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Underpinnings of Teachers' Professional Development- A New Conceptualization of Field Experience

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Many researchers have addressed the professional development of teachers and the importance of the field experience component in the process of teaching effectiveness (Kowalchuk, 1999). A phased development model or paradigm used to address teachers' professional development and stages of effectiveness have been noted. Conceptual models of Field Experience have been developed in accordance to the paradigms addressed the professional development of teacher effectiveness, basing on no matter external forces or internal reflective capability that will change a teacher. Simply put, a focus is placed upon teachers to change and grow. Field experience is not equivalent to student placement or teaching supervision, but is a device for teacher change at various professional stages. This implies the need for a re-thinking of teacher education preparation.

Key words: field experience, teacher education, professional development

An examination of the many ways of thinking about teachers' professional development may provide insights for teacher education programmes, both at initial and in-service levels. Effective teaching is essentially concerned with how best to bring about the desired pupil learning by some educational activity (Kyriacou, 1986). Teacher development or professional growth of teachers is concerned with our ways of thinking about effective teaching. Over the years, thinking about teacher development has been approached in a number of different ways. The stage model of development suggests that the stages of competence of teacher or effective teaching range from novice, through beginner, competent, proficient to expert level (Berliner 1992; Galton 1989). Kowalchuk (1999) has worked out three useful paradigms addressing the professional development of teachers. They are the technical-developmental perspective, the subject matter orientation, and ecological interpretation of learning to teach, representing a three phases development of professional growth. The teacher development model implies that we can cluster the different characteristics of teachers into a few developmental aspects of a teacher: social development, subject knowledge development, pedagogical development and cognitive development (Li, 2001). The stages of social development, subject knowledge development, pedagogical development and cognitive development of a teacher will go through the proficiency levels ranging from novice, then competent, to expert (Li, 2001). The ability to reflect or self-regulatory capability tends to be the key for teachers' advancement in the continuum.

There are diverse opinions on how teachers might change their own practice. Some resort to external levers of power that will change a teacher's practice-recommendations for these are predominantly in terms of supplying teachers' guides, content training, closer external support and supervision, management training and education reform (Johnson, Monk, & Hodges 2000). Some insist on the cognitive capability of a reflective practitioner (Schon, 1983, 1987), and not to talk about changes done to/for teachers, the mechanism of change and development through external agents. Regardless as to whether the stress is on external support or internal capability, the role of reflection in learning to teach has been seen as a significant stimulus in the process of professional advancement. The teachers' ability to reflect has been widely adopted into the

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conceptualization of models of field experience.

Notions of the teacher as a reflective practitioner are appropriate to teachers at the third and fourth stages in Beeby/Verspoor typology (Stones, 1984), the proficient and expert level in Galton's model (Galton, 1989). Stones (1984) argues that teachers may change their practice if and when they are provided with feedback on their behavior that has already been reinforced through success. Feedback can offer teachers a re-conceptualization of their practice and a base to discuss present and future improvements. Stones' emphasis on re-conceptualization provides a suitable model of the mechanism by which teacher development and change occurs at the professional or even routine stages in the Beeby/Verspoor typology. This is the way in which Tobin (1989) used stimulated video recall to help teachers re-focus their teaching. On the one hand, self-reflection as a mechanism for teacher change and development at the professional stage may be inappropriate for those at the unskilled or mechanical stage. On the other hand, teachers would select pedagogic strategies that fit the environment (Johnson et al, 2000). In considering the mechanisms by which such teachers change their practice, perspectives other than that of the reflective practitioner, might be needed for modeling teacher development and change. To be of value, a theory of professional growth should also inform the teacher education programme which techniques of instruction are desirable for devising change and development of teachers at different competency levels.

This paper will examine the interplay between the underpinnings of professional development and the conceptual models of field experience. Interaction of theory and practice are suggested as going hand-in-hand.

Underpinnings of Teachers' Professional Development

Professional growth of teachers or teacher development is concerned with our ways of thinking about effective teaching. While those stage models, teacher development models, and paradigms of teacher's professional development have been studied independently, they provide differing and yet complementary perspectives on the processes of learning to teach.

The stage model suggested that the stages of competence of teacher or development of effective teaching range from novice, through beginner, competent, proficient to expert level (Galton, 1989). Teachers at novice and beginner stages will think for self and survival while teachers of the competent stage will think towards lesson planning and their teaching performance, teachers of proficient and expert level will think forwards to students' learning process and teach for understanding. The process of professional development therefore involves changes in the perceptions of teaching and learning.

