Connecting theory and practice: a model of clinical practice for a school-based teacher educator

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In new models of teacher education the traditional divide of universities being places to learn *about* teaching and schools being places to learn *how* to teacher are being challenged (Thomsen, 2000). Instead the link between theory and practice is made more explicit through a process of collaboration between beginning teacher and teacher educator. Theory is presented as an aid in learning to teach. Mentors ideally use theoretical understandings of practice within the school setting and the university designs it's teaching to be practically grounded (Brouwer & Korthegan, 2005). This integration aims to create a new kind of teacher who is theoretically oriented and aware of learning principles that guide their practice. In this model of teacher education, teachers learn about practice in the context of practice so that concrete applications can be made (Darling-Hammond & Bransford, 2005).

This paper presents a personal model of practice for a teacher educator working with beginning teachers in schools. It was initially conceptualised to provide a framework to explicitly link theory and practice. Using practitioner inquiry the model was developed for use within the Teach for Australia program, an alternative pathway into teaching. Addressing documented challenges in learning to teach (Darling-Hammond & Bransford, 2005); the apprenticeship of observation, the problem of enactment and the complexity of teaching, the model provides a framework for linking expert knowledge with practical experience. It is designed to build on existing knowledge and practice of beginning teachers through a collaborative learning cycle. The teacher educator can then plan interventions and links to theory with the goal of extending the current practice of the beginning teacher.

Keywords: Teacher education, clinical practice, beginning teacher, collaborative learning cycle

Learning in practice does not just happen on its own...it is important to recognise that practice alone does not make perfect or even good performance. Opportunities to connect practice to expert knowledge must be built into learning experiences for teachers.

(Darling-Hammond & Bransford, 2005 p.415)

Introduction
New developments in teacher education aims to provide a more integrated experience of theory and practice (Brouwer & Korthagen, 2005). This questions the traditional divide of universities being places to learn *about* teaching and schools being places to learn *how to* teach (Thomsen, 2000). Instead the link between theory and practice is made more explicit through a process of collaboration between beginning teacher and teacher educator. Theory is presented as an aid in learning to teach. Mentor teachers ideally use theoretical understandings of practice within the school setting and the university designs it's teaching to be practically grounded (Brouwer & Korthagen, 2005). This integration aims to create a new kind of teacher who is theoretically oriented and aware of learning principles that guide their practice. In this model of teacher education, teachers learn about practice in the context of practice so that concrete applications can be made (Darling-Hammond, 2007). It has been shown that transfer problems; being able to apply learning in new situations, are minimised if the teaching is conducted in the context in which people need to perform (Darling-Hammond & Bransford, 2005).

This paper examines new developments in teacher education and documented challenges in learning to teach. How theory and practice can be linked to support growth in teaching practice is discussed with particular emphasis on ways in which theory can explicitly be made useful for teachers. Building upon this knowledge a model of clinical practice is outlined that provides a framework for practice for a school-based teacher educator. The model was initially conceived for use within the Teach for Australia program, an alternative pathway into teaching. The purpose of this paper is to explore how theory can be made accessible and useful to beginning teachers in the context of practice.

Teacher Education
The traditional approach to teacher education has typically seen a separation between theory and practice. Knowledge about teaching was provided within the university with the hope that it would be used during the teaching placement (Ure & Lysk, 2008; Thomsen, 2000). However this application was often left to chance. Current views of teacher education focus on the importance of learning in context where the pedagogical theory is integrated with practice (Ure & Lysk, 2008). Berry (2007) describes this change as a shift from viewing teaching as a process of acquiring information and practising techniques to learning to recognise and confront problems in practice; a learning problem versus a technical training problem.

Darling-Hammond and Baratz-Snowden (2005) place the notion of teacher as *adaptive expert* as the gold standard for becoming a professional. They distinguish between *routine experts* who can apply a core set of competencies with greater efficiency and *adaptive experts* who continually expand the breadth and depth of their expertise and are more likely to expand their core competencies. An *adaptive expert* is able to balance two dimensions of expertise: efficiency and innovation. Expertise in the efficiency dimension means being able to perform tasks without having to stop and think too much about how to carry them out. Expertise in

the innovation dimension means being able to move beyond existing routines. This often requires a rethinking of key ideas and practices to change the way things are done and the willingness to let go of old beliefs. Instructional strategies designed to foster innovation are different from those the facilitate efficiency. Adaptive experts embrace both dimensions.

How teachers learn and develop
How effective teachers learn and develop has been a long standing question. For teacher education programs to be successful they need to consider how teachers' practice develops. Darling-Hammond and Bransford (2005) explore well documented challenges in learning to teach. These are:
1. The *apprenticeship of observation*
2. The *problem of enactment*
3. The *complexity of teaching*

Each of these factors is discussed as they relate to teacher development and a model of practice is discussed which outlines an explicit framework to link theory and practice.

