Adult Teachers
– Competence Development through Practice-based Learning

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Abstract

In this paper I examine the research into the process of adult teachers' practice-based learning as a part of an on-going project titled "Competence development through practice-based learning – a study of adult teacher's learning processes". The project relies on the notion of the adult teacher as a 'reflective practitioner', who develops 'the language of practice', through experience and learns when she is exposed to 'disjuncture'. Research done on continuing professional development and the inquiries done in the field of teacher thinking and within this the research on novices becoming expert professionals is explored. The paper ends with a proposal for further research perspectives.

Keywords: Teachers of Adults as Learners / Teacher Professional Development / Teacher Competence Development / Practice-based Learning / Practical Knowledge

Research question

The skills and knowledge acquired by teachers of adults are plenty. A teacher of adults gains insight into subject matter, lesson planning, curricula, facilitating students' learning, classroom management and communication and interaction etc. The variety of knowing about teaching may be gained both by formal training and by experience through teaching. When teachers participate in pre-service or in-service training programs, they learn and develop professionally (Darling-Hammond, 1999; Richardson, 1996). Research has explored the knowledge and skills required of adult teachers e.g. what they should be aware of and what it takes to educate adults (e.g. Daley, 2003; Gregson & Sturko, 2007; King & Lawler, 2003; Lawler, 2003; Merriam et al., 2007), but as the teacher spends most of her carrier teaching in class, thus a great deal of her professional competency development takes place here, too. But what does research report about that kind of practice-based learning? Learning is explored with special reference to the development of competency[1]. The use of the word 'competency' development refers to a person's capability to act in an appropriate way in a particular situation, context or task (Wahlgreen, 2010, p. 193). "Competency is … being able to select and use skills appropriately, that is, at the right time and under the right conditions" (Yinger, 1987, p.307).

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[1] (Continuing) Professional development is defined as a "… process of personal growth, to improve the capability and realise the full potential of professional people at work. This can be achieved by obtaining and developing a wide range of knowledge, skills and expertise…" (University of Stratchlyde, 2011).

The topic of this investigation is the adult teacher who learns while she teaches or learns from her experiences of teaching and thus she develops professionally within her own practice. I examine the research done in this field as a part of an on-going project titled "Competency development through practice-based learning – a study on the adult teachers' processes of learning".

My primary question is: "What makes a teacher an experienced qualified teacher of adults?". Qualified is not used as in the terms of being qualified by having required a certain formal education. An experienced qualified teacher is defined as an expert teacher (Dreyfus & Dreyfus, 1986) who is capable of acting qualified and skill full in a dynamic teaching situation.

The two supporting questions ask if existing research does reveal anything about:
1. Which circumstances give the best support to the adult teacher's professional development?
2. How does the teacher's learning develop as a part of her practice?
    My interest in this paper is learning from experiences e.g. when a teacher gains knowledge from experiences that makes her capable to act. Knowledge, skills and competencies are the different outcome constructs of learning. One can learn from experiences, and experiences that are systematized become knowledge held by the person (Wahlgren, 2010, p.58).

I explore the two questions by an analysis of the field of research on Continuing Professional Development and the inquiries done in the field of teacher thinking and within this the research on novices becoming expert professionals. My search process in databases is outlined in the notes in end of the document.[A] First I will explain my interpretation of learning.

The commonplace categories 'know what' and 'know how' illustrate a common distinction of learning as either knowledge or use. The distinction demonstrates an illusion about a gap between a core of solid general cognitive knowledge and a situated knowing solely related to the activity. I am interested in the teacher's 'knowing how' as acquired through her own practice, not what kind of knowledge[2]: e.g. content knowledge, general pedagogical knowledge, curriculum knowledge, pedagogical knowledge, knowledge of learners and their characteristics; knowledge of educational contexts ad educational ends and purposes. Nevertheless the insight into the different kinds of knowledge the teacher uses may scaffold the search for the teacher's own learning through practice. I therefore do not find it meaningful to separate *what* the teacher knows and *how* she performs what she knows. The teacher's activities and the situations, in which she acts, are integral to her cognition and learning. Consequently, I look at cognition as situated and social. I ascribe to the 'cognition as situative', 'cognition as social' positions defined by

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[2] Often referred to as "the professional knowledge base for teaching" (Hewson & Kerby, 1993; Shulman, 1987), but Day (1999, p.54) uses, the term "domain of professional knowledge", which includes: situated and societal knowledge.