Kowalchuk (1999) suggested three useful paradigms addressing the professional development of teachers. They are: (a) the technical-developmental perspective, where learning to teach is seen as a process of acquiring generic skills; (b) the subject matter orientation, where learning to teach involves grappling with and making connections between domain content knowledge and pedagogy; and (c) the ecological interpretation of learning to teach, where environmental and life experiences are recognized as contributing to teachers' decisions. Fuller (1969) indicates that during the initial teaching years, student teachers are concerned about their own survival, controlling the class and receiving positive evaluations. In this phase, student teachers' most intense anxieties involve classroom management and control of student behavior. In the second phase, their thoughts and behaviors are governed by teaching and performance considerations as they tend to implement what they learned during their coursework. Finally, in the third phase, their focuses shift to pupils' learning and characteristics. It is at this point that student teachers begin to establish classroom routines and consider the content of what they teach (Kowalchuk, 1999). Galton (1997) identified it as the process of 'thinking self then task then child'. The final stage of the process is that teachers begin to think about the impact of the innovation on pupil's learning and are prepared to adapt and modify the programmes in the best interest of the child rather than themselves (Galton, 1997). The change can be a result of the accumulation of knowledge of students and the ability to reflect on one's own teaching.

Over the years, thinking about teacher behavior has been approached in a number of different ways. On the one hand it is felt that the environmental demands posed by current classroom arrangements establish limits on the range of teacher behaviors that can be successful in particular settings, and that 'successful' teachers must learn a set of coping strategies appropriate to particular settings (Calderhead, 1987). On the other hand, the analysis cannot remain at the level of the classroom alone because attributes of teachers, such as knowledge, personality traits and training might have a bearing on their effectiveness. The teacher development model clusters the different perspectives of teacher characteristics into the following aspects: social sensitivity (Connelly & Clandinin 1990), subject knowledge (McNamara, 1991; Sternberg &

Horvath 1995), pedagogical (Berliner 1992; Kagan 1992; Kyriacou 1986) and cognitive (Darling-Hammond, 1993; Reynolds, 1992) capability. The stages of social development, subject knowledge development, pedagogical development and cognitive development of a teacher will go through the proficiency levels ranging from three to four stages (Burden, 1988; Li, 2001). Change of a teacher's practice involves the change of perception and stage characteristics of teacher development on the various developmental aspects.

To sum up, there is a three-phased process of teacher's growth at various perspectives (Table 1). A higher phase of development would mean more effective teaching and quality instruction. It is also a continuum of teacher development from novice to expert. At the initial phase, teachers may tend to focus on and describe their own actions as teachers rather than actions of students. They appeared to be unable to adapt their images of teacher lessons to various situations and pupil needs. At the second and third phases, teachers become less concerned about themselves and more aware of classroom variables as they progress.

How do novices move to become proficient and expert teachers? There is no recipe nor list of methods, but some models may help to describe the process (Burden, 1988). Progression in perception of teaching and learning, subject and pedagogical knowledge and cognitive reflectivity ability may be causes of change. Expert teachers are known to use a variety of techniques and knowledge depending on the situation and learn further refinements from critical reflection on their perceptions and own practice. The role of reflection in learning to teach has been seen as significant stimulus in the process of professional advancement. There have been numerous calls and for the use of reflective practice at both the pre-service and in-service levels (Clarke, 1995; Schon, 1983). The general agreement tends to be that meaningful learning from experience will only take place when the teacher reflects on those experiences by analyzing what works and what doesn't in particular instructional situations. Schon (1983) was particularly interested in studying the reflective understandings teachers use when solving problems in teaching situations. Schon inferred that when practitioners are confronted with unfamiliar, problematic circumstances, they engage in a process of problem setting where things are named and the situation is framed (Schon, 1983). Through reflection and experimentation teachers learn to impose order and solve non-routine problems such as classroom management problems.

However, one has to be cautious that reflective practice is harder than most believe. This is particularly true for beginning teachers because most instructional experiences for them are non-routine problems. Therefore, when working with beginner teachers, a structured approach should be used to facilitate productive reflection (Francis, 1995).

