you and how you used to look after me.'

LO 1.2

Define what good teaching is, and describe what expert teachers know and what expert learners do.

WHAT IS GOOD TEACHING?

There are hundreds of answers to this question. Educators, psychologists, philosophers, novelists, journalists, mathematicians, scientists, historians, policy-makers, and parents, to name only a few groups, have examined this question. Good teaching is not confined to classrooms—it occurs in homes and hospitals, museums and sales meetings, therapists' offices and vacation care. In this text, we are primarily concerned with teaching in classrooms, but much of what you will learn applies to other settings as well.

WHAT WOULD YOU SAY?

It is your first interview for a teaching position. The principal takes out a pad of paper and a pen, looks intently into your eyes and says, 'Tell me what you admired about your favourite teacher. What makes a good teacher?' What will you say?

Inside four classrooms

To begin our examination of good teaching, let us step inside the classrooms of several outstanding teachers.

A bilingual beginners class There are 25 students in Kim Cuc's class. Most have recently emigrated from Vietnam and some from Cambodia. Even though the students spoke little or no English when they began school, by the end of the year Kim Cuc has helped them master the normal curriculum. She has accomplished this by teaching mostly in Vietnamese early in the year to aid understanding, then gradually increasing the use of English as the students are ready. Kim Cuc does not want her students segregated or labelled as disadvantaged. She encourages them to take pride in their Vietnamese-speaking heritage while using every available opportunity to support their developing English proficiency.

Kim Cuc's expectations for her students are high, and she makes sure the students have the resources they need. She helped families access laptops, tablets, SIM cards, and dongles provided by the state government during the Covid-19 pandemic. She provides materials—pencils, scissors, textas—so no child lacks the means to learn. And she supplies constant encouragement. With great commitment, Kim Cuc motivates, instructs, provokes, praises, and captivates her students. The pace is brisk and Kim Cuc clearly has a flair for the dramatic; she uses music, props, gestures, and facial expressions, and changes her voice tone to communicate the material (adapted from Weinstein & Romano, 2015). To know more about her students each year, she visits their homes. For Kim Cuc, teaching is not just a job; it is a way of life.

A suburban Year 5 class Peter teaches Year 5 in a suburban primary school. Students in the class represent a range of racial, ethnic, family income, and language backgrounds. Peter emphasises ‘process writing’. His students complete first drafts; discuss them with others in the class; then revise, edit, and ‘publish’ their work. The students also keep daily journals and often use these to share personal concerns with Peter. They tell him about problems at home, fights, and fears; he always takes the time to respond in writing. Peter uses technology to connect lessons to real-life. In science, students learn about ocean ecosystems and sustainability by using a range of interactive software programs. For social studies, the class plays simulation games that focus on history.

Throughout the year, Peter is very interested in the social and emotional development of his students—he wants them to learn about responsibility and fairness as well as science and social studies. This concern is evident in the way he develops his class rules at the beginning of the year. Rather than specifying dos and don’ts, Peter and his students devise a ‘Bill of Rights’ for the class, describing the rights of the students. These rights cover most of the situations that might need a ‘rule’.

An advanced maths class In a lesson for her advanced mathematics class, secondary school teacher Madeleine had her students identify any three problems about ellipses from their text. She asked if there were any questions or uncertainties about these problems. Madeleine answered student questions, worked two of the problems, and then used the three problems to derive all the concepts and equations the students needed to understand the material. Madeleine’s knowledge of both the subject and her students was so thorough that she could create the explanations and derive the formulas on the spot, no matter which problems the students chose.

An inclusive class Edward was bright and articulate. He easily memorised stories as a child but he could not read by himself. His problems stemmed from severe learning difficulties with auditory and visual integration and long-term visual memory. When he tried to write, everything got jumbled. With the help of an expert, Edward’s teacher tailored intensive tutoring that specifically focused on Edward’s individual learning patterns and his errors. With his teachers’ help, over the next years, Edward became an expert on his own learning and was transformed into an independent learner; he knew which strategies he had to use and when to use them (based on Hallahan, Kauffman & Pullen, 2019).

What do you see in these classrooms? The teachers are confident and committed to their students. They must deal with a wide range of student abilities and challenges: different languages, different home lives, different abilities, and different learning challenges. These teachers must adapt instruction and assessment to students’ needs, and teach their students ‘how to learn’. They must understand their subjects and their students’ thinking so well that they can spontaneously create new examples and explanations when students are confused. They must make abstract concepts, such as ecosystems or ellipses, real and understandable for their particular students. At the same time, the teachers must be aware of new technologies and techniques and use them appropriately to accomplish important goals, not just to entertain the students. The whole time that these experts are navigating through the academic material, they also are taking care of the emotional needs of their students, propping up sagging self-esteem, and encouraging responsibility.

If we followed these teachers from the first day of class, we would see that they carefully plan and teach the basic procedures for living and learning in their classes. They can efficiently collect and correct homework, regroup students, give directions, distribute materials, collect lunch money, and deal with disruptions—and they do all of this while also making a mental note to check, for example, why one of their students is so tired. These teachers are also **reflective practitioners**—they look back on events and analyse what they did and why, identify other perspectives on the situation, and consider how they can improve their teaching and student learning. They challenge their own perceptions, beliefs, experiences, and practices, and this leads to expert professional practice.

Expert teachers

What do **expert teachers** know that allows them to be so successful? John Hattie and Richard Jaeger identified five major dimensions of expert teachers in their review of distinctions between what they named excellent or expert teachers, and experienced and novice teachers (Hattie, 2003; 2012).

CONNECT AND EXTEND TO OTHER CHAPTERS

Peter’s approach to classroom management by establishing a ‘Bill of Rights’ is an example of an approach to setting class rules, addressed in Chapter 11.

reflective practitioners

Teachers who think back over situations and analyse what they did and why, identify other perspectives on the situation, and consider how they might improve teaching and learning for their students.

expert teachers

Experienced, effective teachers who know the content of the subjects they teach and use a range of strategies for meeting the diverse needs of students so that students actively engage in learning. Their knowledge of teaching process and content is extensive and well-organised.



Expert teachers must be both knowledgeable and inventive. They must know the content of the subjects they teach, and be able to use a range of strategies and capable of inventing new strategies to meet the diverse needs of students and engage them in learning.

According to Hattie and Jaeger, expert teachers:

1. can identify essential representations of their subject—their content knowledge and its use are deep and integrated
2. are proficient at creating an optimal classroom climate for learning—errors are welcomed, and questioning and engagement are high
3. monitor learning and promote feedback
4. believe that all students can reach the success criteria—they are receptive to students' affective attributes and needs, and passionate about teaching and learning
5. influence surface and deep student outcomes—they set challenging goals and motivate and engage students in achieving them.

A key factor that may not be clear from this list is the need for expert teachers to know their 'teacher-self'—their personal biases, strengths, and blind spots, and their personal cultural identity. When teachers are confident, have a clear sense of self, and are willing to explore beyond their comfort zone, they are better able to understand and respect the cultural identity of their students. We also know that teachers with a high level of *efficacy*, and who have a belief that they can help even the most challenging students to learn, have higher levels of resilience and generate a positive influence on student learning (Zee & Koomen, 2016).