Greeno (1997), Putnam and Borko (2000). They suggest that "…the physical and social contexts in which an activity takes place are an integral part of the activity, and that the activity is an integral part of the learning that takes place within it. How a person learns a particular set of knowledge and skills, and the situation in which a person learns, becomes a fundamental part of what is learned" (p. 4). The notion 'cognition as situative, social', helps us to understand that much of what we do and think is intertwined with the particular contexts in which we act.

The knowledge of teaching identified as 'craft knowledge' by Leinhardt (1990) also suggests that the "expert teachers possess a practical knowledge of their craft…" which is " contextualized knowledge". But assessing the craft knowledge is not an easy task, because "the contexts are sometimes clear but more often murky" (p. 18,19). In the field of adults' learning it is specified that learning "rarely occurs in splendid isolation form the world in which the learner lives;… it is intimately related to that world and affected by it" (Merriam et al., 2007, p. 5, quoting Jarvis, 1987). Jarvis' (1992) understating of learning emphasises the connection between learning and experience while "Learning might be regarded as a response to an experience or even as a response to an experience created through an action" (p. 70). The point is "that learning and action are inextricably intertwined" (p.67).

Question I

Teachers of adult

Teachers of adults face certain challenges when they prepare and conduct teaching, which differs from elementary school teachers. Knowles' findings from 1977 (quoted in Jarvis, 2001; Knowles et al., 2005) are still regarded as solid facts: Education for adults should focus on the development of the capacity to learn, the basis of subject mastery for children's education should change to a learning skill basis of organization, the role of the teacher is primarily to help the learner to inquire. Adult learners have one thing in common: diversity. The diversity of their life experiences, education, and personalities increases with age and shapes their outlook on educational experiences. They have different backgrounds, learning styles and needs, which must be considered in the learning process. When teachers of adults organize teaching activities, we must remember that past experiences may not all be positive, and this can influence the learning situation and thereby affect the motivation for new learning (King & Lawler, 2003; Lawler, 2003; Knowles et al., 2005). To earn the trust of adult students, teachers must pay attention to their own teaching style and comfort zone (Galbraith & Jones, 2008).

Research on teachers' development acknowledged as adult learners themselves

Teachers of adults should be regarded as adult learners themselves. Fifteen years ago Lieberman (1995, p. 1) outlined serious concerns about the missing voice of the teachers and the crucial missing respect of teachers as learners in in-service programs. Yet many studies in teachers' Continuing Professional Development (CPD) still focus on the effect on teaching and learning/ student achievement (much research has been done on elementary school. E.g. a systematic review done by Cordingley et al., 2003). Darling-Hammond (1999) describes teachers' professional development as the most important means to improving student achievement scores.

Current political ideology demands accountability, effective teaching and student achievements. One result has been establishment of clearinghouses in the field of education producing knowledge through systematic reviews (Davies, 2004; Gough, 2004; Larsen 2006, 2011). This has caused a number of methodological disputes (Elliott, 1996; Hammersley, 1997, 2004; Hamilton, 1996; Hargreaves, 1996, 1997)[3], but some of the clearinghouses do acknowledge that the teachers play a prominent factor and therefore the teachers' way of learning, acting and thinking is of value (e.g. EPPI-Centre, 2011), by interacting with practitioners during the work with the systematic review and afterwards examining the research on education in relation to the teacher's practice (Rickinson et al., 2003; Rickinson & Reid, 2003). A majority of teachers read and use published research as inspiration (Everton et al., 2000; 2002), but it is still a fact that teachers value the knowledge and experiences from colleges higher than academically produced knowledge because it is presented in non-practical settings (Landrum et al., 2002; Rickinson, 2005; Kagan, 1992).