Furthermore, students' perceptions of their goal to meet educational challenges plays a strong role in their success (Burden, 1988). A similar argument can be made about

Table I. *Three Phased Continuum in Three Models of Professional Development*

	First Phase	Second Phase	Third Phase
Stage Model	Novice and beginners Thinking self	Competent teachers Thinking own teaching	Proficient and expert teachers Teaching for understanding
Paradigms of Professional Development	Acquiring generic skills in teaching (e.g., classroom management and instructional routines)	Making connections between content knowledge and pedagogy	Reflecting on experiences
Teacher Development Model	Image of self from prior life experie Subject-centered and focus on learning outcomes Unwilling to try new method Introduce firm and clear rules Too little experience to reflect on	Acquire knowledge of students More knowledge of curriculum planning and focus on on-task learning time Focus on teacher's behavior but sought new teaching techniques Reflect on others' teaching	Use knowledge of students to modify and reconstruct their personal images of self as teacher Child-centered and focus on active learning time or teaching for understanding. Good command of teaching activities and the environment, deal with content and technical issues simultaneously Chunk information to search alternative explanations/teaching methods, and reflect on own teaching

teachers learning to teach. Teachers' classroom behavior is shaped by their perceptions, attitudes, and beliefs about the nature of subject matter, students, school, and social expectations (Anning & Edwards, 1999). Therefore, in addition to facilitating problem solving and reflection about classroom events, examining the learning community fermenting student teachers' perceptions/ reflections can contribute to understanding the process of learning to teach.

Conceptual Models of Field Experience

There are a number of conceptual models of field experience in action, the apprenticeship, professional, mentorship, and some modified models of professional- internship, inter-professional, for building knowledge and skills for teachers to advance their development in the continuum. By examining conceptual or theoretical models of field experience, one can come to appreciate and evaluate the interactions between the philosophy of teacher development and the conceptual models of field experience.

The apprenticeship model

The apprenticeship model implies that the pursuit is toward a craft and not a profession. A "trade-like conception of teaching," intensely craft-centered and easy to learn, was associated with the view of teaching in the 1970s. Teachers were to be equipped with craft skills such as classroom management, lesson planning. Skill training and informational or curriculum package delivery lectures have dominated education programmes. However, teaching could not be deemed in terms of quality or profession, when it is context-free or its operations do not involve judgments based on systematic knowledge. Knowledge is constructed through the interplay between an individual's knowledge and judgement in a particular context. Likewise, effective teachers must know how to find and weigh evidence about their performance and use available resources to improve their practical skills. The apprenticeship model may not be sufficient to foster teacher's professional development.

The professional model

The professional model identifies the importance of professional knowledge. Professional knowledge such as subject content is translated and reconstructed for classroom use as pedagogical content knowledge (Shulman, 1986). In this case, teachers' content knowledge becomes a critical foundation in the practice of learning to teach, and instruction is shaped by what teachers know and do not know about the subjects they teach. From this point of view, teachers learn to deal with content and technical issues simultaneously (Grossman, 1992; Vonk, 1995). Therefore, conventionally, emphasis is placed on relating teaching strategies to content issues throughout the teacher education program. Providers of teacher preparation have to teach knowledge and skills to facilitate inquiry and discovery of new knowledge. Practicums are incorporated into the teacher education programme. Practicum experiences or a few weeks immersion experience have been blamed to be a kind of abbreviated training. Some educators critically commented that 'For the "accelerated" students of education to succeed, program directors must consider the nature of the teaching assignment, the helpfulness of the support teacher, and inclusion of a flexible program…' (Huling- Austin, 1986).

The intern/mentor model

Alternative teacher programs such as the intern/mentor model is suggested. There is growing interest in the idea of teacher induction and widespread support for the innovation of assigning experienced teachers to work with beginning teachers (Feiman-Nemser, 2001). The idea of educative mentoring builds on Dewey's (1938) concept of educative experiences, which are experiences that promote future professional growth and enrich subsequent experiences. According to Dewey, the teacher education provider is responsible for arranging the physical and social conditions so that teachers as learners have growth- generating experiences. This implies that supervision of full-time teaching is performed by site-based as well as by external mentors such as honorary teacher advisers, principals, or in a variety of combinations. The intern/mentor model represents "a serious threat to the profession" (Dill, 1995). It is viewed as a design to bypass traditional coursework, implying that there is no vital knowledge base to be learned in that coursework as experts in the field solidified what constitutes the teacher's professional knowledge base (Dill, 1995). Roth (1986) believes that the knowledge base could be learned best in the higher education classroom and in traditional coursework. Supporters maintain that the knowledge base is simply differently taught and outcomes would be equivalent.

The intern/mentor model allows full-scale community immersion experiences where prospective teachers teach over an extended period of time, acknowledging an awareness of the context-oriented nature of teaching. However, craft skills and

professional knowledge might not be at the two ends of the continuum. A combination of both might be the best if we value what is known as situated cognition. A guided reflection or professional-internship model has emerged.

