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## Learning to Teach: What Do Pre-service Teachers Report.

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*Abstract: Taking a sociocultural approach to understanding the phenomenon of learning to teach, this study examined the extent to which seven pre-service teachers, in their final year of a Bachelor of Education course in a regional Australian university campus, identified personal, professional and contextual aspects as significant influences on learning to teach. By listening to the voices of the pre-service teachers, this study found three orientations towards learning to teach. While these orientations were specific to the pre-service teachers enrolled in one regional teacher education program, they do offer teacher educators some insight and advice into the phenomenon of learning to teach in contemporary times.*

**Keywords:** pre-service teachers; initial teacher education; learning to teach; sociocultural theory

### Introduction

In a climate of public accountability, publicised standards of student achievement, national accreditation of teacher education and national teaching standards, teachers and initial teacher education preparation courses are never far from criticism. Surveys of graduates, teachers, principals and education systems, both nationally and internationally, report that initial teacher education preparation does not adequately prepare graduands for real teaching (Commonwealth of Australia, 2007; Rooft & Miller, 2013). A plethora of reports and research over time outline the criticisms of teacher education which include; lack of practicum; separation of theory and practice; transmissive teaching model; lack of accountability; fragmentation of coursework and; lack of collaboration and consultation between university, schools and in-service teachers (Allen, 2009; Ingvarson et al, 2004; Commonwealth of Australia, 2007; Council for the Accreditation of Education Profession [CAEP] , 2013; National Board for Professional Teaching Standards [NBPTS], 2000). Moreover, many pre-service and in-service teachers have asserted that their practicum experience had the greatest impact on learning to teach (Adoniou, 2013; Hastings, 2010) and pre-service and in-service teachers often claimed that in-school contexts allowed for immersion in the “practical, real and immediate” teaching contexts, whereas the university context was often seen as “theoretical and remote” (Allen, 2009, p. 653). There is also a common misconception among the general public and lay persons that teaching is a task that most educated people can do. However, effective teaching goes beyond simply knowing subject matter or theory, having interpersonal dispositions to teaching, or having a ‘bag of tricks’. Researchers have described the phenomenon as a complex, dynamic and idiosyncratic

process that takes time and is constantly evolving (Darling-Hammond, 2006; Grossman, Hammerness & McDonald 2014; Morrison, 2013).

Learning to teach is complex because of the roles and responsibilities teachers have to play, the nature of schools and classrooms and the diversity of students. The more recent development of competency frameworks and standards by international, national and state teacher registration boards and professional learning area organisations over the past 18 years attest to this fact (Australian Institute for Teaching and School Leadership [AITSL], 2011; Commonwealth of Australia, 2007; Department of Education and Training [DET], 2004; Maloney & Barblett, 2003; Ministerial Council for Education, Employment, Training and Youth Affairs [MCEETYA], 2003; NBPTS, 2000). According to Hattie (2012) and Opfer, Pedder, and Lavicza (2011), learning to teach is dynamic because there are influences from students, curriculum, policy, leadership, school environments and pre-service teacher's personal beliefs about teaching and learning. While many researchers have investigated the characteristics and behaviours of teachers to identify what 'effective' teachers do, these skills and the knowledge are not easily transferred or imitated (Louden et al., 2005). Learning to teach is also described as idiosyncratic in that researchers have found that pre-service teachers enter teacher education courses with diverse dispositions, educational experiences, life experiences, beliefs and values (Guarino, Santibanez & Daley, 2006; Sheridan, 2013; Watt & Richardson, 2008). The pre-service teachers' prior knowledge, experiences and beliefs are thought to act as filters, influencing what is taken from the knowledge, skills and experiences presented in their coursework or in schools (Bloomfield, 2010). Bloomfield claims that 'there is no single road to becoming a teacher, nor a single story of learning to teach' (p. 221). Thus, our study sought to identify what factors influenced learning to teach.

### **Conceptual Framework for the Study**

Van Huizen, van Oers & Wubbels (2006) described the reforms to teacher education as having three explicit theoretical paradigms. They claimed that the reforms involved competency-based teacher education (teachers' functions and tasks), personal orientation to teaching (the personal side of teaching) and reflection and inquiry-based paradigms (teacher researcher and reflective practitioner). However, these have had a limited effect, and represent quite different and even conflicting paradigms. Van Huizen et al. argued that Vygotsky's socio-cultural theory offers a more comprehensive model that integrates the valuable elements of the three paradigms. Socio-cultural theory posits that knowledge is constructed by the learner and is influenced by both the historical and cultural background of the learner and their social, emotional and cognitive interaction with the environment in which they learn (van Huizen et al., 2006; Vogel, Davidson, Shroff, & Qureshi, 2001). Originally developed by Vygotsky, socio-cultural theory has three main principles: social sources of individual development, semiotic mediation in human development and genetic analysis (John-Steiner & Mahn, 1996; Vygotsky, 1978).