Kennedy (2005) examined the international literature on models of CPD. She explored how CPD is perceived and promoted either as an individual effort related to accountability or as a collaborative effort that supports transformative practice and professional autonomy. Her conclusion resembles Little (1994). As Little argues, teachers' CPD is often viewed as a means of implementing politically motivated reforms, and this can disguise questions relating to the fundamental purpose of the intervention. She therefore proposes that one test of teachers' CPD is "its capacity to equip teachers individually and collectively to act as shapers, promoters, and well-informed critics of reforms" (p. 1). Also Collins and others (2009) recommend that CPD interventions – analyzed in a cross-national setting – should be combined with a collaborative model for change "involving expanded teacher participation in policy-making and more coherent governmental policies across agencies" (p. 4).

Recent literatures on teachers' CPD follow Lieberman (1995) and Little (1994). They emphasise the importance of the teachers' opportunity to investigate, experiment, discuss and reflect on their own teaching through collaboration with fellow teachers (Atkinson & Bolt, 2010; Darling-Hammond & McLauhglin, 1995; Day, 1993; Gardiner & Robinson, 2009; Gregson & Sturko, 2007; Hammersness et al. 2005; Lawler; 2003; Sturko & Gregson, 2009; Woolhouse & Cochrane, 2010). Building on experiences from classrooms, the professional knowledge is viewed as situated in practice as in Lave and Wenger (1991). Emphasis laid on teachers' reflections and actions refer to experiential learning developed by Kolb (e.g. cited in Atkinson & Bolt, 2010; Gregson & Sturko, 2007; Knowles et al., 2005; Lawler, 2003; Sturko & Gregson, 2009). With regard to teacher education, reflection is considered as a mean towards emancipation and professional autonomy stated by Calderhead (1989) and Zeichner and Liston (1996) they build on the ideas of Dewey (1933, How we think) and later the work of Schön (1983). Stenhouse focuses on the importance of participation and negotiation. He holds that when teachers engage in research in their own field, they develop professionally, which he has labelled 'research-based teaching'. The teacher is considered a learner, because the teacher is exploring

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[3] The research conducted in the School Effectiveness movement (e.g Creemers & Reezig, 1999; Reynolds, 1997; Macbeath & Mortimer, 2001; Reynolds et al., 2002) has a rather instrumental view on the teacher as a performer of task, which Schön has criticised

her own teaching and hereby develops opinions and attitudes about e.g. the subjects she teaches (cited in Elliott, 2002; 2004; Cochran-Smith & Lytle, 1990).

Much research on teachers' knowledge and development has involved bringing the experiences from classrooms outside the context. This is often done by structured discussions between researcher and teacher to examine their 'practical arguments' (Fenstermacher & Richardson, 1993). A teacher's practical argument is described as rationales. The empirical support and situational contexts serve as the basis for their instructional actions (Clandinin, 1985; Morgen, 1993; Løfsnæs, 2002; Richardson & Anders, 1990; Vásquez-Levy, 1993). Many of the teacher's patterns of thought and actions have become automatic and thereby resistant to reflection or change. Engaging in learning experiences away from the classroom help teachers explain their thoughts and reflect on their usual practice.

Question II

As a great part of the teachers' time is spent alone acting in class (defined as 'isolation in the classroom'; Lortie, 1975 and Liebermann, 1982: cited in Kagan, 1992) without the reflection or collaboration of peers or researchers, this particular setting is worthy of study. I investigate the teachers' professional growth by viewing the processes of learning they go through while they teach. My second question sounds: How does the teacher's learning develop as a part of her practice?

Research on Teacher Thinking

Research on teacher thinking is a concern of the research in teacher education, which has changed from an emphasis on changing teachers' behaviours (1930 – 1960's), to the exploration of teachers' mental thinking which influence their teaching behaviours. The study of the thinking processes of teachers is concentrated on how teachers gather, organize, interpret and evaluate information. The processes of thinking are expected to lead to an understanding of the processes that guide teacher behaviour, judgment, decision-making and planning (Clark & Yinger, 1977; Clark & Peterson, 1986; Løfsnæs, 2002; Richardson, 1996). The research examines the teachers' knowledge of subject, child development (in our case the needs and development of adults as learners), educational psychology, didactics etc. and the role this plays for their reflections and behaviours in classrooms and for the students' learning outcome (Strømnes & Søvik, 1987).

