Explaining effective teaching: self-efficacy and thought control of action

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Abstract

Teaching is complex and demanding. Teachers require not only qualities such as passion and enthusiasm, but capacities for resilience, survival and innovation. To enable this, teachers need to cope with the demands of their external world – stresses that arise from curriculum and assessment changes, and other mandated educational reorganisations, most of which are beyond their immediate control. But teachers also need to develop the capacity to exercise control over their internal world, including such influences as their emotions, thoughts and beliefs, and how these relate to them as teachers and to their teaching. In this paper I explain and discuss the influence of teachers' self-efficacy on teaching, specifically regarding their need to exercise thought control in teaching. I suggest that teachers' personal sense of control, and their beliefs in their capability to exercise control of their thinking during teaching, impacts on how they think, feel and teach. These findings have significant implications for how we consider and deliver preservice and in-service teacher education programmes. Therefore, a central focus of teacher education should be less on knowledge and skills (though these are important), and more on developing teachers' self-efficacy and thought control over their actions.

Introduction

Teaching is a complex process. Not only do teachers need enthusiasm, personality and passion, they also require particular knowledge, skills and beliefs. Teaching is cognitively and emotionally demanding. Teachers need to have particular dispositions, including a sense of resilience, often when the odds seemed stacked against them. The internal cognitive, affective and emotional realities faced by teachers in dealing with the multi-faceted complexities of their work are exasperated by external factors, which are often beyond their immediate control.

Teachers have generally not fared well in the face of the radical reforms in education. This is not surprising, for these reforms have intensified the demands on teachers. The pressure to cope with increasing and changing demands must impact on their sense of efficaciousness and inevitably their effectiveness as teachers. This is exactly what we found in a study of teachers' motivation, satisfaction and health (Harker et al 2000). This study found that around 60% of teachers felt ill-prepared for their job. A large number of teachers, if given the chance, would leave teaching and enter other careers. Overall, teachers reported high levels of stress and lack of well-being.

It is in such a political context that I want to consider some key attributes of effective teachers, and how these may be enhanced.

1.   Survival. Teachers need to be able to survive the demands, threats and challenges within the diverse circumstances of teaching. This is particularly true, but obviously not exclusively so, for beginning teachers.

2.   Resilience and persistence. Teachers need to be resilient and persistent, even when the odds seemed stacked against them.

3.   Innovativeness. Teachers need the capacity for innovativeness, to be prepared to generate new solutions and take on new teaching approaches, and be willing to risk failure (Gibbs 2000).

In this paper, I argue that the capacities to survive and demonstrate resilience, persistence and innovativeness are governed primarily by teachers' beliefs about their capability – their self-efficacy as teachers. Effective teachers have the capacity to exercise this self-efficacy and, in particular, to exercise thought control over their actions.

Outcome expectations

Teacher outcome expectations are beliefs that acting in certain ways are likely to lead to certain outcomes[1]. When we consider preservice teacher education programmes, it is interesting to note the strong emphasis placed on providing exemplars of action and consequences. It is thought that if student teachers understand these outcome expectations, they will subsequently act in these ways. But such knowledge does not guarantee that teachers will willingly act accordingly. Knowledge of outcome expectations is not strongly associated with motivation. Yet practices in teacher education programmes traditionally place a heavy emphasis on the idea that if a teacher acts in certain ways, there will usually be certain consequences.

There are at least two limitations of this action-consequence approach. First, teaching is highly unpredictable. Teachers become aware of this unpredictability early in their teaching, and being able to predict likely outcomes from action does not, in itself, provide a secure basis to act. Secondly, believing that outcomes follow actions does not necessarily imply that teachers see themselves as agents in the change of their own behaviour.

This emphasis on outcome expectations can probably be traced back to theories that interpret learning as primarily the acquisition of habits (Hull 1943; Spence 1956)[2].

Similarly, the outcome expectation approach, when applied to teacher preparation, increases knowledge of the links between behaviours and expected outcomes, but does not probe whether the teacher believes she/he is capable (self-efficacy) or willing (motivation) to set this in action. Knowing that acting in certain ways is likely to result in specific outcomes does not necessarily motivate teachers to act that way.