Central to the contextualized view of situated cognition is that knowledge is created and made meaningful by the context and activities through which it is acquired (Prestine & LeGrand, 1991). In view of this perspective, opportunities are created to enable learners to link new knowledge meaningfully to existing knowledge structures (schemas) through active, social, and authentic learning processes (Prestine & LeGrand, 1991). The cognitive apprenticeship learning model has emerged. Cognitve apprenticeship requires that students have the opportunity to observe, engage in, and discover expert strategies in their live use. Students, through explicit demonstration of the thinking (cognitive modeling) and acting of the practitioner, can link new knowledge meaningfully to their existing knowledge structures (schemas). Cognitive apprenticeship ensures that the learning of novices is linked to the context and the activity of expert practice through making explicit the thinking underlying expert practice (Collins et al., 1989)

Research clearly supports the notion that expert teachers are more knowledgeable than novices (Ethell & McMeniman, 2000). However, the procedural knowledge of experts is to a large degree unarticulated, tacit in nature, and grounded in experience (Anderson & Burns, 1989). Following this line of reasoning, the procedural knowledge of expert teachers would remain unarticulated even in interactions with student teachers during practicum. This raises a challenging dilemma for teacher educators: How can the knowledge of expert classroom teachers be made available to student or novice teachers if such knowledge is, to a large extent, unarticulated, tacit in nature, and grounded in experience?

Dewey suggests that one way forward would be research into the processes through which individuals gain or fail to gain practical knowledge and expertise of teaching (Dewey, 1938). It is hoped that this could contribute to a more informed understanding of the learning-to-teach process and thus the beginning teachers' knowledge- in-action. Reflective practica are also proposed. They are to cultivate activities that connect the knowing and reflection-in-action of competent practitioners to the theories and techniques taught as professional knowledge in academic courses (Schon, 1987).

This kind of guided reflection (clinical teacher education) about teaching during practica, and student teaching under conditions of support and challenge is critical to determining the educational value of field experience (Farber & Armaline, 1994), and that teaching experience without such guided reflection is often mis-educative (Baty, 1972; Zeichner, 1990). We may need to propose a model featuring collaboration between teacher training institutions, and schools. The model provides "on-site" classroom and "integration of research and theory" (Dill, 1995).

Inter-professional education program

During practicum, student teachers intern with one or more in-service teachers. They begin their placement observing and assisting the cooperating teacher, gradually taking over instructional duties and responsibilities (Kowalchuk, 1999). For student teachers, it is a period of putting learning into practice, of relating theory to reality. In the best of situations, the field experience helps make coursework relevant. In the United States, much work has been on situating teacher education field experiences within new institutional partnerships created in schools that have adopted teacher education as their missions- professional development schools, professional practice schools, or partnership schools (Darling-Hammond, 1993; Levine, 1992). Situating teacher education field experiences in professional development schools having a commitment made to teacher development (Cochran-Smith, 1991) has come to be seen as a desirable direction for clinical teacher education. The purpose of the internships is to extend the students' experience beyond the classroom into the community.

In light of this, a new model, inter-professional education program arises (Corrigan & Udas, 1995). It involves taught courses, extensive and varied pre-student teaching field experiences and a post-student teaching course in which students reflect on their experiences and new knowledge. Students are exposed to inter-professional education and collaboration through a content-oriented course and through field experiences.

Conclusion and Discussion

To conclude, the literature concerning field experience provides concepts of many different approaches that vary according to the ways in which teacher effectiveness is conceptualized, structured and practiced in different times and places. The nature of the teacher preparation turns hands-on, to be supported by campus coursework, and school-based in nature. It then requires changes in program, policies and procedures, a deep re-thinking of the role of the school and institute in collaboration. Structured practica, script-taped and

video-taped laboratory teaching, seminars throughout the internship, post-internship coursework following the internship, and induction with mentor teachers are recommended (Guyton, Gox, & Sisk, 1991). Writing tasks or reflective journal writing would help teachers think about the multifaceted nature of teaching and their own growth in a positive way. In the study of Kowalchuk (1999), participants were asked to discuss the following areas in as much detail as possible: one challenge faced in the past week, something that went well, something learned about teaching or something one needs to know about teaching that would make you a better teacher. Structured journal writing was found to be effective in refining reflective skills in teachers. Teacher educators can use the loop of observation, teaching, evaluation, and reflection to help pre-service teachers self-evaluate their teaching during their field experiences (Chen & Rovegno, 2000). This will enable teacher educators to guide pre-service teachers in reflection on their problems in enacting their teaching practices.