The change away from considering teachers' behaviour explicitly and objectively began in the 1970's, and since then "The teacher is no longer perceived as the observable performer of a set of effective but isolated teaching skills: he/she is a problem-solver, professional planner, hypothesis-tester, decision-maker, reflective practitioner" (Lowyck & Clark, 1989, p. II). The idea of situated cognition or context bound learning has also gained impetus: "What we perceive, learn, think and draw upon as a basis for our actions, is closely related to the context or situations in which it takes place" (Carlgreen, Handal & Vaage, 1994, p. 2).

Research on teacher thinking has provided strong evidence for a robust connection between teachers' actions in the classroom, and their beliefs – sometimes defined as knowledge (Clark & Peterson, 1986; Connelly & Clandinin, 1990; Ball, 1994; Czerniak, & Lumpe, 1996; Czerniak et al., 1999; Flores, 2006; Mansour, 2009; Richardson, 1996). Ball sums it up: "What teachers bring to learning to teach – prior beliefs and experiences – affects what they learn. Increasingly, teachers' own histories – personal and professional – are thought to play an important role in what they learn from professional development experiences" (1994, p. 20).

Kagan (1992) points to the personal element as an important part of professional growth. Even when teachers accept information from others "they filter it through their own personal belief system, translating and absorbing it into their own unique pedagogies" (p. 75). Seen in this perspective, "teaching, like any form of creative intervention, is situated in the person, and professional growth is an intensely private affair" (p. 65). Her description of 'Personal belief system' is similar to that of Clark and Yinger's (1977, p. 295) 'teachers' implicit theories'. They emphasise the importance of the teachers' way of making sense of their world, because much of the decision-making that teachers exercise follows from their experience.

Connections and contradictions between teachers' belief and knowledge

We must take the teachers' thought processes into account when we want to know about the teacher's processes of learning. Attitudes and beliefs are part of a group of constructs that describe the structure and content of mental states that drive a person's actions. Studies on teachers and teaching in 1950 to 1970 focused on the affective (attitudes) in teaching and teacher education, and the change in research paradigms led to a more cognitive (belief) approach (Richardson, 1996). Insight into teachers beliefs may explain how teachers learn in practice, how they evolve professionally. But what does the construct 'belief' mean? And how does it relate to 'knowledge' in the perspective of professional development?

Even though beliefs have been described as valuable psychological construct in teacher education, beliefs are still a difficult construct to define. As Parajaes (1992, p. 308) states that, "belief does not lend itself easily to empirical investigation". He defines beliefs as a "messy construct", one that: "travel in disguise and often under alias-attitudes, values, judgments, axioms, opinions, ideology, perceptions, conceptions, conceptual systems, preconceptions, dispositions, implicit theories, explicit theories, personal theories, internal mental processes, action strategies, rules of practice...(etc)" (p. 309).

Perhaps the most complex part of the construct is the confusion between the terms 'belief' and 'knowledge'. Beliefs are rarely clearly defined in studies or used explicitly as a conceptual tool, but nevertheless the distinction between belief and knowledge is common to most definitions. Parajes sums up his findings of beliefs: "Belief is based on evaluation and judgment; knowledge is based on objective fact" (ibid., p. 313). Knowledge is often viewed as something that changes while beliefs are static. Knowledge systems are based on objective facts, they are open to evaluation

and critical examination, while beliefs are not. Beliefs describe a proposition that is "accepted as true by the individual holding the belief. It is a psychological concept and differs from knowledge, which implies an epistemic warrant" (Richardson, 1996, p. 104). Kagan (1992) agrees in the point of view of Parajes that knowledge is often defined as facts and beliefs as opinions. She argues that "most of a teacher's professional knowledge can be regarded more accurately as beliefs…. when considering that knowledge is generally regarded as belief that has been affirmed as true on the basis of objective proof or consensus of opinion" (p. 73). Nespor (1987) write that belief systems are unbounded in that their relevance to reality defies logic, whereas knowledge systems are better defined and receptive to reason. He concludes that beliefs are stronger predictors of behaviour and far more influential than knowledge in determining how individuals organize and define tasks and problems.