The conceptual framework for this study was derived from the socio-cultural perspectives which identified universal questions concerned with who, where, when, how and what had to be learnt about teaching. These questions were conceptualised as the personal, contextual and professional aspects of learning to teach. The purpose of this study was to investigate the extent to which pre-service teachers reported that their personal, contextual and professional aspects influenced learning to teach. The literature reviewed on personal aspects identified pre-service teachers' demographics, epistemological beliefs, dispositions and self-efficacy (Drudy, 2013; Ingvarson, Beavis, & Kleinhenz, 2004; Sheridan, 2013; Tigchelaar, Vermunt, & Brouwer, 2014; Walker, Brownlee, Exley, Woods, & Whiteford,

2011; Zammit et al., 2007). The research on contextual aspects identified where and when pre-service teachers learnt to teach, and how the conditions present in these environments effected learning to teach (Darling-Hammond, 2006; Zeichner & Conklin, 2008). The research on professional aspects identified six dimensions of teachers' work as key learning area (KLA) content knowledge, pedagogical knowledge, knowledge of learners, professional relationships, assessment and evaluation and professional ethical practices and how these were thought to develop (AITSL, 2011; Author et al., 2003; CAEP, 2013; NBPTS, 2000). Socio-cultural theory model asserts that participants are "both shaped by and shaping their living conditions" (John-Steiner & Mann, 1996, p. 271). Hence, the socio-cultural approach offers a relevant and useful lens through which to examine learning to teach in the current study, because it sought to understand the players (pre-service teachers directly, and the lecturers and mentor teachers indirectly), the landscapes (schools and university contexts) and the professional teaching knowledge and skills that have to be learnt.

## Methodology

The study sought the 'voices' of pre-service teachers to understand what was happening during the initial teacher education period. Yin (2003) recommends case studies as the preferred research approach when posing who, what, where, how or why questions; when the phenomenon involves 'real' life contemporary contexts; and when the events or behaviours are not being manipulated. These conditions matched the aim of our study. Neuman (2011) described case study research as having "a detailed focus but tells a larger story" (p. 42). The multiple case study methodology was chosen because it offers 'rich' data and has several advantages in telling the story of the individual participants (micro-level) and its relationship to the larger process of learning to teach (macro-level) (Neuman, 2011). Additionally, given the literature review found learning to teach to be quite complex, dynamic and idiosyncratic, it makes sense to have more than one case study because a single case study would be too narrow a view. Based on the advantages and disadvantages of qualitative data collection methods described by Silverman (2006), the current study used document analysis; interviews; and recording and transcribing of natural interactions from multiple case studies.

Seven female pre-service teachers from a regional university campus in Australia volunteered to discuss their experiences of learning to teach. The seven pre-service teachers were in the last semester of their four year Bachelor of Education course. Three of the seven were preparing to work as generalist teachers for students aged 5-12 years, whilst the remaining four pre-service teachers were preparing to teach in two key learning area specialisations for students aged 5 -15 years. The courses offered a total of 22-24 weeks of practicum school experiences which were incrementally increased from their first year through to their final year. The course structures included educational psychology, liberal arts and core units in key learning area content knowledge.

The seven pre-service teachers participated in three semi-structured interviews over a six week period. The semi-structured interviews were based on the personal, contextual and professional aspects identified in the literature review. Interviews were transcribed and data were open coded to form a biographical narrative, commencing with an account of the pre-service' lives before university, and the personal aspects they brought to teaching (Neuman, 2011). This was followed by details of their experiences during their studies, and what they remembered as significant or insignificant learning experiences, and why. Finally, the pre-service teachers evaluated themselves as teachers, according to what knowledge and skills they believed they had learnt about teaching and their readiness for teaching. The

biographical case narratives were returned to participants to authenticate their stories with opportunities to delete and edit as they saw fit. The narrative case studies were then cross-case analysed using axial and selective coding to reduce the data and search for patterns and themes (Neuman, 2011).

## Results

From this comparison of the seven cases we identified 15 key elements that we have further conceptualised into three overarching themes. The analytical comparison involved gathering evidence about the degree to which the themes and elements applied across the individual case studies (Neuman, 2011). The themes involved *influences of a personal nature*, *influences from the context* and *influences of a professional nature*.

