



MacLellan, Effie (2016) Agents pedagogical : bootstrapping reflexive practice through the psychological resources of self-agency. Journal of Pedagogy, 7 (2). ISSN 1338-2144 , <http://dx.doi.org/10.1515/jped-2016-0012>

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Agents Pedagogical: Bootstrapping reflexive practice through the psychological resources of self-agency

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Abstract: Two different strands of evidence coalesce to give rise to the issue of concern in this paper. Firstly, proposals for educational reform assert that teacher-agency is necessary for effective reform. Indeed it is argued that it is agency which drives the construction/reconstruction of professional knowledge, to influence and transform work practices. Secondly, the emphasis on teacher cognition marks a departure from teaching being characterised in terms of observable behaviours and gives way to teaching being construed as thoughtful behaviour. Nowadays, teachers are understood not merely as mechanical implementers of external prescription but as active decision-makers who interpret what they read/are told through their own conceptual lenses. Given the importance of teachers in their own professional learning, and the centrality of teacher cognition as the conduit through which they plan and enact pedagogical activities, it is a non-trivial matter to understand the dynamics at play in being an agentic teacher. Using a lens of psychological literature, this conceptual analysis explores how the tools of self-efficacy, self-regulation, and self-determination interact with reflexive practice.

Keywords: reflexive-practice, self-efficacy, self-regulation, self-determination, epistemic agency.

Education reform proposals invoke the importance of teacher-as-agent in improving others' learning. The press for teachers' agency seems plausible for several reasons. One is that reform is a continuing journey in which teachers are at the forefront of change, using their human, social and decisional capital in the pursuit of promoting learning (Luttenberg, Carpay, & Veugelers, 2012). Another is that teaching is, inherently, an uncertain activity (Suzawa, 2013), so teachers must bring their own autonomy to bear on the competing claims of the curriculum, the limitations of pedagogic technology to guarantee classroom success, and the unpredictability of learner understanding. A third reason is that teacher behaviour is the single most important school variable influencing learners' outcomes; having controlled for ability, attitude, and socioeconomic background (OECD, 2005); which makes the role of teacher very significant. Further, the realisation that the workplace affords opportunities to refine and reform professional practice (Goller & Billett, 2014; Lai, Li, & Gong, 2016) implies that teacher agency is important; even if teachers themselves do not clearly appreciate what being agentic means for them individually (Buxton et al., 2015; Coffman, 2015; Pantić, 2015).

Unsurprisingly, reform proposals can call on teachers to change their practices and resources. But the currently powerful theme in educational reform (that learners become more self-

directed and more engaged in their learning) may also challenge teachers' personal theories of teaching; which not only makes heavy demands on effective continuing professional development for teachers but strikes at the heart of teachers' thinking (Bakkenes, Vermunt, & Wubbels, 2010). And it is teachers' thinking which influences what plays out in classrooms (Zohar & Barzilai, 2013). While teachers' beliefs and knowledge about teaching, learning, content, and classroom management may be unobservable dimensions of teaching they are the conduit through which teachers build professional knowledge about themselves as teachers and about the type of teachers they want to become (De Vries, Van de Grift, & Jansen, 2013; Fairbanks et al., 2010). Only if proposed changes are considered to be effective and feasible by teachers themselves (Reeve & Cheon, 2016), will they entertain changing extant practices. However, determining a proposed change as effective or feasible is a function of teachers' epistemological reflection (Baxter Magolda, 2002; Brownlee, Schraw, & Berthelsen, 2011); the mental processing through which teachers learn to think not only about what they are doing, but also about what they are thinking.

Given the suggested importance of teachers in their own growth, and the centrality of teachers' cognition in their practice, the question turns on how teachers use/develop their own psychological resource to improve/increase their pedagogical agency. In other words, how do teachers learn through and from experience to gain new insights about themselves and/or their practice whilst, at the same time, appreciating how their own assumptions, knowledge and actions impact on different aspects of their professional context? This article explores how teachers can 'bootstrap' their reflexive practice through well-established psychological resources to change not only their professional practices but also to appreciate how agentic they can be. The paper begins with an account of what reflexive practice is and why it is important. Then it offers a narrative of the psychological resources to mediate self-agency whilst considering how these resources support reflexive practice.

