Developing English as a Foreign Language Trainee Teachers' Educational Psychology-A Reflective Case

تطوير علم النفس التربوي لمعلمي اللغة الإنجليزية كلغة أجنبية- حالة تأملية

Dr. Tayeb Bouazid

University of Msila, Algeria tayeb.bouazid@univ-msila.dz

Abstract:

Educational psychologists have turned their attention from the study of teachers' behaviour to the study of teachers' thinking, cognition, and knowledge. Educators began to focus on the mental life of their trainees. The researcher believes trainers in Algeria should consider the knowledge and beliefs of their prospective teachers in applying educational psychology. Trainers need to know the content they would teach students to reinforce the know-how of pedagogical knowledge, the learning characteristics of the students they train, and the subject matter. A descriptive qualitative method is used and a psychological needs analysis questionnaire was administered to trainee teachers. The study reinforces the idea that trainers need to focus more on the basic information and conceptual knowledge of the psychology of learning, development, and instruction to apply this knowledge in their clinical teaching experiences, methods, courses, and in their classroom teaching for a long-life achievement. (144 words)

Key terms- cognition ; educational ; psychology ; learning

الملخص

لقد حوّل علماء النفس التربوي انتباههم من دراسة سلوك المعلمين إلى دراسة تفكيرهم وإدراكهم ومعرفتهم اد قام اختصاصيو التوعية بالتركيز على الحياة العقلية للمتدربين. يعتقد الباحث أن المدربين في الجزائر يجب أن يأخذوا في الاعتبار معرفة ومعتقدات معلميهم المرتقبين في تطبيق علم النفس التربوي. يحتاج المدربون إلى معرفة المحتوى الذي سيقومون بتدريسه للطلاب لتعزيز الدراية بالمعرفة التربوية وخصائص التعلم للطلاب الذين يقومون بتدريبهم في اتقان الموضوع. لقد تم استخدام المنهج الوصفي النوعي وطرح استبيان تحليل الاحتياجات النفسية للمعلمين المتدربين في هذه الدراسةاللتي تعزز الفكرة بأن المدربين بحاجة إلى التركيز بشكل أكبر على المعلومات الأساسية والمعرفةالخاصة بعلم

نفس التعلم والتطوير والتعليم لتطبيق هذه المعرفة في خبراتهم في التدريس السريري، والأساليب،
والدورات، وفي التدريس في فصولهم الدراسيةو إنجازاتهم لحياة اطول.

المصطلحات الأساسية: علم النفس; التربوي -الإدراك ;التعلم

Introduction:

Teaching is a hard task that encompasses not only imparting knowledge but knowing one's learners and their needs. Knowledge of the psychology of trainee teachers' learning has become a crucial cornerstone that might contribute to the effective teaching of these would-be teachers once they end their pre-service training. As psychological perspectives shifted from behavioural to cognitive in the 1970s, several researchers began to focus on the thinking processes including cognition, perception and memory entailed in teaching. Hence, researchers have emphasized the notion of ongoing and lifelong professional learning embedded in schools as a natural and expected component of teachers' professional activities and a key component of school improvement (Putnam and Borko, 2000; Sleegers, Bolhuis and Geijsel, 2005; Smylie and Hart, 1999). Hence, resorting to educational psychology and psychology education is a must for the preparation of would-be teachers to meet the challenge in an age dominated by technology and know-how.

Teachers need to possess the knowledge to inform their recipients, the psychological knowledge to understand their attitudes, tastes and drives and knowledge to solve their problems and step forward in their understanding of learners' mentalities and the cognitive powers-the way learners learn, how they react, how they question, how they reason and the way they accept the others' thinking. Teacher trainers should reinforce their trainees' learning teaching package with mental competence, knowledge of the subject, pedagogical notion and more with the psychology of education that enables them to enter into their learners' minds and satisfy their needs in this way, they will be able to motivate and direct their curiosity to more learning.