Interaction between teachers' belief, knowledge and actions

Some scholars regard beliefs as prior to actions. Parajes (1992) referring to Brown and Cooney (1982) explains that beliefs are dispositions to action and major determinants of behaviour. Russel (1988) states that "the image one holds of the relationship between theory and practice can significantly influence understanding of the personal learning process at every stage in one's development of the professional knowledge of teaching" (p. 15). In most current conceptions, the relationship between beliefs and actions is regarded interactive. Teacher-training programs show that experiences and reflection on action may lead to changes in and/or additions to beliefs (Mansour, 2009; Richardson, 1996). Calderhead (1996) stresses the relationship between beliefs and experience, he states that teacher's past experiences influences the way they think about their work. Siegel's definition of belief is cited in Parajes (1992, p. 313) as "mental constructions of experience". Clandinin (1985, 1989) shows how teacher's experiences lead to the formation of images that are a part of a 'personal practical knowledge'. The images in turn are elements of classroom experiences defined as 'rhythms' or simply as getting to know the routines of a school and performing a lesson. Cochran-Smith and Lytle (1990) regard teachers' theories (beliefs) as sets of "interrelated conceptual frameworks grounded in practice" (p. 7).

As to teacher's professional development Kagan (1992) notes the interrelation between beliefs and action: "As a teacher's experience in classrooms grows, this knowledge grows richer and more coherent and thus forms a highly personalized pedagogy or belief system that actually controls the teacher's perception, judgment, and behaviour" (p. 74). She hereby defines the teacher's knowledge as subjective and therefore much like beliefs.

As Leinhardt states "Teachers also appear to learn in their profession and to communicate with their colleagues and others in the language of craft and practice" (1990, p. 18). To follow Leinhardt, I will refer to the concept 'practical knowledge', which is gained through experience and which is often a tacit way of knowing (Fenstermacher, 1994). Yinger (1987) argues that teaching is about learning 'the language of practice'. "… a major task confronting the beginning teacher is a learning task. This task is one of learning to think and behave in ways appropriate to the demands of teaching" (p. 293). Yinger stated the importance of emphasizing that a language of practice includes em-

bodied structures of meaning that are a part of orientation, movement, and manipulation, a view similar to Schön's (1983) notion of knowledge-in-action. Practical knowledge first explored by Elbaz (1983) and further developed by Clandinin and Connelly (1987) is an explanation of how a teacher understands or knows a teaching situation in a classroom. This entanglement of belief and knowledge calls on the perspective of embodied knowledge, which is more than cognitive, and could be described as a kind of knowing inseparable from action and person. Using the term 'beliefs' as being 'personal knowledge' as Nespor (1987) and related to 'Personal Practical Knowledge' by Clandinin (1985), Kagan specifies that: "A teacher's knowledge of his or her profession is situated in three important ways: in context (it is related to specific groups of students), in content (it is related to particular academic material to be taught), and in person (it is embedded within the teacher's unique belief system)" (1992, p.74).

Strong influences of beliefs in learning to teach and teaching

Richardson (1996) studied the role of beliefs in learning to teach, and her analysis shows that beliefs are an important piece of learning to teach. It is known that students come to teacher education programs with strong theories of teaching learned during the years of being a student themselves. These theories influence the way the student teachers learn from training and the way they approach teacher education. The beliefs that practicing teachers' hold about, learning, teaching and subject matter also influences the way they approach staff development, how they change and what they learn from it. Richardson further reports a number of studies of pre-service and in-service education programs that involve the possibility to change the participants' beliefs. Experiences in the classroom also shape beliefs and practical knowledge, and thereby belief and practice are intertwined. Evidence from in-service programs shows particularly positive results in changing teachers' beliefs.

Findings from the literature on learning to teach show three categories of experience described as influencing the development of beliefs and knowledge of teaching. "They are personal experiences, experience with schooling and instruction, and experience with formal knowledge" (Richardson, 1996, p.105). Richardson reports from several studies that the student's original perspectives on learning and teaching were key factor for how and what the students learned during teacher training: Calderhead (1988) explored the learning experiences of 27 student teachers and found that they learned very different things partly due to their "different conceptions of how students learn to teach and of their own role in fostering this process" (p. 82).

One controversy in the teacher change literature relates to the difficulties in changing beliefs and practices. Some scholars view the teachers' beliefs as somewhat static, others are more optimistic and support the notion that programs can change beliefs and thereby practices (e.g. Fenstermacher, 1994; Richardson, 1996; Zeichner & Liston, 1996). Hammersness and others (2005) emphasise that "if these preconceptions are not addressed (in teacher training) prospective teachers may retain problematic beliefs throughout their programs" (p. 369).