### Orientations towards learning to teach

In our study, the pre-service teachers' approaches or orientations to learning to teach influenced what was taken from their campus and practicum-based experiences and what they had learnt about their profession. This was consistent with Dutch research by Oosterheert, Vermunt, and Denessen (2002) and Opfer et al. (2011). Opfer (2011) proposed that orientations were an "integrated set of attributes, beliefs and practices as well as alignment of oneself and one's ideas to circumstances and contexts" (p. 444). In our study, orientations were defined similarly to Opfer et al., because they emphasised the extent to which personal attributes acted on what was learnt (professional knowledge and practices) in given situations and contexts (campus and practicum-based experiences).

The significance of our study, and therefore its contribution to theory, is the proposition that the pre-service teachers' approaches to learning to teach were pivotal to what they learned from their teacher education experiences and to their vision of teaching. The extent to which the influences of a personal, contextual and professional nature were utilised by the seven pre-service teachers implied particular orientations to learning to teach. Three orientations to learning to teach emerged in our study. The personal influences appeared to dominate learning to teach and, as such, the personal influences appeared in all three orientations. However, in the first orientation, called a *pragmatic* orientation, the personal aspects were the single most influential impact on learning to teach. In the second orientation, described as having a *transitional* orientation, the personal aspects were influenced by some professional and contextual aspects and these pre-service teachers recognised that learning to teach required some engagement with professional knowledge and skills in order to review and refine their knowledge and understanding about teaching. In the final orientation, described as having an *integrated* orientation to learning to teach, the pre-service teachers utilised all three aspects (personal, contextual and professional). The orientations found in our study can offer teacher educators some insight into the diversity of pre-service teachers coming into education programmes to learn about teaching.

The framework for writing the orientations was organized according to the key themes that were identified in the analytical comparison of the case studies. Each orientation is introduced by describing the extent to which the socio-cultural aspects influenced the pre-service teacher and the pre-service teachers who were a 'best fit' for that particular orientation. This was followed by their decision to teach based on their dispositions, self-efficacy for teaching and life experiences. The next section describes their learning to teach experiences as adult learners with personal epistemological beliefs that influenced their

approaches to learning and learning to teach. Finally, each orientation concludes with their vision for teaching using their somewhat idealistic philosophy of teaching and their concept of the teacher they had become.

### *Pragmatic Orientation*

In this orientation, the personal aspects dominated the learning to teach experience with minimal influences from the university context or the professional skills and knowledge emphasised in the teacher education programme. Pre-service teachers with this orientation to teaching had high self-efficacy for teaching and they believed they possessed personal skills and knowledge suited to teaching and being a 'good' teacher. This self-evaluation was based on previous, positive personal experiences with children in the form of coaching, child care or child rearing. Dallas was the only pre-service teacher in the current study to align with the pragmatic orientation. Dallas began her course anticipating a shorter tenure for learning to teach because she looked through the course components and remarked "that's not going to take me four years".

Dallas described her personal characteristics and skills suited to teaching as having a good sense of humour, being caring and compassionate, organised, flexible, enthusiastic and self-motivated.

I think being able to kid around and make fun of yourself. I was reading quotes that said  $\frac{3}{4}$  of being a good teacher is doing theatre. And it is a bit like that so I think you have the ability to be a bit crazy and so I think being a bit out there and flexible....I hope to be enthusiastic and involved. I hope to be caring but not the over the top caring.

These personal characteristics and skills were also believed to be a consequence of the positive and significant adults in her life and school experiences. Her decision to teach was based on the belief that she could make a difference to her students because she related well to students and students liked her. Teaching was defined around relationships and communication.

I started teaching swimming when I finished school. I think that is very similar to teaching, you've got to set the boundaries, set the rules, and there is expectation so I always tell my swimming kids 'to pass this level you need to show me that you can do this this and this more than once.... So I think that will probably be one of my things in my classroom.

Dallas' pragmatic orientation to learning to teach meant she approached learning subjectively and based on personal and practical opinions (Walker et al, 2011; Perry, 1968). While she believed some knowledge was fixed, at times knowledge evolved with practice and experience. Learning was viewed as knowledge reproduction or application.

That comes back to you're going to make your own knowledge. If you get told you just going to regurgitate it again, like TEE<sup>1</sup>, so I think you have to make your own connections and your own understanding of what it is. Otherwise you're never going to remember.

Dallas acknowledged learning took time and effort but she believed learners usually had an aptitude or ability for certain skills and subjects.

Dallas' pragmatic orientation meant she rarely challenged her beliefs or identified her bias and she was often reluctant to review and revise ideas, strategies or understandings. The lack of willingness to reflect and engage with new ideas or ideas different to her own meant her preconceived ideas about teaching and learning remained intact throughout the coursework.