Reflexive Practice

The characterisation of teachers as self-driving professionals who can cope with uncertainty and deploy their reflective powers to grow intellectually has a long tradition which can be traced to the early works of Dewey (1910). Reflection is a thinking process in which what is experienced as perplexing is transformed into that which is coherent and meaningful to the individual. This thinking process has been theorised variously (Grossman, 2008; Hatton & Smith, 1995; King & Kitchener, 1994; Korthagen & Vasalos, 2009; Kuhn, Cheney, & Weinstock, 2000) and while nomenclature varies, each suggests that reflection is an intellectual achievement which is on a continuum of epistemological sophistication. Broadly, this continuum traverses from describing, and responding personally to, a practice issue or situation; to using theory and experience to explain, interrogate and ultimately transform practice. It is this transformative reflection which is known as reflexivity – an internal dialogue in which people "define and clarify their beliefs, attitudes and goals, evaluate social circumstances and define projects based on their main concerns" (Caetano, 2015, p. 62).

Typically, we engage in reflection and reflexivity through writing (such as keeping a journal) to manipulate knowledge by thinking about the adequacy of existing beliefs and explanations. Through writing we become more precise in our thinking (Bereiter, 1980; Kellogg, 1994) thereby creating an epistemic interaction in which writing is a space for thinking and, at the same time, thinking is influenced by writing. In this journaling, teachers seek to improve the status quo through critically evaluating both their practice and their reflections on that

practice to determine what might constitute 'better' practice and its effects. Reflexive practice is thus a higher-order form of reflection, used consciously, in which we see ourselves as players in our practice situations: checking the consistency of our actions and our value base by attributing our own (and others') desires, needs, feelings, reasons and beliefs to explain observable behaviour. When used consciously and as a matter of course, reflexive practice allows us to make informed judgments about the context and situations which influence our thinking and our actions. And being able to step back and reflect critically on our professional environment, authorises us to think for ourselves and to take responsibility in enabling learners.

Reflexive practice is professionally important. Because the distinguishing feature of reflexivity is its self-referential characteristic of 'bending-back' of thought upon the self as in 'do I really believe/agree with that statement?' reflexive teachers understand how they filter information through their cognitive resources and are aware of the biases and barriers operating as they engage in the process of teaching. In other words, as teachers we are metaconceptually aware: thinking about our conceptions of teaching to reflect on understandings and interpretations of experiences; monitoring information from other sources for its match with our own conceptions; and evaluating competing conceptions on various epistemological assumptions. This explicit mentalising enhances our ability to learn through self-monitoring and reflection, and also underlies our ability to explicitly share experiences with self and others (a sort of mental 'decoupling' of action and thought), as in reflexive discussion and teaching (Frith & Frith, 2012). We thus think about the kinds of teachers we are and want to be; think about how we relate to others; and determine future action while being aware of strengths and limitations; and so take responsibility for creating professional realities rather than become compliant prey to dogma. Reflexive practice offers us the potential to be innovative and agentic in our practice through invoking our epistemic thinking.

Self-agency

Our 'selves' comprise three fundamental components: the 'individual' self, the 'relational' self, and the 'collective' self. The 'individual' self reflects what is unique to the person and is a constellation of characteristics, traits, interests, roles, goals and experiences, differentiating one person from others. The 'relational' self reflects interpersonal attachments with others to build on aspects of shared interest and importance to reciprocally influence significant others. The 'collective' self reflects membership of, and identification with, personally important social groups letting us act in concert to shape our future. Each of these selves is important and meaningful and all are potentially beneficial. However, repeated empirical work identifies the potency of individual self to be greater than that of relational and collective selves respectively (Chen, Zhang, Zhong, Hu, & Li, 2013). Our capacity for self-authoring ourselves, our views of the world, and our relationships with others is a significant conception and one that we cannot afford to dismiss if we are to understand agency as intentional action, self-consciously informed by our personal histories and by our goals for the future. Being agentic involves:

- Having the capacity to effect real change (in other words to have at our disposal means of transforming the status quo);
- Knowing that one wittingly caused some effect(s) and;
- Being aware of our own causations as distinct from those beyond our control (Kögler, 2012).

For teachers, the tools of self-efficacy, self-regulation and self-determination are psychological resources which may be of potential support to them in their efforts to be agentic. The extent to which these tools enable teachers' reflexive practice is now explored.