Teacher development – novices grow by experience

Learning to teach is an incredibly complex and demanding task. The competences needed to fulfil the tasks required

are not learned overnight. Effective teachers, as Hammersness and others (2005) define the expert teacher, becomes increasingly aware of the complexities involved in teaching. They learn with time and experience how to think systematically about the complexities so that they can better assess their own performances. Effective teachers think metacognitively about how they work. The more they learn about teaching and learning the more accurately they reflect on what they are doing well and on what they need to improve.

Teachers' professional development has been described in a number of stage theories (Hammersness et al. 2005 reported), both public school literature (e.g. Berliner, 1988; Leinhardt, 1989; Hammersness et al. 2005) and research into professionals' learning through work (Eraut, 2009) and research in higher education (e.g. McAlpine & Weston, 2000; Fox, 1983; Sherman et al., 1987). Some do refer specific to the Dreyfus (1986) brothers' version of novice/expert stages: A process in which one can move from less sophisticated ideas and abilities to more integrated thinking and skills. The expert is capable of seeing the big picture, and referred to by researchers as being able to use scripts, schemas and routines in meaningful ways in action, whereas novices often get hung up on the details. Over time, the teacher becomes better at seeing the commonalities and structures that underlie various types of action. In learning by doing, the person can begin to organize the information as a meaningful whole. The units 'activities' and 'routines' become important part of the teachers' thoughts about classrooms. "Activities are meaningful wholes because they describe action in a temporal/spacial framework and highlight social and interactional components of instruction. As activities become stable and workable frameworks for learning, they are established as routines. These then guide current instruction and become available as meaningful units of thought for future planning and teaching" (Yinger, 1987, p. 306).

There is an unity in research, following Yinger, that thoughts and actions of experienced teachers form a pattern of activities and routines, which is noted by several scholars, e.g. Kowalchuk (1997) who stated: "In contrast to beginning teachers the experienced have a rich and deep knowledge of the subjects they teach, and their understandings are organized in elaborate, coherent patterns of conceptual and procedural knowledge called schemata" (p. 3). McAlpine and Weston (2000) follow this line of thought by stating "In the case of experiential knowledge, individuals through reflection may begin to see patterns across multiple experiences and begin to extract principles" (p. 373). Schön's (1983) 'knowledge-in-action' characterizes the behaviour of the expert practitioner (Berliner, 1988). Moallem and others (1994) studied an experienced teacher and used the term 'on-the-spot' decisions to characterise the way of acting of an expert (p.31). Flores (2006) defines the beginning teachers' development as 'learning while doing' (p. 2047), and as do Yinger by the words 'learning by doing' (1987, p. 306). Munby and Russel (1992, cited in Richardson, 1996) explored how concepts of subject matter affect learning to teach in the beginning years of teaching. They also used the work of Schön (1983) and concluded that learning by experience involves the development of new frames, and they stated that some students are more predisposed than others to reframe their conceptions of practice.

Shulman (1987; Gudmundsdottir, 1991; Gudmundsdottir & Shulman, 1987, 1989) has developed the term 'Pedagogical Content Knowledge' that denotes how the teacher must transform their subject matter knowledge into content for teaching. This process involves a deep understanding of subject matter, the whole teaching situation and the learners. All of this demands prior experiences with class and the specific learners to reflect upon.

It is recognised in a number of studies that new teachers develop through phases in which they focus initially on themselves and gradually focus upon issues related to students and students' learning, e.g. their ability to manage the classroom, designing the curriculum, selecting effective teaching strategies and assessing the learners learning (Day, 1993; Eraut, 1994; Hammersness et al., 2005; Meijer et al., 2011).

McAlpine and Weston's (2000) exploration of six expert professors' reflections on their own teaching show two types of domain knowledge. One called 'experiential knowledge', because all professors referred explicitly to previous experiences as their basis for decision-making. The authors refer to this as Connelly and Clandinin (1985) termed 'personal practical knowledge'. The second domain knowledge is labelled 'tacit', and occurs when decisions are based not on experiences or principles but feelings. "Transforming experiential and tacit knowledge into principled explicit knowledge about teaching requires, we think, intentional reflection for the purpose of making sense of and learning from experience for the purpose of improvement" (p. 374). The authors advocate reflection as the essential mechanism for learning as did the research in CPD. They state that it is a process to make sense of experience and to develop knowledge and to establish a rich source of knowledge to draw on during subsequent action.