Self-efficacy

Self-efficacy as a teacher, on the other hand, is a powerful predictor of how and whether a teacher will act. Self-efficacy is the belief that one is capable of exercising personal control over one's behaviour, thinking and emotions. Effective teachers believe that they can make a difference in children's lives, and they teach in ways that demonstrate this belief. What teachers believe about their capability is a strong predictor of teacher effectiveness. People who hold strong self-efficacy beliefs tend to:

- be more satisfied with their job (Trentham et al 1985);

- demonstrate more commitment (Trentham et al 1985); and

- have lower absenteeism (McDonald & Siegall 1993).

Teachers who have high self-efficacy tend to:

- persist in failure situations (Gibson & Dembo 1984);

- take more risks with the curriculum (Guskey 1988);

- use new teaching approaches (Gibson & Dembo 1984);

- make better gains in children's achievement (Brookover et al 1979); and

- have more motivated students (Midgely et al 1989).

Figure 1 presents a model that attempts to illustrate how teacher self-efficacy and outcome expectations relate to action. Five assumptions underpin this model, all of which are supported by research findings, as follows.

Self-reflection. Good teaching is not merely carrying out technicist tasks. Effective teachers reflect on their own thinking and about their actions. Teachers need to be capable of self-reflection.

Intentional behaviour. Much of teachers' behaviour is purposeful, intentional and goal-directed. It is guided by forethought (including anticipation and prediction).

Symbolic representation. How teachers intend to teach depends, in part, on their capacity for symbolic representation. Symbolic representation creates

internal representations of experience, generates innovative and multiple solutions, and characterises possible consequences (behavioural, cognitive, emotional) of applying these solutions.

Self-regulation. Teachers require the capacity to exercise direct control over their thinking, behaviour, emotions and teaching circumstances. Teachers might be said to be self-regulated when they actively participate in the process of teaching in a metacognitive, motivational and behavioural sense (see Zimmerman 1986).

Triadic reciprocal causation. To understand effective teachers, we need to acknowledge that their actions do not occur in vacuums. There is an interaction, reciprocity, and interdependence of teachers' inner personal factors (cognition, emotion, biological events), behaviour and the circumstances in which the teaching occurs. Bandura (1989) refers to this as triadic reciprocal causation.

Figure 1: The relationship between teacher outcome expectations, self-efficacy as a teacher, and teacher action
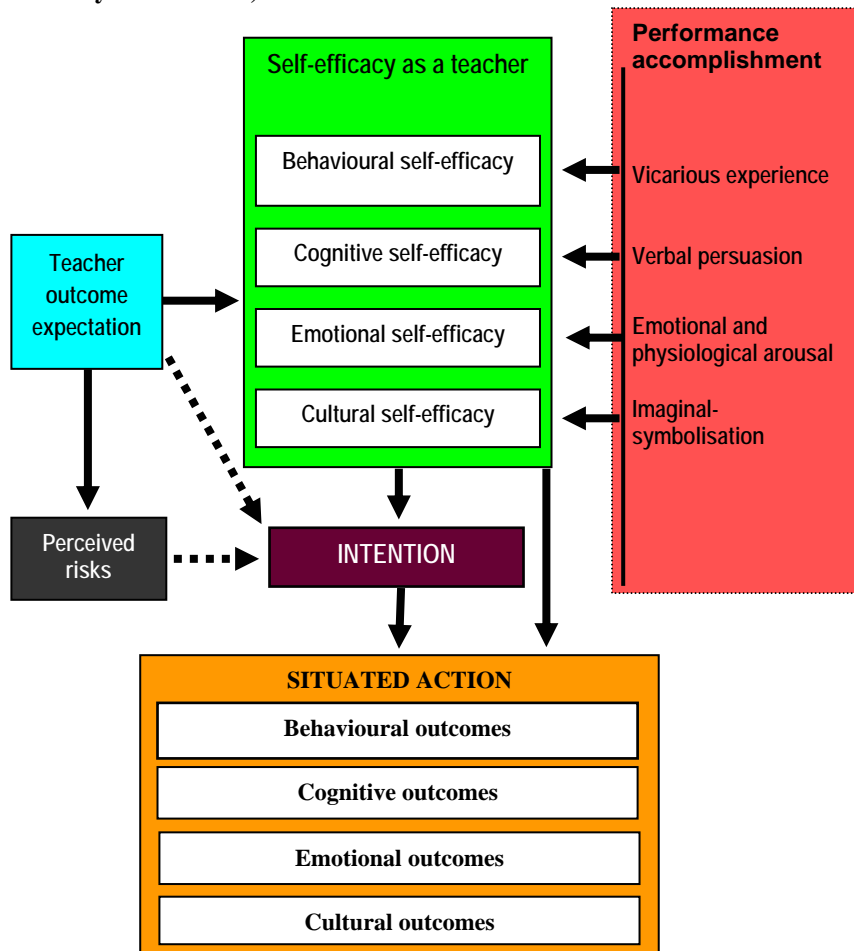
At least four kinds of self-efficacy are instrumental in explaining how teachers teach and their willingness to persist against the odds (Gibbs 2000). These are important indicators of teacher effectiveness.