The Apprenticeship of Observation
Our experience as students means that people come to teaching with preconceived ideas about teaching and learning. Lortie (1975 cited in Darling-Hammond & Bransford, 2005) coined the phrase the *apprenticeship of observation* to refer to the learning that takes place by being a student for twelve or more years. During this time students observe teachers and experience teaching and develop ideas about what teaching is.

Learning to teach requires that beginning teachers understand teaching and learning in new ways, quite different from their experience as students (Darling-Hammond, 2007).   This experience as a student can mean that novice teachers hold serious misconceptions about teaching because from the position of student they are not privy to teachers' private intentions and therefore do not put teacher actions into a pedagogically oriented framework (Darling-Hammond & Bransford, 2005). The knowledge, skills, planning and decision-making behind the teaching are not visible to the student. The result of this can be a tendency to see and imitate the superficial aspects of teaching rather than the formation of professional knowledge. Individuals entering teaching may believe they know how to teach, based on their observations of teachers and assuming that what is required are specific strategies and skills and some technical routines (Darling-Hammond, 2007). Further compounding this is a simplistic impression that sees learning as a mechanistic transfer of information. Holding a preconception that teaching is about transmission of knowledge makes it more difficult to prepare teachers to teach in ways that encourage deep understanding and critical thinking (Darling-Hammond, 2007).

Challenging the naive beliefs arising from the *apprenticeship of observation* about teaching and learning is fundamental to the process of learning to teach (Darling-Hammond, 2007). If not addressed, novice teachers can assimilate new information into their existing ideas about teaching, preventing deeper understanding of the complexity of teaching and the nature of learning (Darling-Hammond & Bransford, 2005).

The Problem of Enactment
Novice teachers need to learn how to put their intentions into action, that is enact what they know. Kennedy (1999 cited in Darling-Hammond & Bransford, 2005) labels this the *problem of enactment*. Many traditional forms of instruction tend to produce knowledge and

skills that often remain inert out in the real classrooms (Darling-Hammond & Bransford, 2005). What teachers learn in their training needs to be meaningful and useful in their practice. Schon (1983) suggests that the knowledge required to make effective teaching decisions 'emerges in the context of practice'. How well strategies work is learned in the course of action and cannot be fully known ahead of time in the abstract (Darling-Hammond, 2007).

Learning is most effective when learnt in the context where it will be enacted. The complex nature of teaching means that teachers must be able to do a wide variety of things, often simultaneously and this cannot be easily scripted (Darling-Hammond & Baratz-Snowden, 2005). The *problem of enactment* can be seen as a learning problem, being able to apply knowledge to practice as needed and use theory to make sense of experience. The link between theory and practice means that theory is used as a means to better understand experience and practice.

Loughran (2010) uses the example of questioning to highlight the difference between simply knowing something and actually using it in practice. Teachers may have knowledge that 'wait time' is important but does their practice reflect this knowledge? This is why technical competence, 'or accumulating the base skills of teaching, itself is not sufficient" (p. 5). Instead teachers develop expertise by moving beyond simply knowing, reflecting on experiences and learning to act, based on sound reasoning and connections to wider expertise. Teachers who learn to teach without guidance can focus on developing coping strategies in the complex world of the classroom without directed focus on student learning (Darling-Hammond & Baratz-Snowden, 2005).

One role of the teacher educator is to help novice teachers make sense of their experiences. In this process new teachers need to learn practical skills linked to theoretical understandings. It is important to note that new teachers also bring their own frames of reference to this learning process.

The Problem of Complexity
Teaching is a complex undertaking. The triangle of relations between teacher, student, and content means a continual shifting of priorities and consequences (Darling-Hammond & Baratz-Snowden, 2005, City et al, 2009). Learning to teach requires that novice teachers learn to understand and respond to the multi-dimensional nature of teaching, where they are required to juggle multiple academic and social goals leading to the necessity for trade-offs from moment to moment (Darling-Hammond, 2007). Lampert (2001 cited in Darling-Hammond & Bransford, 2005) terms this the *problem of complexity*. Teaching is particularly complex as problems do not occur in order but often occur simultaneously and because of this intensity several problems may need to be addressed in a single action.

The complexity of teaching is described in the following four elements (Darling-Hammond, 2007):
1. *Teaching is never routine*.
2. *Teaching has multiple goals that must be addressed simultaneously*.
3. *Teaching is done in relationship to diverse groups of students*
4. *Teaching requires multiple kinds of knowledge to be integrated*.

Loughran (2010) describes teaching as comprising many competing demands and is inherently problematic. He sees teaching as being dilemma based where teachers continually
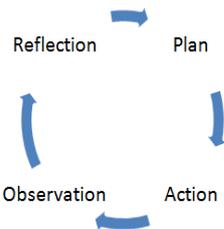
make judgments about what are seen to be appropriate actions at a given time. This view of teaching is a definite move away from seeing teaching as technical proficiency. Decisions that are made are specific to a point in time and cannot always be applied again with the same result.