Conclusion

In this section I sum up on the research I have examined in an effort to answer my main question: What makes a teacher an experienced qualified teacher of adults? I will answer by my two supporting questions.

Ad. Question 1) We know that the adult teacher's professional development grows best when we recognise teachers of adults as adult learners themselves, and when we acknowledge practical knowledge as it evolves in teaching and when we ensure teacher's participation, reflection and engagements in teaching, alone and with peers or researchers. By all this we have secured notably good circumstances for facilitating professional development.

Ad. Question 2) We know that the adult teacher's learning is influenced by prior beliefs and experiences in classrooms. Her actions and behaviour while performing and planning teaching are heavily influenced by her (often defined as static) thoughts and beliefs about e.g. students and students' learning. Research on teacher thinking has provided strong evidence about the robust link between teachers' beliefs – sometimes defined as knowledge – and their actions in the classroom. But what do the (lonely performing) teacher learns from her own practice; how does she grow to be an experienced and qualified teacher of adults as a result of her own practice? We know from studies on beginning teachers' development and expert teachers that they follow a path much like the stages described by

Dreyfus and Dreyfus (1986). Multiple studies have shown that teachers generally grow from being structured in a rigid way to become introspective, flexible and responsive. The teachers evolve into an experienced qualified professional when she masters the language of practice, which Yinger (1987) defines "as a set of integrated patterns of thought and action. These patterns themselves constitute a kind of syntax and semantics for action. The words and phrases in this language are behaviour, activities and routines" (p.295). And the units 'activities' and 'routines' become especially important part a of the teachers' learning about classroom interactions. "They acquire this flexibility after they are confident in their mastery of the pedagogical subject matter knowledge that they need to operate in a somewhat conservative and well-structured environment" (Leinhardt, 1989, p. 96).

Research perspectives

Kagan (1992) stated that there is a crucial gap in our understanding of teaching when orientated to teacher development. "We have little direct information about how a teacher's personal pedagogy evolves over the course of his or her career" (p. 74). She also points to a lack of insight from research about how a teacher's personal pedagogy evolves over the course of his or her career. Recent research (Mansour, 2009) emphasises the need of further exploration "… there is still a need to examine teachers' beliefs in order to clarify how they affect their practice" (p.31), and as Flores (2006) notes: "…. further research is needed to shed light on what, how, and when new teachers learn at work, and how, when, and why they develop and change (or do not change) in certain ways" (p. 2023). It seems that there is still a missing link in the search for teachers' learning processes; even though Leinhardt, back in 1989, stated that "we need to study the process of acquiring expertise…" (p. 95). I therefore call for research on the adult teacher's learning processes. Research outlined in this paper show a majority of research on teachers' professional development in elementary/secondary school. The small amount of inquiry into teachers of adults and their practice-based learning also indicates a need for further research to be done.

As this paper shows, the research literature on learning to teach view development in terms of growth and steadily increasingly ability to cope with and learn from experiences. Even though much research ascribes to the notion of stages in development, it is not necessarily a hierarchical process. Joyce and Showers (2002, cited in Hammersness et al., 2005) observed how teachers go through an iterative process of learning by experimenting and reflecting as they develop new skills in their teaching. Described as "a path with highs and lows and with transformative moments or periods" (Meijer et al., 2011, p.127).

Another way of exploring the rather muddy area could be to follow the investigations on teachers' 'bumpy moments', defined as "incidents that require the teacher to engage in reflection to make an immediate decision about how to respond to a particular problem in practice" (Romano, 2006, p. 977). Her study explores the ''bumpy moments'' as "a stimulus for capturing reflection as practicing teachers experience problematic episodes and are asked to recall their reflections on those moments" (p. 974). As Romano states this kind of exploration may offer opportunities in which teachers can reflect on their experience and make the accompanying decision-making processes more explicit

through challenging assumptions and acquiring new perspectives (Eraut, 1985, 2002; Korthagen & Kessel, 1999). An alternative perspective on professional development could be the one described in terms "of transformation process in which crises are seen as sources to learn from" (Meijer et al. 2011, p. 117; referring to Mezirow, 1990; also discussed in Illeris, 2002) and to theories on identity development that suggests people need crises for identity development to occur (as do e.g. Meijer et al., 2011). By examining the 'key experiences' (defined as: "short and intense instructional episodes that the students remember to have had a decisive effect on their lives", Yair, 2008, p. 93) during the development of their teaching and ways in which they coped with these experiences is a relatively new way to approach the development of learning (Meijer et al., refer to: Whitcomb et al., 2008).