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<sup>1</sup> End of secondary school exam for entrance into university

Because you get a lot of books that are full of theories but realistically when I am in the classroom I don't care what theory I am teaching as long as it works you know it's effective.

Preconceived ideas about teaching and learning were often based on her own school experiences and from a student perspective. Dallas often viewed unsuccessful learning as learner related and possibly due to low socioeconomic backgrounds or lack of ability. She was quick to judge students' actions and behaviours and tended to hold stereotypical views of students and teachers.

I think some of the kids up north go to school because they have to or they are bored. There is nothing else to do in town. But on the other hand some kids go to school because that is the only meal they might get or they love the teacher or they get rewards...but then down south it is a bit different that kids go to school to learn, to read and write. Some kids go to school to socialise. Not much else.

Dallas' pragmatic orientation saw her value the practicum experience over the university context and she was expecting to learn the most about teaching from practicum experiences and when employed as a teacher.

I think you're more confident with every prac and everyone says that after a prac 'oh that wasn't that hard' So I think prac is the underlining thing...it's the main...it's where you're going to learn the most, it's where you're going to get your confidence .

She believed learning to teach should be practical, on the job training with advice from experienced teachers and learning to teach involved trial and error of strategies with real students, followed by reflection and feedback on the success of the trialled strategies. Dallas also tended to discount theoretical understandings and rhetoric as technical jargon that she believed was common sense knowledge and practice. However, some strategies and theories were accepted if they made logical and practical sense and had been positively 'field tested'. Dallas' preferred learning style was through practical experiences, feedback and reflection such as experienced on practicum. She did not engage with didactic teaching styles and autonomous learning tasks provided at university were quickly forgotten unless she deemed the activity to be highly relevant to teaching.

Being pragmatically orientated, Dallas felt it was more important for teachers to be enthusiastic about teaching and have a strong desire to work with children. The teacher was seen as the primary knower and organiser of learning but content and skills had to be relevant and practical to students' lives.

I think they [effective teachers] know what they are talking about, they are interested in what they are talking about and they are willing to go off from their plan so they have an idea of what they want to do but if the student comes up with 'let's research this' then they have the ability to just say 'yeah, let's do that. Let's follow that and see how far it will go, what we can learn from that'.

Dallas saw planning as involving searching for practical and ready-made lessons designed by other teachers because these were seen as 'field tested'. She tended to evaluate ideas according to practical implications and implementation; and whether she believed students would engage and enjoy the activities.

By the end of her pre-service teacher education, Dallas was confident about professional relations, knowledge of learners and professional ethics and these dimensions had not changed since the commencement of teacher education. Dallas also attributed much of her KLA content knowledge to secondary schooling and this was deemed sufficient for teaching. Pedagogical skills and strategies were based on tried and tested methods from other teachers or resourced from teacher websites. Dallas concluded:

I think I'll probably learn more in the first two years [of teaching] than I have probably the whole time at uni. Because when you go on prac the teachers say 'No, we don't do it that way, we do it this way now or this way is quicker'. So I think that on the job sort of [learning]. That's why I like the idea of getting a mentor because I think they are going to give you so many tricks and things even for planning or researching that will be so much quicker.

### *Transitional orientation*

The second orientation to learning to teach found in our study combined the influences of personal nature with some professional or contextual aspects. The pre-service teachers with a transitional orientation believed there was some specialised professional knowledge that pre-service teachers had to learn that was going to be new to them. There were three pre-service teachers, Barb, Jacqui and Leah, who portrayed the transitional orientation in our study. These pre-service teachers also believed they had personal characteristics and skills suited to teaching based on successful experiences with children and people. While their decision to teach was also to make a difference to students, the decision was associated with their reciprocal enjoyment of the teacher/student relationship and love of learning. Barb explained:

I think you have to have that sort of 'nature'. I don't think it is something you can just wake up one day and think I'm going to be a teacher. You have to like kids and be passionate about learning. Not everyone is born to be a teacher.

Pre-service teachers displaying a transitional orientation also had high self-efficacy for teaching based on their proven positive experiences with children in roles such as parenting, coaching or work experience but they recognised the need to have a repertoire of professional strategies and background knowledge about teaching and learning. In this orientation, pre-service teachers were expecting to learn the 'craft' of teaching from coursework but the pre-service teacher was responsible for making the theory-to-practice links while on practicum. Leah elaborated:

You learn to teach by learning about the theories and the practical. Because sometimes you learn more at prac or you learn all the theory part at uni but then you put it all into practice and that is when you actually go 'oh, ok, this is how this fits in and that is why we did that or this is how that can be used.