This is quite a list of qualities. One course alone will not make you an expert—that takes time and experience. However, studying educational psychology can add to your professional knowledge because at the heart of educational psychology is a concern with learning, wherever it occurs. To know about the psychology of education you will need to know about *your students, learning, motivating, teaching, and assessing*.

How do you grow from beginning teacher to expert teacher? Can you learn to be an expert teacher, or are really great teachers just born? Is good teaching an art or a science? See the *Point/Counterpoint—What is good teaching?* for a closer look at these questions.

Beginning teachers

stop think write

Imagine walking into your first day of teaching. List the concerns, fears, and worries you have. What assets do you bring to the job?

Many beginning teachers experience a reality shock when they take their first job and confront the harsh reality of everyday classroom life. The first year of teaching is often seen as a rite of passage, a time when beginning teachers are socialised into the teaching profession and encounter the experiences they 'just have to have' (Dicke, Elling, Schmeck & Leutner, 2015). Beginning teachers everywhere share many concerns: maintaining classroom discipline, motivating students, meeting students' different needs, evaluating students' work, dealing with parents, getting along with other teachers, being evaluated by supervisors, and dealing with paperwork and lesson planning (Dicke, Elling, Schmeck & Leutner, 2015; Heffernan, Longmuir, Bright & Kim, 2019; Melnick & Meister, 2008). Along with lack of familiarity with the school and limited support structures, a source of shock may be that teachers really cannot ease into their responsibilities. On the first day of their first job, beginning teachers face the same tasks as teachers with years of experience. Preservice teacher practicum placements, while a critical element, frequently do not really prepare prospective teachers for starting off a school year with a new class (Rowan, Kline & Mayer, 2017; White, 2005).

If you listed any of these concerns in the *stop think write* task, you shouldn't be troubled. They come with the job of being a beginning teacher. But be encouraged—Linda Graham and her colleagues (2020), in a study involving primary school teachers, concluded that: 'Beginning teachers are doing as well or better than teachers with more years of experience, but ... the overall quality of teaching could be higher' (p. 8). Beginning teachers should try to maintain connectedness with family and friends, along with developing relationships with colleagues and having consistent daily routines.

WHAT IS GOOD TEACHING?

Is good teaching science or art, teacher-centred lecture or student-centred discovery, the application of general theories or the invention of situation-specific practices? Is a good teacher a good explainer or a good questioner, a 'sage on the stage' or a 'guide by the side'? These debates have raged for years. In your other education classes you probably will encounter criticisms of the scientific, teacher-centred, theory-based, lecturing sages. You will be encouraged to be artistic, inventive, student-centred, questioning guides. Is this the right path? Let us see what the arguments are.

► POINT

Teaching is a theory-based science.

Psychologists have spent decades studying how children think and feel, how learning occurs, what influences motivation, and how teaching affects learning. These general and abstract conceptions apply to a wide range of situations—why should teachers have to reinvent all this knowledge? In the chapter 'Teaching for learning', we identify teacher characteristics and behaviours that are related to student learning: knowledge, clarity, enthusiasm, and direct or active teaching. An effective teacher plans, reviews, explains, checks for understanding and, if necessary, reteaches, always keeping the level of difficulty and the pace just right for each student—to keep them engaged and learning. When teachers adopt explicit teaching practices they clearly show students what to do and how to do it. The teacher decides on learning intentions and success criteria, makes them transparent to students, and demonstrates them by scaffolding. The teacher checks for understanding, and at the end of each lesson revisits what was covered and ties it all together (Hattie, 2009; 2012; 2015).

Advocates note that ignoring the direct teaching of skills can be detrimental for some students. For example, Harris and Graham (1996) described the experiences of their daughter, Leah, in a whole-language/progressive education school, where the teachers successfully developed their daughter's creativity, thinking, and understanding. However, by the end of the first year of school, Leah was not making expected progress with reading and the teacher believed she had a perceptual problem or learning disability. Finally, an assessment was done and testing indicated no learning disability, strong comprehension abilities, and poor word attack skills. Fortunately, Leah's parents knew how to teach word attack skills. Direct teaching of these skills helped Leah become an avid and able reader in about six weeks.

Being an expert teacher requires a solid understanding of how human beings learn, particularly in a given discipline, and having genuine empathy and concern for each student. These understandings are not something we are born with but are based on what we learn from research.

► COUNTERPOINT

Teaching is an art—a creative reflective process.

Other educators believe that the mark of an expert teacher is not the ability to apply techniques but the artistry of being reflective:

continually observant, thoughtful, and reflective about the nature of learning and the art of teaching... [they] continually try to understand what they currently believe about learning, articulate to themselves and others why they believe what they do, and use teaching as a powerful tool to enhance student learning and promote their own growth. (Bintz & Dillard, 2007, p. 223)

As Hattie (2015) states: 'The art of teaching is to balance the need for surface knowledge with deep processing of this knowledge' (p. 14). Educators who adopt these views tend to be more concerned with how teachers plan, solve problems, create instruction, and make decisions than they are with the theory and techniques teachers apply. 'If classrooms are to become a community of learners, then teachers must see themselves and their students as creators of curriculum, as reflective practitioners, and as collaborative inquirers' (Bintz & Dillard, 2007, p. 223). These educators believe teaching 'is specific with respect to task, time, place, participants, and content, and that different subjects vary in those specifics' (Leinhardt, 2001, p. 334). Thus, teaching is so complex that it must be invented anew with every new subject and class. And good teachers are not 'sages on the stage', spouting knowledge, but, rather, are 'guides by their students' sides'. Critics of direct, teacher-centred teaching claim that breaking material into small segments, presenting each segment clearly, and reinforcing or correcting, is *transmitting* accurate understandings from teacher to student.

► BEYOND EITHER/OR

Most research and teachers agree that teachers must be both knowledgeable and technically competent and inventive. They must be able to use a range of strategies, and they must also be able to invent new strategies. Theory-based knowledge about teaching and learning is important, but being an effective teacher requires more than knowledge; teachers also need skills, attitudes, and techniques 'derived from experiential and practical experiences in the classroom' (Guerriero, 2014, p. 3). They must have some simple routines for managing classes, but they must also be willing and able to break from the routine when the situation calls for change. Teachers must know the research on student development and learning, and they also need to know their own students, who are unique combinations of genders and geographies. The theories you encounter in this text should be used as cognitive tools to help you examine, inspect, and interpret the claims you will hear and read throughout your career.

Personally, we hope you all become teachers who are both 'sages' about the content of your teaching and 'on your students' sides', wherever you stand.

**CONNECT AND EXTEND
TO OTHER CHAPTERS**

Teachers' knowledge of their own thinking is an example of metacognitive knowledge, discussed in Chapter 8.

Even with these concerns, you don't have to wait for years to become a good teacher. There are many student teachers who are excellent, even during their practice teaching experiences. To read about a new teacher's experience, see *Reaching Every Student—Encouragement for a beginning teacher*. With experience, hard work and support, most teachers meet the challenges that seem difficult for beginners. They have more time to experiment with new methods or materials. And, as confidence grows, teachers can focus on *students'* needs. At this advanced stage, teachers judge their success by the successes of their students. So, enter your teaching career with confidence and strive to get better every year.