The apprenticeship model reminds us of the craft knowledge needed for a teacher while the professional model identifies the pedagogical knowledge required of a teacher. The intern model and inter-professional model allow extending and monitoring field experiences to strengthen theory and practice as they put forth the belief that an important part of learning a profession is to apply its principles to real settings. Upholding these philosophies should provide models of good practice for prospective learners to focus on.

The success of field experience in promoting prospective teachers' development will rely on a number of factors such as the in-service development of teachers, the effectiveness of school partnership, the learning environment of teachers and the back up from research findings. There were fruitful laboratories for study of the "metamorphosis of teachers" (Dill, 1995); and that mentors were found to be critically important to the success of the evolved teacher preparation program. Research findings showed that the high quality of the interns' performance was due to appropriate screening; that participation of advisors, principals and supervising teachers was critical to the program (Dill, 1995). From this perspective, field experience supervision should address the site-based or at least field-based approaches to in-service development as well. This implies a parallel staff development model for in-service practitioners. Strategies may include multiple demonstrations of innovations, opportunities for practice in training settings, and coaching to facilitate transfer in actual settings. This model employs on-site methods of modeling, coaching, and feedback Teachers are provided with theoretical grounding and practical application of instruction reflecting that theory. External consultants with teaching expertise should work collaboratively over an extended time with a group of in-service teachers in a school (Garcia, 1995). Development of new mentor groups at individual school sites would ensure the systematic increase of experts. Higher education should have a role in training teaching mentors and providing continuing professional development that builds upon initial teacher training.

In order to facilitate effective partnerships, schools should have access to the rationale for school partnership, effective teaching, ownership of teacher development, issues in teaching and learning. Corrigan and Udas (1995) suggested the ideals/rationale for school partnership in teacher education/field experience programs. They include the identification of the essential elements in teacher- student relationships to improve student learning, helping school systems to provide in-service training for teachers to share information with other professionals and caregivers, preparing beginning teachers to work effectively with students. Teacher Preparation Programs should specify task outcomes and what teachers must do to accomplish tasks, promote involvement, and communicate their expectations for students' success in completing instructional tasks (Garicia, 1995). For school partnership to succeed as an innovative experimental movement, it is important that its clients (i.e., schools and students) participate actively with institute personnel in creating and testing innovative approaches. Through engaging both novice and expert in reflection and dialogue in workshops and seminars during internship, it allows pre-service students to relate theory to reality and teacher preparation personnel a re-thinking of the relevance of coursework.

As a provision of systematic staff development for various aspects of teacher education, caution has to be used. There may be disparities between ideals and realities. Schools may see the university, as a separate, elite culture that wants to change others while it remains the same. When professionals come into schools to help, they tend to come as experts. Or in extreme cases, they come with their predetermined paradigms. In view of this, higher education institute must confront the reality to avoid over-expectation. A mutual understanding and a respect for reality are needed between schools and institutions.

Furthermore, simply training teachers will not permanently change their practice unless the environment in which the work allows this. Changing the environment will enable teachers who have the appropriate pedagogical content knowledge to use different teaching strategies. Teachers often know far more pedagogic strategies than they actually use (Johnson et al., 2000). Therefore a teacher's classroom practice might be

considered as selection from a wide range of pedagogical content knowledge (Shulman, 1987) rather than an expression of the sum total. The selection of actual classroom practice is constrained by the resources and the normative behavior of the school the teacher works in. Such constraints determine which of the teacher's potential practices will be used. New practices will only survive if they fit with the working environment (Johnson et al., 2000). Novel practices that do not fit the environment will not be repeated, even if tried. For the selection rule is, 'anything goes that fits'. Creativity in practice is not precluded by this proposed interactive viewpoint (Johnson et al., 2000). In this case, teacher development and change is most possible in the professional systems / environments which allow variety to flourish. The site for prospective teachers learning to teach will be critical.

Finally, further research is needed to advance knowledge about classroom settings and school change. On the one hand, research to document the environments of schooling and the way classrooms operate is needed. On the other hand, we need to explore how can school change be best promoted during the tidal wave of educational reform? A sample of questions in need of further study follows: e.g. "What variety of classroom settings are there and how can they be characterized?' 'Which types of practices survive in which classrooms? "How have teachers' existing classroom practices evolved?' What types of staff development are needed in schools to allow appropriate changes to be made? How do changing demographics in local schools affect the nature and rate of educational and personnel changes? (Arvizu, 1995). Finding answers to these and other similar questions will help shape the future potential of school partnerships and other innovative pedagogical movements, going a long way in addressing the current need for an institutional review of field experience.

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