Self-efficacy

According to Social Cognitive Theory, the central mechanism of agency is self-efficacy: the individual judgement of one's capability to organise and enact a course of action to achieve a designated performance. Self-efficacy is a belief about what one can do in a context-specific situation rather than a generalised judgement of one's personal attributes. In the context of teaching, self-efficacy refers to teachers' convictions about carrying out a range of context specific pedagogical tasks involving classroom management, instructional strategies, and student engagement (Tschannen-Moran & Woolfolk-Hoy, 2001) and, more recently, emotional support (Zee, Koomen, Jellesma, Geerlings, & De Jong, 2016).

Teacher self-efficacy has long been noted as a variable accounting for differences in teaching effectiveness. A selection of recent studies underlines the significance of self-efficacy for practice. Teachers' self-efficacy beliefs predict the teaching of mathematics (Carney, Brendefur, Thiede, Hughes, & Sutton, 2014; Ekmekci, Corkin, & Papakonstantinou, 2015; Riconscente, 2014; Skaalvik, Federici, & Klassen, 2015; Tsamir, Tirosh, Levenson, Tabach, & Barkai, 2015); the teaching of science (Demir & Ellett, 2014; Kazempour & Sadler, 2015; Knaggs & Sondergeld, 2015; Velthuis, Fisser, & Pieters, 2015; Wang, Tsai, & Wei, 2015); and the teaching of literacy (Martinussen, Ferrari, Aitken, & Willows, 2015; Taboada Barber et al., 2014). Through being innovative, teachers use their self-efficacy to focus on the complexities of teaching within very particular contexts and explore alternative instructional practices. Freedom to be creative (Beefink, Eerde, Rutte, & Bertrand, 2012) and to excel (Feldman, Chandrashekar, & Wong, 2016) allows us to secure successful outcomes, experience positive emotions, avoid burnout and remain motivated. To this extent, teachers' self-efficacy is understood as a trait, implying relative stability over time. The sources of information and knowledge reliably affecting self-efficacy are:

- Mastery experience: on task completion, teachers' interpretations and evaluations of performance raise, lower or confirm perceptions of competence.
- Vicarious experience: teachers judge their abilities in relation to those of others. Judgements of equivalent or superior ability to those of peers add value to one's own performance.
- Verbal and social persuasion: feelings of self-efficacy can be enhanced by encouragement from respected peers.
- Emotional and physiological state: optimal physiological arousal during activities is an indicator of competence

Through interpreting and integrating information from these four sources, teachers construct their self-efficacy beliefs with the strength of the contribution made by each source varying according to the domain in question and on the cognitive processing strategies of the individual. Empirically, the sources correlate with each other but mastery experience has greatest influence. However, teachers' extant conceptions will influence the information to which they attend and one very powerful lens, for instance, is their implicit notions of ability (Cheng, Tang, & Cheng, 2016). Teachers who are oriented to acquire competence, prefer mastery-oriented and cognitively activating practices (Retelsdorf, Butler, Streblow, & Schiefele, 2010; Shim, Cho, & Cassady, 2013); so strengthening self-efficacy (Schiefele,

Streblow, & Retelsdorf, 2013). Further, teachers' pedagogical interest in how substantive content is managed enhances learners' interest in, and mastery of, the content (Schiefele & Schaffner, 2015); presumably because mastery approaches encourage deep learning (Phan, 2011).

While optimistic estimates of one's competence are theorised to increase effort and persistence and promote achievement in challenging circumstances, high self-efficacy predictions must be matched with congruent performance outcomes. Without a clear analysis of the 'knowledge-in-context' needed together with self-understanding of one's strengths and weaknesses (Bandura, 2012), self-efficacy is unlikely to support teachers' agency, in Kögler's (2012) terms. It is important to appreciate that, in teaching, self-efficacy is not just a belief in one's ability to affect learner performance but a belief that one can successfully execute the behaviours required to produce the outcome. Knowing that particular outcomes can be achieved by particular behaviours, does not evidence self-efficacy unless teachers also believe that they themselves are capable of producing the requisite behaviours. To this extent, self-efficacy is domain-specific state, implying a context-dependant dynamic. If teachers are to be self-efficacious, they must be inclined to devote time and effort into understanding self-efficacy. Being informed is a necessary condition but insufficient to influence educational reform. Further, teachers require to:

- Make appropriate choices as to the domains in which their efficacy can have real effect (in one's own classroom for instance rather than across the whole school);
- Be aware of which particular actions cause effect in which particular context (at a granular level);
- Intentionally cause change through one's own efforts (rather merely implementing the instructions of others).