We have talked about expert teachers because that is what many of you are planning to become. But all good teaching begins with an understanding of *students* and *learning*—and an understanding of educational psychology.

The goal of teaching: Lifelong learning

A key question for educators is: What skills do young people need now and in the future?

Recent, rapid, and ongoing changes in the world—globalisation and technological innovations, and complex social, environmental, and economic pressures (and pandemics)—increasingly require our



Teaching is one of the few professions in which a beginner must assume all of the responsibilities of an experienced 'pro' during the first week on the job. Veteran teachers can be an excellent source of information and support during these early weeks.

SOURCE: Cathy Yeulet/123RF

education system to prepare young people to thrive and cope with these and future challenges. To enable this, the Alice Springs (Mparntwe) Education Declaration (Education Council, 2019) recognises that young Australians need flexibility, resilience, creativity, and the ability and drive to keep on learning throughout their lives (Education Council, 2019). The Alice Springs (Mparntwe) Education Declaration builds on the two key educational goals of the Melbourne Declaration on Educational Goals for Young Australians (Ministerial Council on Education, Employment, Training and Youth Affairs, 2008b): (1) promoting equity and excellence; and (2) supporting all young Australians to become successful lifelong learners, confident and creative individuals, and active and informed citizens. The Alice Springs (Mparntwe) Declaration places students at the centre of their education, with an emphasis on meeting the individual needs of all learners. It outlines the role of education in supporting young people's mental health, wellbeing, and resilience. Importantly the Declaration renews the commitment to ensuring that 'all students learn about the diversity of Aboriginal and Torres Strait Islander cultures, and to seeing all young Aboriginal and Torres Strait Islander peoples thrive in their education and all facets of life' (Education Council, 2019, p. 3).

REACHING EVERY STUDENT

Encouragement for a beginning teacher

A group of teachers were talking about the challenges and rewards of teaching. One of the teachers shared a turning point in their teaching career that occurred during the second term of their first year in a school.

The teacher had been frantically busy preparing Year 12 students for the forthcoming music exams and was starting to feel a lack of success as a teacher. They were even beginning to think of giving up teaching.

One lunchtime a senior student knocked on the staff room door to remind the teacher they had organised a time to meet to rehearse for the student's practical music exam. After 40 minutes spent going over different techniques that could help the student improve their singing and general performance for the exams, the teacher felt exhausted and absolutely drained. It was at that time the teacher thought they should not be teaching in such a tired state.

The teacher recalled, 'As I was leaving, the student unexpectedly turned to me with a smile on their face. They said they were so pleased that I was at the school, and that all of the senior class were happy to have me around. It was so encouraging when the student told me my teaching methods were some of the best they had experienced at the school and that it was great to have music taught in such a different and interesting way. The student said they hoped I would stay because the school could use a teacher like me. I felt refreshed, and walked into my next class with a new lease on my teaching life, confident I could make a difference.'

The teacher concluded, 'I guess a loss of confidence must happen to every teacher at some point, but we must remember to be satisfied by the simple idea that if one student walks away from our lesson having gained something, we have made a difference.'

To become a ‘successful learner’ and to continue learning independently throughout life, we must become self-regulated learners. **Self-regulation** requires the ability to analyse the task, plan, and activate and monitor our thoughts, behaviours, and emotions in order to reach our goals. When the goals involve learning, we talk about **self-regulated learning** (Panadero, 2017). **Self-regulated learners** have a combination of learning skills and self-control that makes learning easier, so they are more motivated; in other words, they have the *skill* and the *will* to learn (Perry & Rahim, 2011). Self-regulated learners transform their cognitive abilities, whatever they are, into academic skills and strategies (see the chapter ‘Motivation in learning and teaching’) (Winne, 2018; Zimmerman & Schunk, 2011).

Not all of your students will be self-regulated learners. Some students are much better at self-regulation than others. How can you help more students become self-regulated learners? This is where educational psychology and this text can help (see the chapter ‘Motivation in learning and teaching’).

- What do expert teachers know?
- What are the concerns of beginning teachers?
- What elements are involved in self-regulated learning?



THE ROLE OF EDUCATIONAL PSYCHOLOGY

For as long as the formal study of educational psychology has existed—over 120 years—there have been debates about what it really is. Some people believe educational psychology is simply knowledge gained from psychology and applied to the activities of the classroom. Others believe it involves applying the methods of psychology to study classroom and school life (Brophy, 2003).

Educational psychology and teaching have strong historical links. In 1890, William James founded the discipline of psychology in the United States and developed a series of lectures for teachers. One of his students, G. Stanley Hall, encouraged teachers to make detailed observations to study their students’ development. Hall’s student, John Dewey, argued strongly against false dichotomies in teaching and is considered to be the father of the progressive education movement. He believed that education should begin with psychological insight into a child’s capacities, interests, and habits. He advocated inquiry learning and learning through real-life activities (Berliner, 2006). His views have great currency today.

In the 1940s and 1950s, educational psychology concentrated on individual differences, assessment, and learning behaviours, while in the 1960s and 1970s, it focused on cognitive development, memory, and learning. More recently, the role of culture, social factors, and student wellbeing in learning and development has been researched.

The view generally accepted today is that **educational psychology** is a distinct discipline with its own theories, research methods, problems, and techniques. To identify as much as possible about learning and teaching, educational psychologists examine what happens when *someone* (teacher, parent, or computer) teaches *something* (maths, weaving, dancing) to *someone else* (student, colleague, team) in *some setting* (classroom, theatre, gym) (Berliner, 2006). But are the findings of educational psychologists really that helpful for teachers? After all, most teaching is just common sense, isn’t it? Let us take a few minutes to examine these questions.

Is it just common sense?

In many cases, the principles set forth by educational psychologists—after spending much thought, time, and money—sound pathetically obvious. People are tempted to say, and usually do say, ‘Everyone knows that!’ Consider these examples.

Learning styles Students have different learning styles that are dominated by particular senses (e.g. visual, auditory). Do they learn best when they receive information in their preferred learning style?

Common sense answer: Of course, we are all different. Some of us are visual learners; some have to hear information to learn. Most people can describe their own learning style and learn best using that style.

LO 1.3

Understand reasons for studying educational psychology and the roles of theory and practice in this field.

self-regulation Process of planning, activating, and monitoring thoughts, behaviours, and emotions in order to reach goals.

self-regulated learning A view of learning as being skills and will applied to analysing learning tasks, setting goals, planning how to do the task, applying skills, and reflecting on and making adjustments to how learning is carried out.

self-regulated learners Students who have a combination of learning skills and self-control that makes learning easier.

educational psychology The discipline concerned with teaching and learning processes; applies the methods and theories of psychology and has its own as well.