1. Theoretical Background/Literature Review Section

1.1. Definition of education

Education is the process of bringing desirable change into the behaviour of human beings namely learners. It is the process of imparting or acquiring knowledge and habits through instruction or study. Education is the deliberate, systematic, and sustained effort to transmit, provoke or acquire knowledge, values, attitudes, skills or sensibilities as well as any learning that results from the effort (Cremin, *Public Education*, p. 27)

1.2. Definition of Psychology

Psychology is a positive science of behaviour (Watson). Psychology is the science of human behaviour and experience (Cruze) According to Charles E. Skinner, psychology deals with the responses to any and every kind of situation that life presents. By responses or behaviour is meant all forms of processes, adjustments, activities, and experiences of the organism. In his Dictionary of Psychology, Reber (1995) wrote:

Psychology simply cannot be defined; indeed, it cannot even be easily characterized . . . Psy-chology is what scientists and philosophers of various persuasions have created to . . . under-stand the minds and behaviors of various organisms from the most primitive to the mostcomplex . . . It is an attempt to understand what has so far pretty much escaped understanding, and any effort to circumscribe it or box it in is to imply that something is known about theedges of our knowledge, and that must be wrong. (p. 617)

1.3. Definition of Educational psychology

Educational psychology is that branch of psychology, which deals with teaching and learning. It takes its meaning from education, social process and psychology, a behavioural science (Skinner). It is the discipline concerned with

teaching and learning processes; applies the methods and theories of psychology and has its own as well (Woolfolk, 1995).

W.A. Kelly (1941) listed the nature of Educational Psychology as follows:

i. To give a knowledge of the nature of the child

ii. To give an understanding of the nature, aims and purposes of education

iii. To give an understanding of the scientific methods and procedures which have been used in arriving at the facts and principles of educational psychology

IV. To present the principles and techniques of learning and teaching

v. To give training in methods of measuring abilities and achievement in school subjects

VI. To give a knowledge of the growth and development of children

vii. To assist in the better adjustment of children and to help them to prevent maladjustment

viii. To study the educational significance and control of emotions and

ix. To give an understanding of the principles and techniques of correct training.

Thus, educational psychology is applied, positive, social, specific and practical science. While general science deals with the behaviour of individuals in various spheres, educational psychology studies the behaviour of the individual educational sphere only.

1.4. Pre-service Education contents

Pre-service education often provides the first step in the professional development of teachers. It exposes pre-service teachers to new perspectives as well as prepares them in knowledge and skills (Wilke, 2004). Knowledge includes disciplinary content, or subject knowledge, and pedagogical content knowledge, or knowledge of how to teach (Wilke, 2004). This forms the basis for quality practice (Schempp, 1995) that teachers trainers need to have a perceptive view about.

1.5. Pedagogical Knowledge:

Pedagogical knowledge can be defined as '...the content, skills, and strategies required for effective teaching.' (Gerges, 2001, p.72). Pedagogical knowledge is linked closely to teacher belief in that there are factors that influence teachers' attitudes and beliefs toward the implementation of a variety of instructional models and strategies. Contemporary literature challenges how receptive students are to the knowledge and perspectives teacher educators deliver. A key component of such understanding rests on the idea of a teaching belief i.e. what it means to teach and how such a belief may develop and change (Wilke, 2004). Furthermore, a growing body of research suggests that not only must teacher educators address issues of course structure, content and articulation in improving teacher education, they must also take into account the beliefs, attitudes, expectations and perceptions that pre-service teachers bring with them to the teacher education programme and how they develop during their training years (Pajares, 1992).

1.6. Trainees' beliefs and attitudes towards teaching

Pre-service teachers, upon entering their preparation program, hold a simplistic view of the teaching profession (Whitbeck, 2000). They believe that teaching is easy and that teaching merely involves transmitting information (Feiman- Nemer et al., 1989). Many pre-service teachers enter the program with high confidence in their ability to perform well in the profession (Richards & Killen, 1994). Many teachers, when selecting this teaching vocation trade, think they would be good teachers because it is their own choice and desire.

Similarly, pre-service teachers were found to believe that, motivating one's students and being warm and personable were primary characteristics of good teachers (Holt-Reynolds, 1992, Collins, Selinger, & Pratt, 2003). The role of teachers most of the times is to impart knowledge most securely by maintaining interest and control over their classes a sign of an effective teacher (Joram & Gabrielle, 1998);

so, when a class is under control, teaching is lecturing (Broekman and Wetering, 1987; Feinman-Nemser et al., 1989; Wubbels, 1992), which should be the main task of a teacher; theoretically speaking, trainers show the right way to their recipients through guidelines and let them work for their own. Accordingly, the majority of knowledge about teaching will come from practice in the field through trial and error when they enter the classroom (Feiman- Nemser et al. 1989; Joram & Gabrielle, 1998)

However, this does not exclude the fact that a lot of trainees do not expect to get much from their education classes (Joram & Gabriele, 1998); and henceforward feel that they would be good teachers without any preparation (Mertz,1991). This leads to believe that another category of trainees is less interested in theoretical matters and show more interest in practical approaches (Wubbels, 1992) and grope to their practical fields with more insight to gain through trial and error when they eventually enter the classroom (Feinman-Nemser et al., 1989, Joram & Gabrielle, 1998)

2. Materials and Methods

Hence, the problem is double posed- the amount of knowledge needed —the cognitive-linguistic side in addition to the educational psychology package that helps treat the learners' thirsty and zealous spirits. Teacher trainers need to enter into their trainee's minds and understand how these learners think, reason and solve problems to veer their teachings in this direction. It is then by understanding their learners that the virtual program will be made. The problem then faced by these trained teachers is that they teach their learners through whatever methods, delivering lessons to end up a given syllabus without paying many regards to the psychological understanding of their recipients. To achieve such success, some research questions are raised.