Behavioural self-efficacy – teacher's belief in her/his capability to perform specific actions to deal with specific teaching situations.

Cognitive self-efficacy – teacher's belief in his/her capability to exercise control over his/her thinking in specific teaching situations.

Emotional self-efficacy – teacher's belief in her/his capability to exercise control over her/his emotions in specific teaching situations.

Cultural self-efficacy – teacher's belief in his/her capability as a teacher to perform specific actions in culturally appropriate ways in specific teaching situations. This construct remains relatively unresearched[3].

Influences on self-efficacy

These four kinds of self-efficacy interact. Further, these beliefs are neither necessarily mutually exclusive nor independent. Effective teachers usually have a strong belief in their capability to exercise control over their emotions, behaviour and thinking, and are secure in their beliefs about their capacity to teach effectively in culturally appropriate ways. The purpose of teacher education is to assist student teachers to understand, explain and use self-efficacy to mediate what they know and can do, and how they teach. There are at least five sources of influence on these self-efficacy beliefs.

Performance accomplishments

Performance accomplishments are the most influential source of efficacy information. Successes perceived as genuine build a robust sense of self-efficacy. On the other hand, failures perceived as genuine undermine self-efficacy. Thus, teacher education programmes ought to enable student teachers to realistically and constructively perceive and attribute their successes and failures (Gibbs 1997).

Vicarious experience

Modelling the behaviour of significant others can strengthen self-efficacy. While vicarious experiences are usually weaker than direct experiences, they are further strengthened by deliberate strategies that encourage the observer to self-reflect on her/his personal beliefs about competence and capability in similar situations. The impact of vicarious experience depends on the observer's perception of similarity with the model, the perceived influential power of the model, and the similarity between the observed and new situations and tasks (Schunk 1986). Student teaching provides an interesting exemplar of vicarious experience. If associate teachers are to be used as vicarious models for student teachers, then the matching of student teachers with associate teachers deserves particular attention (Gibbs 1997).

Verbal persuasion

Verbal persuasion may strengthen student teachers' self-efficacy. If student teachers are persuaded that they possess the capabilities to overcome specific difficulties, they are likely to mobilise greater effort and to persist longer. However, verbal persuasion, in itself, may be limited in its power to promote enduring change.

Emotional and physiological arousal

In judging self-efficacy, people evaluate their emotional and physiological arousal in given situations. Emotional and physiological arousal impairs or enhances self-efficacy beliefs, and thereby influences subsequent performance. Teachers' emotions and moods are persuasive as a source of information that influences self-efficacy judgements. Mood despondency, anxiety and depression are likely to have a negative effect on self-efficacy, in that the teacher is less likely to believe he/she is capable of making a difference in challenging situations. Thus, teacher education programmes ought to explore strategies whereby teachers:

- become aware of their physiological arousal, emotions and moods;

- become aware of the effects these may be having on their self-efficacy and performance; and

- develop strategies to exercise control over these physiological states, moods and emotions.

Imaginal-symbolisation

Imaginal symbolisation occurs when teachers visualise or imagine themselves performing in particular situations (Gibbs 1997). Imaginal symbolisation provides a source of information for teachers that affects their self-efficacy, and thereby their performance. When used intentionally in teacher education programmes, it can serve as a potentially powerful way to enhance self-efficacy.

Intention to act

Intention is associated with I will, whereas self-efficacy is associated with I can. While intentions are reasonable predictors of behaviour, predictability is significantly enhanced when self-efficacy is factored in. A person can have a good intention but believe that they are not capable of enacting it. To intend to act in a specific way without considering one's self-efficacy for that task – or whether certain actions will likely lead to specific outcomes (outcome expectancy beliefs) – is misguided. Having said that, many practices in teacher education emphasise goal-setting, and are devoid of such fundamental considerations.