The pre-service teachers who were transitionally orientated approached learning from a relativist view (Perry, 1968). They saw the need to critique and evaluate knowledge against their own knowledge and experiences and to be willing to make some compromise to their thinking. Knowledge evolved from familiarity and making sense of readings or new information. As a result of needing to make some sense of the new information, these pre-service teachers respected the expertise and advice of both their university lecturers and mentor teachers. They expected learning to be built up over time with further application and practice and they believed ability was improved with effort and persistence. Jacqui concluded:

I think when I first started uni I was thinking I get all this stuff and I know what I am talking about, but then every year I can't believe I ever thought I knew everything last year.

Pre-service teachers with a transitional orientation expected to learn to teach along a developmental trajectory over the four years. In their early years of learning to teach they did not feel confident to question and preferred guidance from lecturers and mentor teachers. The preferred learning style of the pre-service teachers with a transitional orientation was a



combination of theory building, collaborative discussion, autonomous learning experiences and reflection. Leah explained the difference between her current university experience and her first year at university as:

Now I want to try more new things and be more creative and I am more willing to experiment and have a go at things. Because before if something didn't work I would go 'oh, my god, I am never doing that again'. But now if it doesn't work I go 'ok, well why didn't that work? What if I changed this and tweaked that and then go back and see if it works'.

The pre-service teachers displaying a transitional orientation in this study were most concerned about establishing a strong student-teacher relationship and as such, students' behaviour and engagement in the activities they planned were important. They were willing to experiment and search for creative and practical ways of presenting content. They recognised their students had diverse backgrounds and as such, they valued developing a classroom learning environment conducive to students being able to take risks and have-a-go. Their content knowledge was largely attributed to their secondary schooling but they were expecting to do some relearning of content.

By the end of their coursework the pre-service teachers demonstrating a transitional orientation were confident about their professional relationships, knowledge of learners and pedagogy. They were not as confident about KLA content knowledge, however, they were confident of knowing how and where to access KLA content knowledge and they were willing to gain deeper understanding. While this type of pre-service teacher respected student diversity, they were not confident about assessment and differentiating instruction to meet students' needs. Knowledge about assessment of students' abilities was expected to be learnt when they commenced teaching. They were unsure about professional ethics and how that was manifested in their teaching role.

The pre-service teachers with a transitional orientation envisioned teaching as a partnership between teachers and learners, with attention to the development of lifelong skills and a love of learning. Pre-service teachers with this orientation believed teaching involved deliberate decision making about how to best facilitate learning through the integration of 'rich' and meaningful topics and subjects. They perceived the teacher's role was to scaffold learning and break down tasks. For these pre-service teachers setting up classrooms that were creative and inviting, and relationships that were warm but respectful were paramount. These pre-service teachers attributed their theoretical and specialised pedagogical knowledge and skills to a combination of university and practicum experiences. They believed this knowledge and skills had prepared them for continued learning about teaching by being reflective and developing strong theory and practice links through action research type applications and conferring with colleagues. Jacqui concluded that:

You don't realise you've done so much till you look back. Like so many units, activities, the text books and the theorists and assignments on the theorists. Because they are things you don't really think about consciously doing but knowing that that is an actual theory then you can kind of adapt to it more and see what it actually does.

### *Integrated orientation*

The third orientation to learning to teach evident in our study was described as integrated. Pre-service teachers with this orientation alleged that where and when all three aspects—personal, contextual and professional—were activated, integrated and interwoven during the learning to teach experience, a robust and rigorous 'lived' philosophy for teaching emerged. Three pre-service teachers, Annie, Lulu and Lara, demonstrated the characteristics

and understandings most consistent with this orientation. Interestingly, these pre-service teachers were also career switchers or mature aged pre-service teachers. Pre-service teachers with this orientation epitomised the 'reflective practitioner' in that they openly and willingly took a proactive role in their learning. Pre-service teachers with an integrated orientation embraced the total learning to teach experience by valuing equally their personal dispositions, knowledge and experiential contributions, their perceived lack of professional knowledge and skills and they valued the campus and school-based contexts for providing instruction. Hence, these pre-service teachers were more likely to reflect on and challenge their own practices and seek innovative ways to solve the ill-defined problems that they would invariably experience. Annie explained:

It's [learning is] definitely not quick because what happens when I'm learning, I regurgitate, I mull over, I reinvestigate and reconnect all my wires in my head, thinking about what I have learnt and how that connects with something else and it's really an ongoing process.

Pre-service teachers with the integrated orientation believed they had something to contribute to teaching and their decision to teach was based on an altruistic perspective. These pre-service teachers were passionate about teaching, learners and making a difference to students' lives. They were ready to commit to the learning to teach tenure and independently sought information from additional sources to those provided in their coursework.