With a clear profile of their self-efficacy constructed, teachers are in a position to determine how to extend their agency. With high self-efficacy, they are more likely to be able to sustain the internal dialogue that allows them to clarify their thinking and act on the basis of their reasoning. With weak self-efficacy, they need to evaluate the implications and either work to improve their efficacy or justifiably defend the status quo.

Self-regulation

In our self-awareness we compare ourselves to various standards or ideals, making self-regulation possible (Carver, Johnson, Joormann, & Scheier, 2015). Broadly speaking, self-regulation means adapting our thinking and/or behaviour to accord with norms or standards prescribed by self or other. When people self-regulate they:

- Mentally endorse precise standards of thought, feeling, or behaviour (without which self-regulation can be no more than random change)
- Are motivated to invest effort in reducing discrepancies between standards and current states of thought, feeling or behaviour
- Have sufficient capacity to reduce the discrepancy between aspiration and actuality (through self-monitoring, self-evaluation, help-seeking, modifying environment to aid self, and preparing for future events).

These interdependent processes are underpinned by being able to exert self-control (Carver et al., 2015). Processes targeted at achieving specified standards vary; partly because personal,

behavioural and environmental circumstances are in constant flux requiring strategic adjustment of performance; and partly because persons manifest significant and reliable differences in motivation. Further, self-regulation is cognitively effortful (Nordgren & Chou, 2011) and can break down when cognitive executive functioning articulates with environmental distractions (De Witt Huberts, Evers, & De Ridder, 2013). But weakened self-regulation is neither a necessary nor irreversible state, and can recover. Nevertheless self-regulation varies as a function of interest, belief and personality; and is partly automatic and unconscious and partly under the effortful cognition and motivation of the individual (Gröpel, Baumeister, & Beckmann, 2014; Lee, Lee, & Bong, 2014; O'Keefe & Linnenbrink-Garcia, 2014).

In the context of teaching, self-regulation refers to how teachers manage their own resources in their occupational setting to cope effectively with the professional demands made of them (Klusmann, 2013). In order to provide the high-quality instruction that fosters others' learning, teachers must draw on their pedagogical knowledge, their beliefs in relation to learning, their motivation and their maintenance of a healthy work-life balance (Kunter, Klusmann, et al., 2013). Because teachers are vulnerable to stress and burnout, they need to be pro-active in maintaining their occupational commitment over time whilst avoiding debilitating stress and loss of motivation. Unlike learners, whose self-regulation is concerned with how learners can personally improve their ability to learn, teachers' self-regulation "indicates the ability to engage oneself while simultaneously monitoring one's own behaviour and, in stressful situations, finding ways to cope adaptively" (Kunter, Kleickmann, Klusmann, & Richter, 2013, p. 807). The combination of work engagement - a fundamental willingness to invest effort and energy in one's work (Bakker, 2011); and resilience - the dynamic quality of external intellectual and social resources (Gu, 2014), characterise the type of self-regulation that teachers deploy (Klusmann, 2013). Four clusters emerge.

Healthy-ambitious teachers display high (but not the highest) scores on the subjective significance of work and professional ambitions. At the same time they distance themselves from work-related demands by not letting professional problems intrude into their leisure time, by experiencing strong support in their domestic and social life and by engaging in enjoyable relaxing activities. This profile does not in itself not guarantee teacher agency, but it affords optimal conditions for teachers to actualise agency in Kögler's terms.

Unambitious teachers are sparing in their personal investment at work. They restrict their efforts at work to what is absolutely necessary and so evidence below average scores on the subjective significance of work and professional ambitions. At the same time they evidence high resilience by experiencing a positive and satisfying life-style, mental stability and a disregard for professional progress. While the unambitious type's positive attitude to life may be psychologically protective, the weak commitment to work does not imply any of the criteria suggested by Kögler.