Answer based on research: This is one of the most persistent myths in education—a ‘fake’ belief that just won’t die. Kelly Macdonald and her colleagues (2017) found that 9 per cent of the general public and 76 per cent of educators believed this myth even though study after study has shown that students do not learn more when taught in their preferred style (Pashler, McDaniel, Roher & Bjork, 2009; Willingham, Hughes & Dobolyi, 2015). There are two underlying truths that encourage the persistence of this myth: people do have a preference for how to receive information, and teachers do achieve better results if they present information in multiple sensory modes. So, this myth is made up of a seed of facts, some emotional bias, and just plain wishful thinking that a simple key to good teaching exists. Unfortunately, what you prefer—say ice cream and cake as your dinner every night—is not always good for you. People simply do not learn best when taught in their preferred style (Scudellari, 2015). Okay—we sense your scepticism. In the chapter ‘Learner differences and learner needs’ we dig deeper into the question of learning styles.

Student autonomy Does giving students more autonomy over their learning help them learn?

Common sense answer: Of course. Students who choose their own learning tasks and materials will be more engaged and therefore learn more.

Answer based on research: It is not so simple. When teachers motivate and engage students by respecting students’ perspectives and initiatives, and where teacher–student interactions are reciprocal, student autonomy is supported (Reeve, 2009; 2016). Experimental studies (Cheon & Reeve, 2013; Cheon, Reeve, Yu & Jang, 2014; Vansteenkiste, Simons, Lens, Sheldon & Deci, 2004) concluded that the benefits for students of autonomy-supporting classrooms are widespread and educational, and include: greater intrinsic motivation and regulation, greater classroom engagement, higher academic achievement, and enhanced psychological and physical wellbeing (Reeve, 2016). These teachers also benefit; they report greater teaching self-efficacy and job satisfaction, and less emotional and physical exhaustion from teaching than do other teachers (Cheon, Reeve, Yu & Jang, 2014). We address motivation, student autonomy, and self-determination in more detail in the chapter ‘Motivation in learning and teaching’.

Skipping year levels Should a school encourage exceptionally bright students to skip year levels or to enter university early?

Common sense answer: No! Very intelligent students who are a year or two younger than their classmates are likely to be social misfits. They are neither physically nor emotionally ready for dealing with older students and would be miserable in the social situations that are so important in school, especially in higher year levels.

Answer based on research: Maybe. The Australian Association for the Education of the Gifted and Talented (AAEGT) (2021) reports that ‘extensive research has demonstrated that acceleration is an effective and appropriate method to cater for gifted students academically, socially and emotionally’. One example of positive long-term effects is that mathematically talented students who skipped grades in primary or secondary school were more likely to go on to earn advanced degrees and publish widely cited articles in scientific journals (Park, Lubinski & Benbow, 2013). Whether acceleration is the best solution for a particular student depends on many specific individual characteristics, including the intelligence and maturity of the student as well as the available options. For some students, moving quickly through the material and working in advanced courses with older students can be a very positive experience (Kretschmann, Vock & Lüdtke, 2014). See the chapter ‘Learner differences and learner needs’ for more on adapting teaching to students’ abilities.

Obvious answers? Years ago, Lily Wong (1987) demonstrated that just seeing research results in writing can make them seem obvious. She selected 12 findings from research on teaching, and presented six of the findings in their correct form and six in exactly the opposite form to tertiary students and to experienced teachers. Both the tertiary students and the teachers rated about half of the wrong findings as ‘obviously’ correct. Jeannie Oakes (2018) has an idea about why ‘obvious answers’ are so powerful: ‘Everybody’s firsthand schooling experience often makes research seem irrelevant—that it unnecessarily documents what everybody already knows or unhelpfully contradicts what’s obviously true’ (p. 94).

Paul Kirschner and Joren van Merriënboer (2013) made a similar point when they challenged several ‘urban legends’ in education, including the assertion that learners know best how to learn.

Current, strongly held beliefs about students as self-educating digital natives who can multitask, have unique learning styles, and always make good choices about how to learn *have no strong basis in research*, but still they are embraced.

You may have thought that educational psychologists spend their time discovering the obvious. The preceding examples point out the danger of this kind of thinking. When a principle is stated in simple terms, it can sound simplistic. A similar phenomenon takes place when we see a gifted dancer or athlete perform; the well-trained performer makes it look easy. But we see only the results of the training, not all the work that went into mastering the individual movements. And bear in mind that any research finding—or its opposite—may sound like common sense. The issue is not what *sounds* sensible, but what is *demonstrated* when the principle is put to the test in research—which we turn to now.

Using research to understand and improve teaching

stop think write

List all the different research methods you can name.

Conducting research to test possible relationships is one of two major tasks of educational psychology. The other is combining the results of various studies into theories that attempt to present a unified view of such things as development, learning, and teaching. Before we explore some of the main methods in those studies, let's take a moment to emphasise critical thinking about research in general.

In this text and many others, you will encounter studies and research claims. Sometimes the claims will seem contradictory. Being a critical consumer of research, not just in your profession but also in the general media, is important. How strong is the evidence for a claim? Did the researchers study just a few people or many; over a short time or longer? Did what was assessed match what was taught or the goals of the program? Are the students in the study similar to yours? Is the school and community context like your situation? Research results can give you ideas to try, and new concepts—tools to think with. But you must bring your own inventiveness and clear thinking to the process.

We turn now to examine some frequently used research methods.

Descriptive studies Reports of **descriptive studies** often include survey results, interview responses, samples of actual classroom dialogue, or audio and video records of class activities.

One descriptive approach, classroom **ethnography**, is borrowed from anthropology. Ethnographic methods involve studying the naturally occurring events in the life of a group and trying to understand the meaning of these events to the people involved. In educational psychology research, ethnographies might make detailed observations, along with audio recordings and interviews with students and teachers, to study how students from different cultural groups are viewed by their peers or how teachers' beliefs about students' abilities affect classroom interactions.

In some descriptive studies, such as action research and practitioner research in particular, the researcher uses **participant observation** and actively participates within the class or school to better understand the actions from the perspectives of the teacher and the students. In this way, the researcher also influences, directly or indirectly, what they are observing. Researchers also may employ case studies. A **case study** provides an in-depth investigation of an individual, a group, an organisation, or an institution. For example, a case study may investigate issues around the transition to school for a child who is a newly arrived immigrant, the way a teacher introduces a new teaching approach, or how a school deals with a particular administrative function.

Correlational studies Often the results of descriptive studies include reports of **correlations**. We will take a moment to examine this concept because you will encounter correlations in the coming chapters. A correlation is a number that indicates both the strength and the direction of a relationship



These students are participating in 'hands-on' cooperative learning. Will their knowledge of science improve using this approach? Are there better ways to learn in biology? Educational research should shed light on questions such as these.

CONNECT AND EXTEND TO THE RESEARCH

Read Youki Terada and Stephen Merrill's review: *The 10 most significant education studies of 2020*. Retrieved from <https://www.edutopia.org/article/10-most-significant-education-studies-2020>.

descriptive studies Studies that collect detailed information about specific situations, often using observation, surveys, interviews, recordings, or a combination of these methods.

ethnography A descriptive approach to research that focuses on life within a group and tries to understand the meaning of events to the people involved.

participant observation A method for conducting descriptive research in which the researcher becomes a participant in the situation in order to better understand life in that group.

case study Intensive study of one person, group, situation, or organisation.

correlations Statistical descriptions of how closely two variables are related.

between two events or measurements (variables). Correlations range from 1.00 to -1.00 . The closer the correlation is to either 1.00 or -1.00 , the stronger the relationship. For example, the correlation between height and weight is about .70 (a strong relationship); the correlation between height and number of languages spoken is about .00 (no relationship at all).