The pre-service teachers with an integrated orientation in this study had sophisticated and constructivist views about learning as being actively engaged and evaluative about information (Walker et al, 2011; Perry, 1968). They believed knowledge was networks of related and connected ideas that were constantly evolving and growing as one sought deep understanding. These pre-service teachers drew on life experiences to make sense of new knowledge and they sought multiple points of view and collaboration with others. They believed ability was subject to motivation, persistence, time and effort and it was seen as improvable if learners were motivated. Lara reflected:

I loved the way she [lecturer] explains about a strategy, and then she does that in your class. So you get to understand the theoretical level but you are getting it modelled to you as well as explained and then you do it as a student and that was very much based around experiential learning. So we did have our experience and then creatively reflect and then critically make new knowledge.

The pre-service teachers with an integrated orientation described learning to teach as the co-construction of knowledge about teaching and learning. They approached learning to teach with some uncertainty and anxiety about what they do not know and as such, they expected to see and fill gaps in their knowledge, and to be highly self-directed and intrinsically motivated. They were open to new ideas and willing to engage in being critically reflective of their past and current learning and life experiences and they were willing to consider alternative perspectives. Annie described her experiences:

I've been inspired to teach by a couple of my lecturers, and I think they have taught me to connect with the learning much better by the way they teach, and I've then compared that to how I've learnt at school and why I dropped out. At university I am receiving a contrasting teaching style, which was a constructivist way, and I actually connected really well with that and I actually learnt and I thought, hey, I am enjoying this learning experience. So I learnt to teach in a particular way from what I experienced at uni.

Pre-service teachers demonstrating an integrated orientation valued learning the theory and rhetoric of teaching because this knowledge informed their teaching and was

considered crucial to developing a teacher identity and being seen as 'credible'. Lulu explained:

It [practical teaching] would have been too overwhelming- just leave me to be a student in the first two years. I'll just quietly learn in here (uni), get a bit of content, need to work or play with it and ...that the language is there.

These pre-service teachers believed the teacher/student relationship was reciprocal in terms of shared expectations, outcomes/goals and needs were clearly articulated and often negotiated. They valued the development of a classroom environment conducive to metacognitive and constructivist learning. They were highly dedicated and passionate about teaching in order to make a difference to their students in holistic and life changing ways. The pre-service teachers displaying an integrated orientation were more likely to have experienced and reported profound and transformative understandings about teaching or teaching a particular subject that represented a mind shift. Their self-efficacy for teaching was quietly confident, but they anticipated further and on-going learning upon employment as a teacher.

By the end of their teacher education, the pre-service teachers with an integrated orientation were confident about most of the professional dimensions of teaching. These pre-service teachers were well aware of any shortfalls in their professional dimensions and when identified they would pursue further knowledge and skills in the same robust manner as they afforded to their coursework. They would likely value professional development courses. Their understanding of the teaching episode was student-centred and as such they were more inclined to evaluate teaching strategies for student learning. Lulu concluded:

I can't wait to consolidate all this stuff in my head. I can't wait to test it out and see if it works. The experiences at school have made me understand that [teaching practice] is what I need now. I am ready for this now. It is a readiness thing definitely.

## Discussion

Given that pre-service teachers come into teaching with an extensive 'occupational apprenticeship', one of the roles of teacher education is to challenge pre-service teachers' preconceived understandings so that a more rigorous and scientific approach to teaching emerges that will directly influence students' achievements (Calderhead & Sharrock, 1997; Hattie, 2012; Lortie, 1975; Schussler, Stocksberry, & Beraw, 2010). The emergence of three orientations to teaching, identified in our study, has a number of implications for teacher educators; educators involved in employment induction processes; professional development providers; and research; however, in this article we will only address implications for teacher educators.

For teacher educators and teacher education programmes, the possibility of pre-service teachers presenting with different orientations to teaching raises a number of quandaries. First, according to the pre-service teachers in our study, learning to teach in the university context had the least influence on pre-service teachers with a pragmatic orientation, and the most influence on the pre-service teachers with an integrated orientation. However, this does not mean that the pragmatic pre-service teachers will not be 'good' teachers but rather they may not be as open to new ideas or change as the pre-service teachers with a transitional and integrated orientation. The lack of willingness to challenge their own perceptions of teaching and learning means pre-service teachers with a pragmatic orientation are less aware of their own bias and dispositions, and may be reluctant to change because they did not see the need to change (Schussler et al., 2010). Hence, the first quandary for

teacher educators is concerned with the need to activate and orchestrate the personal, contextual and professional aspects for all pre-service teachers so that new understandings about the complex nature of teaching and being a teacher emerge. One way teacher educators could provide opportunities to combine personal, contextual and professional aspects would be to develop a community of learners (Dinsmore & Wenger, 2006; Koeppen, Huey, & Connor, 2000; Tinto, 1998). Darling-Hammond (2006) claims communities of learners can be established by teacher educators establishing common ground, shared goals and understandings about what constitutes teachers' work and what is clear evidence of these skills and knowledge. The development of a community of learners also addresses some of the concerns identified in the literature review such as, course relevance, purpose and outcomes, and pre-service teachers' conflicting and inconsistent expectations of their courses.