Implications for clinical practice: learning in the context of practice
Using knowledge of how people learn has influenced ideas about how teachers learn to teach. Like all learners, teachers interpret new knowledge and experience through their existing beliefs and modify and reinterpret new ideas on the basis of what they already know and believe (Feiman-Nemser, 2008). Through this process teachers themselves are active learners who develop their own understandings by examining assumptions and analysing experiences.

Learning to teach with expert guidance is essential in clinical practice (Darling-Hammond, 2010). Teacher educators must construct experiences that thoughtfully support progress and provide opportunities to link theory and practice (Darling-Hammond & Bransford, 2005). Figure 1 outlines a process for teacher learning in context, aiming to provide meaningful learning experiences based on practice and connected to theory. This model outlines a process where the individual learning needs of the teachers can be identified and provides the basis for linking practical experiences with expert knowledge. Learning to teach is addressed and supported in context.

Figure 1 – Model of clinical practice for a school-based teacher educator

Challenges of learning to teach	Collaborative Inquiry – beginning teacher and teacher educator	Learning activities based on ZPD	Outcomes
1.Apprentice-ship of observation 2. Problem of enactment 3. Problem of complexity	Evidence of practice gained through: • Meetings • Observations • Analysing artefacts • Peer discussion Identify learning needs of participating teacher throughout the cycle. Reflection — Plan — Action — Observation (cycle)	ZPD – supported by expert peer to interpret experiences and link theory and practice Current level – determined by evidence collected Construct individual learning experiences based on current level of beginning teacher • Link practical experiences with expert knowledge • Connect theory and practice • Question existing ideas about teaching and learning (theories-in-use)	Adaptive experts who can balance the dimensions of efficiency and innovation

This model acknowledges the challenges of learning to teach and is designed to build on teachers' existing knowledge and practice through a collaborative learning cycle. The teacher and teacher educator collaborate through direct observation, meetings and/or analysis of artifacts, and together they can frame issues and learning needs. This then provides the basis for further learning. In the next step, using the model of the zone of proximal development (ZPD) (Vgotsky, 1978), the teacher educator can facilitate learning experiences or interventions that help extend the current level of knowledge and practice of the beginning teacher. Darling-Hammond and Bransford, 2005 state:

> *Just as cognitive research has found that children can learn more when supported within their "zone of proximal development" by more capable peers or adults, so it appears that teachers learn more when supported by expert practitioners* (p. 411-2).

This model acknowledges the importance of coaching and feedback in context and is in direct contrast to a 'sink or swim' approach in which beginning teachers may rely on survival strategies. Appendix A provides an example of this model being applied.

As discussed earlier the idea of teacher as 'adaptive expert' who can balance efficiency and innovation is seen as the standard to which teachers should aspire, to create classrooms where students can have rich opportunities to learn effectively. This model aspires to develop teachers that strive to balance efficiency and innovation. Through the model of teacher learning, teachers have opportunities to learn skills in both dimensions through ongoing feedback and specifically tailored learning opportunities.

Learning in context: Connecting theory and practice
Gordon (2007) examines the challenge of relating theory to practice. He starts by defining theory not only as intellectual theory used by scholars but as a way of organising and making sense of ideas from a specific vantage point (p. 120). Educational theory can be seen to help clarify and justify the actions or practice of teachers. He argues that only by theorising are teachers able to interpret and make sense of the difficulties they encounter in their classes (p.122). Therefore theories provide a rich source of not only what is, but also how things could be. 'Theorizing in its applied form, is essentially interpreting ideas so that they can shed light on a practical situation' (Gordon, 2007, p. 131). Gordon (2007) views 'theories as guides to thought and instruments of interpretation [that] help us realise the numerous ways in which theory can inform and enhance the practice of teaching' (p. 130).

Academic theory
As noted, there has typically between a disconnect between theory presented in coursework and the practical experiences in schools. Ure and Lysk (2008) found in their study on teacher placement that student teachers reported they were actively discouraged from referring to academic or professional guidelines in schools. Loughran (2010) discusses how academic theory has often had minimal impact on teaching practice. However he goes on to argue that 'when we happen upon theory that can assist teaching and learning, we quickly and enthusiastically convert that theory into practice" (p. 43). He lists Bloom's taxonomy; De Bono's thinking hats and Gardner's theory of multiple intelligence as examples. He contends that when a theory can help explain real experiences and events teachers will readily identify with theoretical explanations.