The sign of the correlation tells us the direction of the relationship between the two variables. A **positive correlation** indicates that the values of the variables increase or decrease together. As one gets larger, so does the other. Height and weight are positively correlated because greater height tends to be associated with greater weight. A **negative correlation** means that an increase in the value of one variable is related to a decrease in the other.

It is important to note that correlations do *not* prove cause and effect (see Figure 1.1). For example, height and weight are correlated—taller people tend to weigh more than shorter people. But gaining weight does not cause you to grow taller. Knowing a person's weight simply allows you to make a general prediction about that person's height. Educational psychologists identify correlations so they can make predictions about important influences on learning and teaching.

Experimental studies A second type of research—**experimentation**—allows educational psychologists to go beyond predictions and actually study cause and effect. Instead of just observing and describing an existing situation, the investigators introduce changes and note the results. First, a number of comparable groups of participants are created. In psychological research, the term *subjects* or **participants** generally refers to the people being studied—such as teachers or Year 8 students. One common way to make sure that groups of participants are essentially the same is to assign each participant to a group using a random procedure. **Random** means each participant has an equal chance of being in any group. A difficulty with experimental research is finding two groups of participants who are exactly the same.

Because of the need to conduct research that is ethical and lawful and because it is more difficult to control the characteristics of human participants than those of plants or animals, most experimental studies in the social sciences are *quasi-experimental* in nature. Rather than demonstrating cause and effect, they identify the *probability* or likelihood of something occurring.

In an experimental study, the experimenters change some aspect of the situation for one or more of the groups involved to see whether this change or 'treatment' has an expected effect. The results for each group are then compared. Usually statistical tests are conducted. When differences are described as being **statistically significant**, it means that they probably did not happen simply by chance: $p < .05$ means that the probability these results could happen by chance is less than 5 times out of 100, and $p < .01$ means less than 1 time in 100. A number of the studies we will examine attempt to identify causal or predictive relationships by asking questions such as: If some teachers receive instruction in how to teach spelling using morphology—the smallest parts of words that contain meaning, such as 's' or 'ies' for making words plural (*cause*)—will the students of these teachers become better spellers than students whose teachers do not receive instruction (training) in morphology (*effect*)? This study actually was a *field experiment* because it took place in real classrooms and not in a simulated laboratory situation. In addition, it was *quasi-experimental* because the students

positive correlation

A relationship between two variables in which values of the two variables increase or decrease together. Example: kilojoule intake and weight gain.

negative correlation

A relationship between two variables in which a high value on one variable is associated with a low value on the other. Example: height and distance from the top of a person's head to the ceiling.

experimentation Research method in which variables are manipulated and the effects recorded.

participants The subjects—i.e. people or animals—being studied.

random Without any definite pattern; following no rule.

statistically significant Not likely to be a chance occurrence.

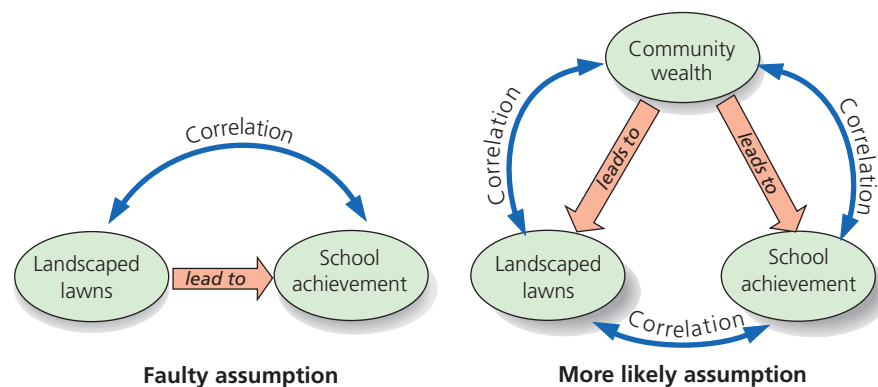


Figure 1.1 Correlations do not show causation

When research shows that landscaped lawns and school achievement are correlated, it does not show causation. Community wealth, a third variable, may be the cause of both school achievement and landscaped lawns.

were in existing classes and had not been randomly assigned to teachers, so we cannot be certain the experimental and control groups were the same before the teachers received their training. The researchers handled this by looking at improvement in spelling, not just final achievement level (Hurry, Bryant, Nunes & Pretzlik, 2005).

Single-group experimental studies The goal of **single-group experimental studies** is to determine the effects of a therapy or teaching method, or other intervention. One common approach is to observe the individual or group for a baseline period (A) and assess the behaviour of interest; try an intervention (B); and then observe (A) and reassess (B). This form of single-group design is called *pretest–posttest design*. For example, a teacher might record the amount of time students are out of their seats without permission during a week-long baseline (A), and then try ignoring those who are up, but praising those who are seated (B). After trying the intervention for a week or more, the teacher records how many are wandering out of their seats for the week and for how long. Years ago, when this very intervention was tested, the praise and ignore strategy proved effective in increasing the time students spent in their seats (Madsen, Becker, Thomas, Koser & Plager, 1968).

Microgenetic studies The goal of **microgenetic research** is to intensively study cognitive processes in the midst of change—as the change is actually happening. For example, researchers might analyse how students learn a particular strategy for adding two-digit numbers over the course of several weeks. The microgenetic approach has three basic characteristics: (1) researchers observe the entire period of the change—from when it starts to the time it is relatively stable; (2) many observations are made, often using video recordings, interviews, and transcriptions of the exact words of the individuals being studied; and (3) the behaviour that is observed is ‘put under a microscope’—that is, examined moment by moment or trial by trial. The goal is to explain the underlying mechanisms of change—for example, what new knowledge or skill is developing to allow change to take place. This kind of research is expensive and time-consuming, so usually only one or a few students are studied.

The role of time in research Many things that psychologists want to study, such as cognitive development, happen over several months or years. Ideally, researchers will study the development by observing their subjects over many years as changes occur. These are called *longitudinal studies*. They are informative, but time-consuming, expensive, and not always practical—keeping up with subjects over years as they grow up and move can be very difficult. So, much research is *cross-sectional*, focusing on groups of subjects at different ages. For example, to study how children’s conceptions or theories of mind about ‘alive’ change from ages 3 to 16 years, researchers can interview children of several different ages, rather than following the same children for 14 years.

Qualitative and quantitative research A distinction that is useful in understanding research is the contrast between *qualitative* and *quantitative* research. The distinctions between the two are a little fuzzy. **Qualitative research** methods, such as case studies and ethnographies, use words, dialogue, events, themes, and images as data. Interviews, observations, and analysis of transcripts are key procedures. The goal is typically inductive—to explore specific situations or people in depth, and to understand the meaning of the events to the people involved in order to tell their stories. Qualitative researchers assume that no process of understanding meaning can be completely objective. They are interested in interpreting subjective, personal, and socially constructed meanings.