Common ground could be established in a number of ways. First, teacher education programmes have rarely taken advantage of the background experiences that pre-service teachers bring to their university classroom, nor have they used this information to inform their tertiary teaching, differentiate instruction and evaluate learning (Feiman-Nemser, 1983; Trier, 2006; Wideen, Mayer-Smith, & Moon, 1998). Background information, such as past educational experiences, epistemological beliefs and self-efficacy, are paramount to regular teaching, but it is even more important in adult learning, where experiences may be 'rich' and able to contribute positively to learning to teach. Additionally and in contrast, past experiences and beliefs may reflect biased or stereotypical perspectives on teaching and learning that negatively affect what is learnt about teaching (Brouwer & Korthagen, 2005; Weiner & Cohen, 2003). Therefore, it is highly recommended that teacher educators apply strategies for activating pre-service teachers' backgrounds and assumptions so that reflection and critical analysis of the effects of holding such views can be identified (Schussler et al., 2010). As was seen with Dallas in our study, expectations of teaching and learning to teach were heavily influenced by past experiences, both educationally and from life experiences to such an extent that they acted as filters that screened out much of the theoretical content. Hence, pre-service teachers' preconceived ideas about teaching and learning must be brought to the surface, challenged and investigated in order to identify alternative viewpoints, which in turn creates disequilibrium that fosters changes in thinking and action (Chan, 2003; Kagan, 1992; Luft & Roehrig, 2007; Weiner & Cohen, 2003).

Additionally, there is growing evidence that epistemological beliefs are thought to be critical in understanding pre-service teachers' practices, predicting classroom decision making and affecting pre-service teachers' behaviours as both learners and teachers (Luft & Roehrig, 2007). Similarly to Brownlee (2004), there was evidence in our study to indicate that as the pre-service teachers learnt to teach and were learners themselves, they saw metacognitive similarities between their learning styles and their teaching styles. Determining pre-service teachers' epistemological beliefs at the beginning of the course could be implemented simply through surveys but also by having philosophical discussions about the nature of knowledge and ways of knowing pertinent to pre-service teachers as students, learning about teaching. Towards the end of their studies, this could be considered again but from the perspective of students' and teachers' expectations, which also has implications for research.

The recently established Australian National Standards for Teachers clearly and comprehensively describes teachers' work (AITSL, 2011). The document provides an opportunity to establish shared goals and vision. Unit outcomes, weekly schedules, in-class tasks and assignments could be mapped against the AITSL framework to develop shared goals for pre-service teachers and teacher educators to work towards. The AITSL document could also be used to develop formative portfolios as evidence of developing teaching skills and knowledge over the four years. The portfolio is also a useful and authentic way to

evaluate pre-service teachers as it calls for autonomous research, evidence and knowledge co-construction about teaching and learning rather than emphasising marks/grades and knowledge reproduction. The use of the portfolio could also be a document that follows the pre-service teacher through to their teacher registration and employment. This would recognise that teaching is a career-long journey and by the end of their coursework, pre-service teachers will and do have different strengths and challenges.

Furthermore, the establishment of evidence-based understandings about teaching will identify and emphasise the role of assessment in learning. Until pre-service teachers understand and can see personal evidence of their learning, they will be less likely to recognise evidence of learning in their students. This might account for why most of the pre-service teachers in our study were not confident about the assessment and monitoring dimension of teaching. Their experiences in both secondary and tertiary education were predominantly marks and grades which reinforced didactic teaching practices. Indeed, the recent Teacher Education Ministerial Advisory Report (2015) in Australia also endorsed the use of AITSL standards to assess pre-service teachers' skills and knowledge (Recommendation 25) and the use of portfolio as evidence of classroom readiness upon graduation (Recommendation 26, 27 and 28).

The establishment of a community of learners should be extended to the faculty. Useful strategies might be to identify a faculty's teaching principles, common or similar learning/teaching styles, unit parity, common discourse/language and assignment mapping. The shared understanding about the nature of teacher's work, coursework and practicum components would establish academic rigour and send more consistent messages to pre-service teachers because lecturers would be aware of links and connections between units of study. This would address the problem of course 'fragmentation' identified in the review of the literature, and also experienced by some of the pre-service teachers in our study.