Excessively ambitious teachers are characterised by excessive commitment at the workplace, investing copious personal resources in work tasks as reflected in the highest scores on the subjective significance of work and professional ambitions. At the same time they are poor at distancing themselves from work concerns and so do not replenish themselves psychologically through a healthier work-life balance. While high levels of work engagement may sustain professional practice for a time, the lack of resilience would significantly limit teachers' capacity to be agentic.

Resigned teachers evidence low scores on the subjective significance of work and professional ambition. At the same time they have few coping resources: finding their personal lives unsatisfying, not experiencing positive well-being and generally communicating a negative emotional tone. Poor work engagement and poor resilience would be contrary to any reflexive self-relation and self-directed action.

Teachers' self-regulation is mental action to manage their social and professional environment such that are likely to entertain new or different mental states, or make new or different decisions. The clusters of self-regulation are empirically distinct, with each affecting the quality of a teacher's instruction (Klusmann, 2013). Only the healthy-ambitious form of self-regulation, which is a synergy of work engagement and resilience, affords the conditions for teachers to entertain new or different mental states, or behaviour. This suggests that teachers' reflexivity needs to focus on:

- Being clear as to a realistic (for them) balance between investing energy in improving conditions for others' learning and protecting themselves from becoming over stressed;
- Taking the initiative in clarifying the timeframe, the actions and standards for realising their own professional development goals;
- Actively monitoring their professional intentions and, where necessary, modifying targets.

Self-determination

Self-Determination is the degree to which individuals experience themselves as autonomous (Ryan & Deci, 2011). Autonomy (having choice in how to act) is a basic psychological need, experienced virtually worldwide despite cultural differences (Chirkov, 2014). Autonomy means striving to be self-directed by self-generated (or freely internalised) rules which derive from moral norms, personal life goals, lifestyles and philosophies that can serve as an inner compass when choices are available. The rules recognise one's own and others' needs; are governed by reflective and rational reasoning; and infuse individuals' behaviour much of the time. People acting autonomously act on the basis of factors which they control and with which they identify. This means that not only the manifest behaviour, but also the underpinning cognitive functioning for the behaviour is endorsed by individuals as their 'own'; a process which necessitates the individual's critical self-reflection (Glannon, 2014). The nuance of the individual's authorship of reasoning-to-act is important. Without it, people may well act independently and intentionally, but not with autonomy. However it is possible for people whose behaviour is largely heteronomous to have episodes of motivational autonomy in their activities. Motivational autonomy allows individuals to experience authority over, and ownership of, their own specific behaviours and so experience their own volition. Being autonomous does not deny that there are influences, pressures and mandates to act in particular ways. People can even be self-determined when complying with external demands, provided they fully concur with the reasons for so acting.

Teachers' autonomy is viewed as important in educational reform (Wermke & Höstfält, 2014) but their individual autonomy to determine subject content and pedagogy resides in a complex web of professional autonomy (the governance of the teaching profession in terms of qualifications and fitness-to-teach) and collegial autonomy (the management of curricular and pedagogical decisions at the local level of the school) with individual autonomy interacting with collegial autonomy and being influenced by professional autonomy

(Frostenson, 2015). However, in order to exercise autonomy (as discussed above) teachers must be explicit about their knowledge and beliefs of teaching and learning as these beliefs vary in epistemic sophistication; and are the baselines from which they exercise autonomy. Then, through structured reflection on these theories of learning they gain the capacity and freedom to direct their own teaching, to modify their theories and learn more about themselves as teachers (Lamb & Reinders, 2008). In discussing the extent to which reflection triggers behavioural change, Dworkin (2015, p. 14) concludes that autonomy is "a second-order capacity of persons to reflect critically upon their first-order preferences, desires, wishes and so forth and the capacity to accept or attempt to change these in light of higher-order preferences and values." In other words, autonomy is not just something we think about; it is also the ability to alter and enact our preferences effectively (because we have adopted them as our own).

Teachers' autonomy in the workplace is important because of its relation to improved job-satisfaction, commitment, engagement and performance; and its relation to reduced emotional distress, role stress and absenteeism. Within the realms of each class, the autonomy to determine what and how subject matter is taught is seen as the teacher's professional preserve as it is the teacher and only the teacher who has both the pedagogical knowledge and the knowledge of learners in his/her class; and therefore it is the teacher who is best placed to address a particular and contextualised learning need. Teachers' exercise of autonomy is a powerful way of contributing to improvements in others' learning as well as feeling valued in the workplace. And peers' appreciation of one's professional autonomy may encourage the autonomous teacher to perceive and experience an increase in his/her sphere of influence (Gagné & Bhavé, 2011).