Quantitative research uses numbers, measurements, and statistics to assess levels or sizes of relationships among variables or differences between groups. These studies typically involve experimental designs where groups of subjects are assigned to treatment groups or where quasi-experiments are conducted through field-based research. Correlational and experimental research are examples. Quantitative research is typically deductive and aims to evaluate information that is free of bias and rhetoric or personal interpretation and prejudice so that it is as objective as possible.

Mixed methods research Many researchers are now using *mixed methods* to study questions both broadly and deeply. There are three basic ways of combining quantitative and qualitative methods in a single study or series of studies. In the first approach, a researcher collects both quantitative and qualitative data at the same time and then merges and integrates the data in the analyses. In the second approach, the researcher collects quantitative data first, from, for example, surveys or observation instruments,

CONNECT AND EXTEND TO WHAT YOU KNOW

Are the following studies descriptive (D) or experimental (E)?

1. Researchers observe teachers of classes that have high achievement in order to determine how these teachers are alike.
2. Teachers give three groups of impulsive children different types of training to determine which type of training is most effective in reducing impulsivity.
3. Researchers administer IQ tests to a group of boys and girls to determine whether there is a relationship between gender and verbal ability.
4. Teachers instruct two similar groups of maths students by two different methods to determine which method leads to higher scores on a maths achievement test.

Answers:

1. D 2. E 3. D 4. E

single-group experimental studies

Systematic interventions to study effects with one person or group; sometimes called a pretest–posttest design.

microgenetic research

Detailed observation and analysis of changes in a cognitive process as the process unfolds over several days or weeks.

qualitative research

Research that attempts to explore specific situations or people in depth and to understand the meaning of the events to the people involved, and uses words, dialogue, events, themes and images as data.

quantitative research

Research that typically involves experimental designs where groups of subjects are assigned to treatment groups or where quasi-experiments are conducted through field-based research, and uses numbers, measurements, and statistics to assess levels or sizes of relationships among variables or between groups.

and then follows this by performing in-depth qualitative interviews of selected participants. Often the goal is to explain or look for causes. In the third approach, the sequence can be reversed—the researcher first conducts interviews or case studies to identify research questions and then collects quantitative data as guided by the qualitative findings. Here, the goal may be to explore a situation thoroughly.

High quality, rigorous research systematically uses observations or experiments to gather valid and reliable data; involves robust and appropriate procedures for gathering and analysing the data; is clearly described so that it can be repeated by others; and has been critically reviewed by appropriate independent experts. When teachers or schools make systematic observations or test methods to improve teaching and learning for their students, they are conducting *action research*.

In the final analysis, the methods used—quantitative, qualitative, or a mixture of both—should fit the questions asked. Different approaches to research can ask different questions and provide different kinds of answers.

Teachers as researchers Research also can be a way to improve teaching in one classroom or one school. The same kind of careful observation, intervention, data gathering, and analysis that occurs in large research projects can be applied in any classroom to answer questions such as: ‘Which writing prompts seem to encourage the best descriptive writing in my class?’, ‘When does Belle seem to have the greatest difficulty concentrating on academic tasks?’, or ‘Would assigning task roles in science groups lead to more equitable participation of girls and boys in the work?’

This kind of problem-solving investigation is called *action research* or *practitioner research*. By focusing on a specific situation or issue, teachers can learn a great deal about both their teaching and their students. Both types of research allow new approaches to be trialled within the research process. **Action research** is frequently used to bring about organisational change in schools through collaboration with others, and a cyclical step-by-step approach of implementation, reflection, and review. A problem or an issue, such as a teaching method, leadership skills, or an intervention model, is defined within a theoretical context, and a solution is developed through discussion and planned intervention. After identifying the problem and discussing possible approaches, an initial strategy is identified and implemented, responses are observed and evaluated, strategies are revised or new ones introduced, and the cycle is repeated. Documentation of *the action* plays a key role in the process.

Action research, with its focus on applying practical problem solving to everyday issues and dilemmas, is ideally suited to practitioner research. *Practitioner research* centres on the *practitioner*, or *teacher*, rather than on a group of teachers, and adapts the action research approach to provide a comprehensive and systematic way for teachers to stop and question, change, and improve their own teaching practice or responses to a situation.

Principles and theories for teaching The major goal of educational psychology is to understand teaching and learning. Reaching this goal is a slow process. There are very few landmark studies that answer a question once and for all. Human beings are too diverse and complicated. Instead, research in educational psychology examines limited aspects of a situation—perhaps a few variables at a time or life in one or two classrooms. If enough studies are completed in a certain area and findings repeatedly point to the same conclusions, we eventually arrive at a **principle**. This is the term for an established relationship between two or more factors—between a certain teaching strategy, for example, and student achievement.

Another tool for building a better understanding of the teaching and learning processes is theory. The common-sense notion of theory (as in ‘Oh well, it was only a theory’) is ‘a guess or hunch’. But the scientific meaning of **theory** is quite different. A theory in science is a set of interrelated concepts, definitions, assumptions, and generalisations used to describe and explain data and to make predictions (Hoy & Adams, 2016). Given a number of established principles, educational psychologists have developed explanations or theories for the relationships among many variables and even whole systems of relationships. There are theories to explain how language develops, how differences in intelligence occur, and, as noted earlier, how people learn.

Few theories explain and predict perfectly. In this text, you will encounter many examples of educational psychologists taking different theoretical positions and disagreeing on the overall explanations of such issues as learning and motivation. Because no one theory offers all the answers, it makes sense to consider the *empirical evidence*—the data and analyses—of what each has to offer.

So why, you may ask, is it necessary to deal with theories? Why not just stick to principles? The answer is that both are useful. Principles of classroom management, for example, will provide guidance

action research A cyclical, systematic, and usually collaborative investigation involving implementation, observation, reflection, and review to bring about changes in teaching, learning, or school organisation.

principle Established relationship between factors.

theory Integrated statement of concepts that attempts to explain a phenomenon and make predictions.

for addressing specific problems. A good *theory* of classroom management, on the other hand, will give you a new way of thinking about discipline problems; it will give you tools for creating solutions to many different problems and for predicting what might work in new situations. A major goal of this text is to provide you with the best and the most useful theories for teaching—those that have solid evidence behind them. Although you may prefer some theories over others, consider them all as ways of understanding the challenges teachers face.

- What is educational psychology?
- What are descriptive studies?
- Describe correlational studies and experimental studies.
- Describe single-group experimental studies and microgenetic studies.
- What is the difference between qualitative and quantitative research?
- What is action research?
- Distinguish between principles and theories.



BECOMING A GOOD BEGINNING TEACHER

Becoming an expert teacher takes time and experience. It is a learning process that can start now. It is also a process of enculturation in which the beginning teacher becomes a member of a community of practice. A key element of this enculturation is professional development (Korthagen, 2017; Moss & White, 2004; Rowe, 2004; Walkington, 2005). You can develop a repertoire of effective principles and practices for your first years of teaching so that some activities quickly become automatic. You can also develop the habit of questioning and analysing these accepted practices and your own teaching so you can solve new problems when they arise. You can learn to look behind the effective techniques identified in research to ask: Why did this approach work with these students? What else might be as good or better? The answers to these questions and your ability to analyse the situations are much more important than the specific techniques themselves. As you ask and answer questions, you will be refining your personal theories or philosophy of teaching.