When situational cues automatically trigger the teacher to act in certain ways, the need to deliberately contemplate intentions is essentially bypassed. In this sense, self-efficacy directly affects teachers' behaviour. But behaviour is also indirectly influenced by intentions (Ajzen & Madden 1986;

De Vries & Backbier 1994; De Vries et al 1988; Dzewaltowski 1989; Dzewaltowski et al 1990; Schwarzer & Fuchs 1995).

Professional development in student teaching

There is surprisingly equivocal evidence supporting the claim that field-based experiences produce reflective practitioners. Research suggests that, as a result of student teaching, student teachers generally become more controlling and more conservative, rather than innovative and reflective (Weinstein 1988). One substantive study found that student teachers in general are not necessarily more efficacious as a result of completing their training, and tend to be less autonomous, though not necessarily more controlling in their orientation towards children (Gibbs 1994). Such findings give rise to some interesting and pertinent questions about student teaching, and challenges teacher educators to reconsider how student teaching might best contribute to student teachers' professional development.

What student teachers know and can do, and how they come to teach during student teaching, is largely mediated by what they think and believe. Central to this mediation are student teachers' self-beliefs – particularly their self-efficacy and preferred orientations as teachers, and their preferred orientations toward students. At the heart of this argument are two premises:

- that student teachers have the cognitive capacities to self-reflect, self-motivate and self-regulate (eg Scheier & Carver 1988; Schunk & Zimmerman 1989); and

- that self-efficacy, in particular, influences goal-setting and the willingness to persist at pursuing these goals (Bandura 1986).

As student teachers exercise personal control of their thoughts (about their capability as teachers, and their teaching), their self-efficacy impacts on their teaching competence and motivation, and inevitably on their self-esteem as teachers.

How can personal control of thought be illustrated? Mastering competence on student teaching is a case in point. When confronting the day-to-day realities of teaching, some student teachers find themselves bewildered by disruptive and non-achieving students, and the demands of the curriculum. Inevitably, their sense of self-efficacy decreases as they increasingly feel less capable of making a difference in the lives of students. We know that low self-efficacy is associated with disengagement from activities, weak commitment to teaching (Evans & Tribble 1986), less time devoted to instruction (Enochs & Riggs 1990; Gibson & Dembo 1984), and inevitably low retention in the teaching profession (Glickman & Tamashiro 1982). If we are to take these findings seriously, then a focus of professional guidance during student teaching ought to be on the centrality of student teachers' beliefs, and in particular on self-efficacy in exercising control of their thinking (about their capability as teachers, and their teaching).

Control of thinking and performance success

How we come to act is shaped by our thoughts (Bandura 1986). Student teachers who visualise success scenarios when confronted with challenging instances in their teaching also project a greater sense of optimism in their belief that they can generate plausible and effective solutions. Student teachers with a low self-efficacy are more likely to visualise failure scenarios, and their performance is impaired by their focus on what went wrong, or will go wrong.

Numerous studies beyond teacher education show that cognitive simulations in which people visualise themselves carrying out tasks successfully enhance their subsequent performance (Bandura 1986; Corbin 1972; Feltz & Landers 1983; Kazdin 1978). There is evidence that strategies such as symbolic coding and rehearsal (Gibbs 1996), strategy verbalisation (Schunk 1989) and cognitive modelling (Gorrell & Capron 1991) may enhance effectiveness. All these strategies have potential application within student teaching (Gibbs 1996) in that they alert student teachers to their thinking as they teach, encourage meta-cognitive awareness and reflection, and can elucidate deeper levels of thinking about themselves and their practice as it occurs in context.

Control of thinking, anxiety and stress

Exercising personal thought control is important as student teachers go about their teaching activities. Self-efficacy in exercising control over potentially threatening events is central in the regulation of anxiety and stress. Student teachers who believe they can exercise control over potential threats to their teaching do not conjure up apprehensive thoughts, and so are not threatened by such potentially anxiety-provoking events. But anxiety arousal is heightened when student teachers' self-efficacy to manage potential threats is weak.

This view does not discount the importance of being able to demonstrate the requisite skills to manage stress and anxiety. However, it does suggest that skills and knowledge in coping are insufficient to ensure that these are actually carried out in the context where stress and anxiety are likely to occur. Knowing how to do something, and even being able to do it, does not guarantee that someone will do it. Self-efficacy is a mediator between knowing and being able to demonstrate skills, and whether or not these will actually be applied in a teaching repertoire.