This is not to suggest that autonomy is a panacea for all ills regardless of context. Autonomy is not unbridled freedom to act without regard for structural and societal constraints; and exercising autonomy against a backdrop of external micro-management and the demands of mandated accountability can be challenging. For teachers to realise their autonomy they need to

- Be clear about what they can and can't do and on what they will or won't do
- Recognise that there will always be different perspectives on a topic or issue and that discussion of differences, and reasoning through these differences is a necessary part of developing autonomy
- Draw from their metacognitive reflections to resist others' coercion to 'think', 'do' or 'feel' in ways that are alien to our their value judgements.

Clarity of thinking on these elements can support reflexive practice, enabling teachers to appreciate their own agency.

Psychological Resources, Reflexive Practice and Agency

The literature thus makes plain that self-efficacy, self-regulation and self-determination are useful psychological resources from which teachers can benefit. They contribute to one's 'psychological capital', as it were. In the first instance teachers must have a thorough grasp of each of the constructs; which has implications for staff development. But, equipped with a robust conceptualisation of each, teachers are then well-placed to develop their reflexive practice. It is teacher's habitual and refined use of reflexive practice that allows their agency. Essentially, if teachers are to be agentic they must take cognitive responsibility for understanding what is happening, for staying cognitively on top of events as they unfold and for knowing what needs to be known (Scardamalia, 2002) in the field of education. Such agency invites teachers to take an intellectual stance in relation to their practice, to engage in dialogue with others and to argue for the morally sound and ethically robust interpretations of what educational reform means in particular and contextualised situations. Not only should teachers exercise their cognitive responsibility but should also foster such responsibility in learners and in professional peers. With such understanding the teacher is not necessarily reliant on others but can set forth ideas and negotiate a fit with the ideas of others (Cacciamani, Cesareni, Martini, Ferrini, & Fujita, 2012), thereby using his/her agency epistemically. It is the challenge to go beyond individual efforts and collaborate with peers to advance what needs to be known that allows self-agency to be considered epistemic: when it expresses intentional, goal-directed, and sustained involvement in knowledge-driven, object-oriented activities that are shared with others (Damşa, Kirschner, Andriessen, Erkens, & Sins, 2010); although Damşa et al. (2010) are clear that such agency involves a regulative function without which all manner of 'good intentions' will simply not materialise. Epistemic agency which may be more/less advanced (Cacciamani et al., 2012) allows teachers to interpret what they see colleagues do and how to advance their own learning /practice (Yadav, Herron, & Samarapungavan, 2011). It underpins how people frame activities to determine their level of intellectual engagement (sense-making or perfunctory) which in turn affects what they notice, what knowledge they access and what they do with the knowledge (Muis & Franco, 2009). Further, individuals' profiles of learning, experience and participation in the social and physical world - their personal epistemologies (Billett, 2009) - shape how they construe and construct subsequent activities and interactions in exercising their agency. Epistemic agency is therefore central to understanding whether practice is refined, reinforced or transformed and as such can be construed as critical to teachers' personal agency.

Conclusion

In response to the call that teachers need to be agentic in the enactment of educational reform, one sustainable interpretation of this is to enable teachers to be reflexive practitioners. The psychological resources of self-efficacy, self-regulation and self-determination can support teachers in the development of their reflexivity although teachers must also have robust understandings of the affordances and constraints of each of these resources. The intellectual armoury that can be developed and refined through systematic engagement in high-level reflection allows teachers to advance practice on the bases of justifiable and morally defensible reasoning. To engage in education reform (for the purposes of improving their own and others' learning) teachers must take cognitive responsibility for understanding what is happening in their classrooms, for staying cognitively on top of events as they unfold in the classroom and in wider educational contexts, and for knowing what needs to be known. Such cognitive responsibility is necessary for teachers to be recognised as public intellectuals: persons who integrate thinking and practice; who take active responsibility for raising serious

questions about what and how they teach, and the goals for which they are striving; and who recognise that they are active, reflective scholars and practitioners in the politically contested sphere of teaching.

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