Understandings about education, learning and teaching

Research about human development, learning, and teaching has helped shape key understandings about education. These understandings recognise that education is not the same for each person and does not occur in isolation but is influenced by different sociocultural contexts. Increasingly, curriculum frameworks are being redeveloped to better enable students to develop skills, knowledge, and behaviours to meet the demands of a modern and increasingly globalised world. These understandings or principles are embedded within this text and in many teacher education and educational psychology courses. As you examine and discuss the principles with other beginning and more experienced teachers, become more encultured into the community of educators, and move from the periphery of the community towards central participation, you might find that you have insights, questions, and views of your own that are marks of more reflective teachers. Some of the key understandings in education research and addressed in this text are listed in the following section.

Basic ideas about education

- Each person is responsible for their own learning.
- There are many people and institutions that can help people learn.
- People have differing ideas about education and schooling.

Social aspects of education and rights

- Socioeconomic status, gender, race, ethnicity, and ability/disability all contribute to a person's world view and life chances.
- Everyone has the right to participate in education fully and to maintain excellence according to their own capacities.
- Teachers need to understand the social contexts of education and make the appropriate arrangements so that all students can participate fully and achieve their potential.

LO 1.4

Describe how theories and research about development and learning are related to educational practice.

CONNECT AND EXTEND EVIDENCE-BASED TEACHING

Geoff Masters discusses the concept of evidence-based teaching and different types, sources, and uses of this evidence. See: *The role of evidence in teaching and learning*. Paper presented at the Australian Council for Educational Research, Research Conference 2018. Retrieved from <https://research.acer.edu.au>.

Learning and the curriculum

- People learn through experiences, and through thinking, talking, listening, reading, writing, and creating.
- People learn by themselves, and in small and large groups.
- People learn through enjoyable interactions with peers and more expert others.
- Appropriate learning environments and activities for students need to be carefully organised and managed.
- Teachers and students need to understand the purposes of learning activities.

Schools and the community

- Schools are complex institutions with differing purposes, outcomes, power structures, and information channels.
- Effective schools respond to the needs of the communities in which they are located.

Expert teachers are:

- problem solvers
- members of a learning community
- designers of instruction
- reflective thinkers
- assessors and evaluators of learning
- learning strategists
- users of and sources for research.

Research and evidence around these principles are used to formulate education policy and practice, and guide professional standards such as the Australian Professional Standards for Teachers (AITSL, 2011).

The goal in writing this text is to help you become an excellent teacher—one who can apply, reflect on, and improve your teaching techniques. Even more importantly, we hope this text will cause you to think about students and teaching in new ways, so you will have the foundation for becoming an expert as you gain experience.



- What are important elements of teacher professional development?

SUMMARY

Do teachers make a difference? (pp. 2–4) **LO 1.1**

What evidence is there that teachers make a difference to student outcomes? Several studies speak to the power of teachers in the lives of students. Some have found that the quality of the teacher–student relationship in the first year of school predicted several aspects of school success until Year 8. A review of 46 studies, including studies that followed students over time, found that better teacher–student relationships predicted student engagement. Similarly, in studies in Australia and Germany, positive teacher–student relationships were associated with academic participation, enjoyment, and satisfaction with school, and in the United States with primary-school student social-emotional development and reading achievement. Again, the quality of the teacher made a difference—students who had three high-quality teachers in a row were way ahead of students who spent one or more years with less competent teachers.

What is good teaching? (pp. 4–9) **LO 1.2**

What do expert teachers know? It takes time and experience to become an expert teacher. They must be both knowledgeable about and able to use a range of strategies, and be capable of inventing new strategies. These teachers have a rich store of well-organised knowledge about the many specific situations of teaching. This includes knowledge about the subjects they teach, their students, general teaching strategies, subject-specific ways of teaching, settings for learning, curriculum materials, and the goals of education. They must know the research on student development, and they also need to know their own particular students, who are unique combinations of genders and geographies.

What are the concerns of beginning teachers? Learning to teach is a gradual process. The concerns and problems of teachers change as they progress. During the beginning years, attention tends to be focused on maintaining discipline, motivating students, accommodating differences among students, evaluating students' work, dealing with parents, and managing paperwork. Even with these concerns, many beginning teachers bring creativity and energy to their teaching and improve every year. The more experienced teacher can move on to dealing with concerns about professional growth and effectiveness in teaching a wide range of students.

What elements are involved in self-regulated learning? One important goal of teaching is to prepare students for lifelong learning. To attain this goal, students must be self-regulated learners; that is, they should have the ability to analyse the task, plan, and activate and monitor their thoughts, behaviours, and emotions in order to reach their goals. They have a combination of learning skills and self-control that makes learning easier, so they are more motivated; they have the *skill* and the *will* to learn. Self-regulated learners transform their cognitive abilities, whatever they are, into academic skills and strategies.

The role of educational psychology (pp. 9–15) **LO 1.3**

What is educational psychology? The goals of educational psychology are to understand and to improve the teaching and learning processes. Educational psychologists develop knowledge and methods; they also use the knowledge and methods of psychology and other related disciplines to study learning and teaching in everyday situations. Educational psychologists examine what happens when *someone* (teacher, parent, or even a digital program) teaches *something* (maths, coding, dancing) to *someone else* (student, colleague, team) in *some setting* (classroom, theatre, gym).

What are descriptive studies? Descriptive studies collect detailed information about specific situations via surveys, interviews, samples of actual classroom dialogue, or records of class activities. Ethnographic methods involve studying the naturally occurring events in the life of a group and trying to understand the meaning of these events to the people involved. A case study investigates, in depth, how a teacher plans courses, for example, or how a student tries to learn specific material. Action research and practitioner research, in which the investigators introduce change and note the results, are other examples of a descriptive study.

Describe correlational studies and experimental studies. *Correlational* studies allow you to predict events that are likely to occur in the classroom. A correlation is a number that indicates both the strength and the direction of a relationship between two events or measurements. The closer the correlation is to either 1.00 or -1.00, the stronger

the relationship. *Experimental* studies can indicate cause-and-effect relationships but are difficult to implement with human subjects. Instead, quasi-experimental studies are used to identify the probability that one condition contributes to another condition or outcome.

Describe single-group experimental studies and microgenetic studies. In *single-group* experimental designs, researchers examine the effects of treatments on one person or group, often by using a pretest–posttest design or ABAB approach in which the individual or group is observed for a baseline period to assess the behaviour of interest, an intervention is tried, and the individual or group are observed again and reassessed. *Microgenetic* studies take many detailed observations of subjects to track the progression of change as it happens—from the very beginning until the change becomes relatively stable.