Control of thinking and survival

Veenman's (1984) review of research about the perceived problems of beginning teachers highlights the dramatic and sometimes traumatic transition from being a student teacher to that of a classroom teacher. This transition has been variously referred to as 'reality shock' and 'transition shock'. Veenman describes this transition as 'the collapse of the missionary ideals formed during teacher training (sic) by the harsh and rude reality of everyday classroom life. Weinstein (1988) has noted that beginning teachers need to re-evaluate their 'unrealistic optimism' as they confront the realities

of the chalkface. However, based on an analysis of change in beliefs across student teaching, Gibbs (1994) suggests that New Zealand student teachers might be better described as holding a general realistic optimism, rather than an unrealistic optimism, as portrayed by Weinstein.

In explaining beginning teachers' survival, Lang (1999) makes the point that 'perhaps some student teachers don't see the relevance of particular elements of their programmes, or that they will need to apply particular theory or learning when they have a class of their own'. These are undoubtedly important considerations, and certainly are instrumental in informing teacher outcome expectations. Nevertheless, as was argued earlier, teacher action and motivation to act are not strongly predicted by teacher outcome expectations. Rather, teachers' personal belief in their capability to act in ways that will help them survive the challenges of teaching circumstances are more strongly associated with how and whether they are willing to act.

Control of thinking and performance goal-setting

Professional development depends on an individual's ability and willingness to set achievable goals. Goal-setting is said to motivate and increase competence. How then does self-efficacy relate to goal-setting? Research suggests that the stronger the self-efficacy individuals have, the higher the goals they set and the firmer their commitment to them (Bandura & Wood 1989; Locke et al 1984). Challenging goals raises motivation levels and increases performance success (Loche & Latham 1990).

These insights from social cognition are instrumental to understanding the role of student teachers' beliefs and supervisory strategies during their teaching. Goal setting in this context not only relates to the analysis of weaknesses and strengths customarily applied within student teaching, but also accounts for the mediational role that self-efficacy beliefs play in motivation and performance. This means that during student teaching, the act of setting goals in itself is insufficient to ensure that the goals will either be set or achieved, and professional guidance ideally accommodates this.

Final comment

If these findings are taken seriously, there are quite significant implications for teacher education. In this paper, I have argued that effective teachers demonstrate competence in exercising self-efficacy and thought control of action. This thought control encompasses their behaviours, thinking and emotions. Given this, serious consideration ought to be given to the extent that preservice teacher education programmes help student teachers develop the capability to exercise control over their own thinking, emotions and actions during the process of teaching. If teacher education programmes are to transform student teachers into innovative and resilient teachers with a strong sense of survival, then less attention must be placed on developing skills and knowledge (though these are obviously important), and more on enabling them to develop expertise in exercising self-efficacy and thought control of their actions during teaching activities.

Knowing about teaching, and being able to demonstrate how to teach, is insufficient. Having the theoretical knowledge necessary to inform effective teaching, knowing how to teach effectively, and even being able to demonstrate effective teaching do not ensure that teachers will act in these ways. Therefore, a central emphasis in preservice teacher education programmes ought to be on developing student teachers' awareness of their self-efficacy and how to enhance it, and in the thought control of action during teaching.

Secondly, these findings have relevance for in-service teacher education. The failure of many in-service teacher courses to transfer learning back to the classroom is commonly reported. It is not simply that there has been a failure in generalising the learning experiences to new situations. Rather, for change to endure, teachers need to transform their excitement about good or new ideas into change in self-belief. As teachers' self-efficacy is enhanced, so too is their persistence, resilience and willingness to engage in innovative practices.

As I have highlighted, research suggests that self-efficacy is mediational in explaining how and whether teachers are willing to be motivated to act on what they know and can do. Thus, a central prerequisite of in-service teacher education is recognising that teachers have the cognitive capacities to self-reflect, self-motivate and self-regulate. The central task of in-service teacher education is to enable teachers to harness their self-efficacy to develop competence in exercising control of their thinking, behaviour and emotions, and how to manifest these into action.

Notes

1. For a further discussion on outcome expectations, refer to Bandura (1986).

2. This probably also explains why student teaching experiences in teacher education are often referred to as 'teaching practice'.

3. See Gibbs CJ (2002, December) Cultural efficacy: implications for teachers and teacher education. Paper presented at the Annual Conference of the New Zealand Association of Research in Education, Palmerston North, New Zealand.

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