The second quandary is that if pre-service teachers are presenting with different orientations towards learning and learning to teach, how do teacher educators differentiate instruction and intervene to accommodate the variety of perspectives? Transmission delivery and exams were not favoured by most of the pre-service teachers in our study. Didactic teaching appears to be a consistent negative message in teacher education (Wideen et al., 1998), although one pre-service teacher in this study liked some aspects of the didactic approach and some pre-service teachers preferred the theoretical knowledge construction in their first few years. Preferred learning and teaching styles in our study included practical, collaborative, cooperative learning and constructivist approaches to learning. When and where teacher educators facilitated learning by providing disorientating dilemmas, cases studies and scenarios that challenged the pre-service teachers, they reported 'deeper' learning and understanding that stayed with them. Likewise, where and when teaching strategies were modelled and experienced from the perspective of a student, pre-service teachers also reported deeper understanding and relevance.

Further, pre-service teachers in this study recommended increased practicum time with a university component attached to the practicum. Cavanagh and Garvey (2012) reported positive outcomes when they trialled a collaborative community learning practice between the university and school. The school visits in their study allowed shared observations, co-teaching and discussion that resulted in pre-service teachers learning from each other; the university colleague having shared experiences to use in discussion with pre-service teachers; and positive and powerful theory to practice links were made. In addition, the links with industry served to strengthen school and university practices. Zeichner (2010) describes these types of experience as 'third spaces' that can transform 'the either/or theory/practice nexus to a both/also point of view' (p. 92). Adoniou's (2013) study concluded that teacher preparation was most effective when there was alignment and collaboration between universities,

practicum and schools. Hence, teacher educators need to establish and sustain greater partnerships with schools and other education providers (i.e., discovery centres, museums).

Finally, if learning to teach is considered a developmental process, is it realistic for teacher education programmes, pre-service teachers, educators and the wider community to expect that at the conclusion of the pre-service teacher education experience, pre-service teachers should or will be ready to orchestrate fully the dimensions of teacher's work given the ill-structured, complex and dynamic nature of today's classrooms? Clearly, in this current study, many pre-service teachers were not confident in assessment and monitoring. This is certainly an area that educators would have expected pre-service teachers to have learnt from their ITE programme. The fact that one pre-service teacher was confident in this area implies that assessment and monitoring was evident in the coursework, but many pre-service teachers were either not ready to take on board assessment and monitoring or the 'act of teaching' (the performance side of teaching) was given greater priority in terms of developmental skills. In contemporary times, the assessment and achievement of students' outcomes for learning are paramount, hence there needs to be a greater emphasis placed on assessment and monitoring within coursework. Perhaps this could be in the form of evidence based assignments for pre-service teachers, such as ePortfolios.

The pre-service teachers in our study were exiting their initial learning to teach experience with vicarious and idealistic hypotheses about teaching, or as Darling-Hammond and Bransford describe, "a vision of professional practice" (cited in Darling-Hammond, 2006, p. 304). As such, they were venturing, confidently and eagerly, to the next phase: testing their hypotheses. Similarly to Beck and Kosnik's (2002) study, the pre-service teachers in our study had broad goals for teaching; general pedagogical skills; some specific skills and curriculum knowledge; and a sense of being a newly qualified teacher with further learning anticipated.

The study attempted to provide a framework for investigating the phenomena of learning to teach that recognises the socio-cultural impact and the continually changing educational landscapes (Clandinin, Downey, & Huber 2009; Hastings, 2010). The research on learning to teach is extensive and ranges from quantitative to qualitative studies. It has involved pre-service teachers through to more experienced in-service teachers and across many cultures. Friesen and Besley (2013) claimed that research on teacher identity and development is complex because of the "multidisciplinary nature of the literature and multiple perspectives within teaching and the teacher education field" (p. 24). The socio-cultural perspective taken in our study was a straightforward but comprehensive approach because it took into consideration the personal characteristics of the learner (pre-service teacher), the social and cultural context in which the learning takes place (campus and school-based) and the nature of what has to be learnt (teachers' work). The approach acknowledged that these aspects should not be separate. Rather, they should be integrated with each other (Vygotsky, 1978). The socio-cultural framework of our study helps to satisfy the complex and dynamic nature of teaching in a relatively easy manner. Future research could apply the socio-cultural approach to a larger group of pre-service teachers with more diverse geographical, cultural and gender characteristics. It would also be beneficial to conduct more longitudinal studies from the first year of the undergraduate programme through the first three years of teaching.

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