What is the difference between qualitative and quantitative research? Qualitative research methods use words, dialogue, events, themes, and images as data. Interviews, observations, and analysis of transcripts are key procedures. The goal is typically inductive—to explore specific situations or people in depth, and to understand the meaning of the events to the people involved in order to tell their stories. Quantitative research uses numbers, measurements, and statistics to assess levels or sizes of relationships among variables or differences between groups. Quantitative research is typically deductive and aims to evaluate information that is free of bias and rhetoric or personal interpretation and prejudice so that it is as objective as possible.

What is action research? Action research is a cyclical, systematic, and usually collaborative investigation involving implementation, observation, reflection, and review to bring about changes to teaching, learning, or school organisation. Practitioner research is a form of action research.

Distinguish between principles and theories. A *principle* is an established relationship between two or more factors—between a certain teaching strategy, for example, and student achievement. A *theory* in science is a set of interrelated concepts, definitions, assumptions, and generalisations used to describe and explain data and to make predictions about the results of future experiments. The principles from research offer a number of possible answers to specific problems, and the theories offer perspectives for analysing almost any situation that may arise.

Becoming a good beginning teacher (pp. 15–16) **LO 1.4**

What are important elements of teacher professional development? A critical element of teacher professional development is the habit of questioning and analysing your own teaching and the practices and techniques identified in the research, considering why these practices were successful or not, and reflecting on what else might be as good or better.

KEY TERMS

action research.....	14	negative correlation.....	12	self-regulated learners.....	9
case study.....	11	participant observation.....	11	self-regulated learning.....	9
correlations.....	11	participants.....	12	self-regulation.....	9
descriptive studies.....	11	positive correlation.....	12	single-group experimental	
educational psychology.....	9	principle.....	14	studies.....	13
ethnography.....	11	qualitative research.....	13	statistically significant.....	12
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expert teachers.....	5	random.....	12		
microgenetic research.....	13	reflective practitioners.....	5		

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American Psychological Association and affiliated journals

www.apa.org/pubs/journals

Australian Association for Research in Education

www.aare.edu.au

Australian Institute for Teaching and School Leadership (AITSL)

www.aitsl.edu.au

Phi Delta Kappan magazine

<http://journals.sagepub.com/home/pdk>

Professional organisations

Growth as a professional relies on accessing the websites of governing bodies, and becoming a member of one or more communities of practice and accessing conferences, conventions, meetings, and resources to advance instruction and learning.

Australian Institute for Teaching and School Leadership (AITSL)

www.aitsl.edu.au

Australian and New Zealand Associations for the Teaching of English

www.aate.org.au; <https://nzate.org.nz>

Australian and New Zealand Associations of Mathematics Teachers

www.aamt.edu.au; www.nzamt.org.nz

National Professional Standards for Teachers

www.aitsl.edu.au/teach/standards

New Zealand—Quality Teaching for Diverse Students in Schooling: Best Evidence Synthesis Iteration (BES)

www.educationcounts.govt.nz/publications/series/2515/5959

Primary English Teachers Association Australia (PETAA)

<https://www.petaa.edu.au>

The History Teachers' Associations of Australia and New Zealand

www.historyteacher.org.au and www.nzhta.org.nz

Quality teaching

New Zealand Ministry of Education: Quality Teaching for Diverse Students in Schooling

www.educationcounts.govt.nz/publications/series/2515/5959

Reflective practice

Getting Started with Reflective Practice:

Cambridge International Education, Teaching and Learning Team

<https://www.cambridge-community.org.uk/professional-development/gswrp/index.html>

RELATED TOPICS

- Expert knowledge (Chapter 7 and Chapter 8)
- Problem solving (Chapter 8)
- Critical thinking skills (Chapter 9)
- Motivation (Chapter 10)
- Characteristics of effective teachers (Chapter 10)

TEACHERS' CASEBOOK WHAT WOULD THEY DO?

Here is how some practising teachers responded to the teaching situation presented at the beginning of this chapter about what makes a great teacher and what sources of information might help.

Mari Ann Banks

SCHOOL EQUITY OFFICER

There is no singular representation of a great teacher. Good teachers come in all shapes, sizes, and dispositions, but the good become great by doing a few key things:

1. Great teachers identify the needs of their students, meet them where they are, and then help them develop the courage and skills to go further than they ever thought they could.
2. Great teachers know they will always be students themselves—and they are happy about that. They work to keep abreast of ground-breaking changes in the field and integrate valuable new knowledge into their practice.
3. Great teachers implement culturally relevant, critical care for their students. They don't just 'love all students' or claim that they 'don't see ethnicity.' Instead, they expose and unveil various forms of privilege, expand their curriculum to include multiple voices and perspectives, and show directly and by personal example how to make systemic change.

When evaluating the quality of teachers' advice and ideas, I look beyond the test scores and grades of the students—that's the last thing I find important. Instead, I look to see what types of relationships teachers have established with students. Do students grow under their care? Are students challenged to think deeply about issues? Do students feel safe enough to ask questions about the way the world works, and, if so, are they encouraged to find the answers? If the answer to all of these is 'yes'—that's the advice I want to hear. When faced with too much information or conflicting information, this is also how I decide in whom I will place my trust and energy.

Kathryn Larsen

MIDDLE SCHOOL PRINCIPAL

What makes someone a great teacher? How are 'best' practices determined? Great teachers foster belonging, equity, and unity in their classrooms. Many use best practices to accomplish this. Best practices are determined through both research and a genuine understanding of the students in your classroom. What works well with one group of students may not work the next year with another group of students. Every group has its own culture. When looking to research to help determine best practices, it is important to find seminal research that is supported by additional research. I have found that the results of the best

education researchers are not contradictory. Instead, their work supports the work of many others.

How do you evaluate the quality of others' advice about teaching and learning? Try it for yourself! If you get advice from a trusted colleague, modify it to fit the needs of your own students and then go for it. This is where action research comes in. Implement the advice, modify it, try it again, and keep refining your practice. If the individual who gave you the advice is a trusted friend and colleague, ask that person to help you refine your practice. Teaching is very personal. What works for others may not work for you. However, by making small shifts to others' advice about teaching and learning, you will figure out what works for you and your students. Ask for student input when evaluating the quality of the advice you have received from others. Students know what works, but we rarely give them the autonomy and the voice they deserve to take part in evaluating teaching and learning.

Donnie Piercey

YEAR 5 TEACHER

When I reflect back on my own time in school—before I became a teacher—there are a few things that still stand out to me about what made some of my favourite teachers great. They just seemed to run their classrooms differently. They weren't satisfied with the mould that other teachers before them created; rather, they wanted their classrooms to feel different, to be different. They took time to tailor-make lessons and experiences just for us (based on the time that they spent with us at recess or during brief conversations in between classes). They weren't afraid to establish a relationship with their students to let them know that they cared.

Trends in education often look like one teacher, school, or district copying something that they saw others do or say that they heard was successful. This could be after-school programs, a textbook curriculum, or even a piece of technology that was purchased. While this definitely doesn't mean that all of these borrowed ideas are bad for schools and students (many are great), the danger comes when schools look at others before trying to creatively figure out how best to serve their own students first. I've always placed a lot of value on the importance of teacher and student creativity, especially when a teacher's idea is grounded in sound educational practice.