As outlined by Grossman et al (2009), theory is best introduced when it is needed. The model of teacher learning presented in Figure 1 intends for theory to be introduced at a time when it

is needed or most meaningful. Experiences in the classroom provide opportunities to attend to theory in a way that is situated in practice. If clinical practice is a process where practical experiences are linked with expert knowledge, the relationship between theory and practice is a deliberate and necessary investigation. In this view of teacher education, where the relationship between theory and practice is more deliberately linked, beginning teachers are encouraged to see theory as a way of helping them make sense of their experiences and build their practice using theory

Personal theory
A further aspect of relating theory and practice relies not only on relating practice to academic theory but on a process of articulating tacit personal theories. This relates to the apprenticeship of observation and the tacit theories we develop about teaching based on our experience as students. Loughran (2010) discusses this transition; 'so in moving to the other side of the desk we can sometimes act from these superficial understandings of practice' (p. 7). Whilst the term *theory* often refers to academic theory (Lunenberg et al, 2007); personal theories also determine how we make sense of our experiences. Understanding discrepancies between espoused theories and theories-in-action is a powerful learning experience (Patton 2008, p.360). Loughran (2010) explains this as a process 'to ensure that what we think we do in our practice is in accord with what we actually do, and this is not a simple task'. If novice teachers hold ideas that have been left unexamined, these may interfere or contradict their potential learning.

Conclusion
The process of teacher education is a complex undertaking. Striving to develop teachers who are adaptive experts is no easy task. Acknowledging well documented challenges in learning to teach allows for actions that strive to address these challenges. Teacher learning is seen to be an active process with greater focus on learning in context and is no longer seen as merely developing a set of technical skills. In the proposed model of clinical practice explicit attention is given to linking practical experiences to expert knowledge. This professional learning is based on identified need through a collaborative learning cycle. Through this process explicit attention is given to link theory and practice. Theory is used as a way to enhance understanding of practical experiences and practical experience help provide the basis of making sense of theory. This helps combat the problem of enactment where teacher knowledge can remain inert in the classroom. Beliefs from teachers' past experiences of schooling need to be openly explored so that tacit beliefs can be surfaced and espoused theories are consistent with theories-in-use. Teachers and teacher educators also need to balance demands so that teachers can work effectively in the present whilst remaining open to new ideas as teaching and teacher education evolves. As Darling-Hammond (2010) states 'one of the challenges of teacher education programs is to prepare teachers for schooling as it should be, whilst enabling them to cope with schooling as it is' (p. 40). Aiming to develop teachers who are adaptive experts means that teachers are able to balance efficiency in their practice whilst also embracing innovation.

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Appendix A–Example of group work

<u>Apprenticeship of observation</u>
Beginning teachers may have a naive belief that group work simply means putting students in a group to complete a task. Beginning teachers will not be aware, as students participating in a group activity, the elements that led to the experience being more or less effective.

<u>Problem of enactment</u>
How is a group activity enacted? Was sufficient planning done or did teachers act on a naïve belief that group work simply means putting students in a group. Were teachers' intentions enacted in the way intended?

<u>The complexity of teaching</u>
Teaching is never routine
     There is no one recipe to organise effective group work.
Teaching has multiple goals
     Group work addresses social as well as academic goals.
Teaching is done in relationship to diverse groups of students
     Each group activity will need to cater for a diverse range of strengths and abilities.
Teaching requires multiple kinds of knowledge to be integrated
     A teacher will need to make multiple judgements in the implementation of group work.

<u>Collaborative Inquiry</u>
Wrong lessons can be inferred from attempts to implement group work. For example I have heard teachers say after trying group work, you can't do group work with this class. But this requires reflection on the factors that may or may not have led to a successful activity as well as exploring tacit theories beginning teachers may hold about group work.

- ➢ Is the group task actually designed to support collaborative learning or is it really an individual task being completed in a group?
- ➢ Have the students learned the skills necessary to work in a group?
- ➢ Were sufficient parameters explained or were students merely assigned to a group and left to complete a task? Was the task adequate or was it one which one student could complete?

<u>Possible intervention (ZPD)</u>
Providing information about important factors in planning for group work such as:

- ➢ How many students will work together? Which students work together? – How are students grouped (self-selection, ability groupings, mixed ability) to support the best learning opportunities for the task?
- ➢ Will all groups do the same task? (Individual learning styles, differentiation, mixed ability groupings)
- ➢ What task is suitable? Does it allow for collaborative learning? Or is it really individual work being completed in a group?

- ➢ Do students need roles?
- ➢ What time should be allocated?
- ➢ What actions should the teacher take during group to maximise opportunity for effective collaborative learning?
- ➢ How should groups present their work?

<u>Adaptive expert</u>
Balancing the dimensions of efficiency and innovation, beginning teachers not only learn how to design and manage group work but also to go beyond existing routines and expand their practice. This means reconceptualising practice about group work so that factors that contribute to collaborative learning are trialled and refined.