When I combine the views of 'bumpy moments', 'key experiences', and 'crises for identity development' to an adult perspective of learning, I will refer to Jarvis' view on learning as a course of disharmony defined as 'disjuncture' while "disjuncture makes learning possible" (Jarvis, 1992, p. 83). A view of Jarvis' perspectives on learning is presented available in Kragelund (2010, p.55). "One of Jarvis' basic assumptions is that where there is disharmony between a person's experience and the social situation the person is in, there is potential for learning".

In search for insight into adult teachers' practice-based learning, my current project is designed to answer the following questions:

- What types of teaching experiences results in fundamental changes in the adult teacher's practice?
  Inquiry: what are the teacher's experiences and what does it take to generate them?

- How does the adult teacher store these experiences in terms of patterns of learning?
  Inquiry: Focus on the learning process and the way the learning is absorbed by the sum of experiences.

- How does the adult teacher apply her patterns of experiences in her later practice?
  Inquiry: Is it possible to identify general patterns of learning for the adult teacher?

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Notes

A

When I searched for studies of adult teacher's learning processes in practice I came to the conclusion that we have to rely heavily on research conducted in elementary and secondary school regarding teacher education, in-service education and CPD-programs e.g. scholars like Darling-Hammond (1999), Day (1996), Elliott (2002, 2004, 2011), Zeichner & Liston (1996), while little research that I found concerning teachers' learning has been done in the area of adult teaching.

My search query in ERIC database January 2011:
((professional development) or (professional continuing education) or (staff development)) or ((workplace learning) or (lifelong learning) or (teacher training)) or ((teacher education) or (teacher preparation) or (inservice teacher education)) or ((in-service teacher education) or (schools of education) or (teacher centres)) or ((teacher supervision) or (teacher effectiveness) or (teacher qualifications)) or ((knowledge base for teaching) or (continuing education) or (adult learning)) or (andragogy or (adult education) or Reflect*) or ((Teacher professional identity) or (Experiential learning) or (action learning) or (Transformative learning)) or ((Identity development)) and adult* and (teacher* or (Teacher of adult*)).
This search gave 436 peer reviewed studies.

I made a similar search in Psykinfo January 2011: DE=("career development" or "career Education" or "implicit learning" or "incidental learning" or "learning environment" or "professional development" or "professional identity" or "professionalism" or "teacher attitudes" or "teacher expectations" or "teacher personality") AND (teacher* or educator*) NOT (child* or kinder*). This search query revealed 656 peer reviewed studies. Because of my limited time available I did not complete a final reading from these findings, therefore this work in progress do only contain studies from ERIC database.

Those studies I found from the ERIC query mostly referred to teachers as adults but not as teachers of adults. The studies considering teachers as teachers of adults and regards some of the scope of my research interest (e.g. Daley, 2003; Galbraith & Jones, 2008; Gregson& Sturko, 2007; King & Lawler, 2003; Lawler, 2003; Mansour, 2009; McAlpine & Weston, 2000; Meijer et al., 2011; Sturko & Gregson, 2009) led me to search in their references. I found from these studies' literature that the teacher thinking research's way of exploring the field of teachers learning processes could be of value. I therefore made a search in databases for teacher thinking research including the adult teacher, but gained no results, therefore I rely heavily on the research done in the field of elementary and secondary school, teacher training, teacher education. I searched in ERIC: (KW=("teacher thinking")), studies from 1990-2011,English language and adults from 18 -64 years, which gave 58 studies. A similar search in PsykInfo gave 53 studies. Most of the studies revealed in this current paper are gained from the teacher thinking search and by reading their literature and references.

The small amount of exploration into teachers of adults and concerns of their practice-based learning gained from these searches indicates a need for further research to be done.