1.What should trainers do to perceive what type of knowledge their trainees need to acquire?

2.Which method is best to know through what trainees need in their long-life learning and professional career?

3.How do trainees know how their trainees think? What would teachers include in their syllabus that help them understand better how their trainees respond, think, perceive, analyse and react?

In addressing these questions, trainers need to give more importance to psychology education that delves deeper into their trainees' cognitive processes. Hence, creating a link between what teachers teach and how and how learners learn and perceive things.

The study adopts a descriptive qualitative method where the recipients numbered 45 trainee teachers are described and followed during their training periods. Hence, a psychological needs analysis questionnaire of eighteen questions was administered to them about their daily encounters with their learners and how they would know about their learners' personality traits. The questionnaires were coded and anonymously analysed.

3. Results and Discussions

3.1. Educational psychology: Teaching the Big Five dimensions of Personality to trainee teachers?

As pre-service teachers will face different personalities traits catered by various learners' social background, they have to be ready to understand every learner's habits, behaviour and cognitive building up. According to researchers' 'working consensus' more than 70 years of empirical studies (John & Robbings, 1993; Wiggins & Trapnell, 1997) have shown the use of psychology in education.

McCrae and Costa (1999) portray the five-factor model (FFM) as a Grand Theory that provides an overview of the functioning of the whole person across the entire

lifespan. Researchers have also found that thousands of personality traits can be organized into the following broad factors: (1) hostile vs. Agreeableness, (2) introversion vs. Extroversion, (3) impulsive vs. Conscientious, (4) neuroticism vs. Emotional stability, and (5) intellectual narrowness vs. Intellectual openness.

Accordingly, the aforementioned traits have to exist in the future teachers' repertoire to better understand the amalgamate texture of the class they might face. Students from common rank and file might study together and knowing them is of paramount importance. This leads us also to suggest that understanding one's personality as a teacher, and the personality of learners will have great implications in the preparation of lessons through learners' needs analysis. Table (1) below is a great indicator of what would be teachers adopt as the choice for their options. Their selection of 'yes' in (A)(B) and (D) proved more tangible and logical. Also, curriculum designers should include personality education in the official syllabus.

Table 1. On knowing about trainees' learner's personality traits

How do you know about your learners' personality traits?

Trainees' Responses	Yes	No	Total
1. By talking to them and seeing their reactions, interactions and perceptions (A)	35 (77.8 %)	10 (22.2%)	45 (100%)
2. By asking them questions about self-motivation, self-confidence and drives (B)	30 (66.7%)	15 (33.3 %)	45 (100%)
3. Through using provocative questions to anticipate their oral feedback, behaviour and responses (C)	15 (33.3%)	30 (66.7%)	45 (100%)
4. By immersing them in concrete situations to check their degree of alertness and readiness to cope with the unexpected. (D)	30 (66.7%)	15 (33.3%)	45 (100%)

Tayeb Bouazid (2022)

Fig 1. On knowing trainees Responses

TRAINEES' RESPONSES (%)
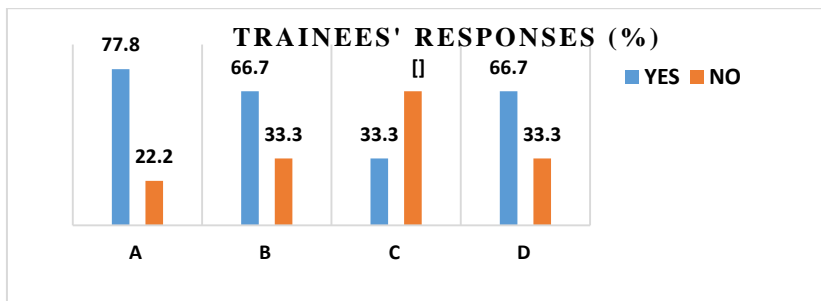
Tayeb Bouazid (2022)

3.2. Cognition and mental development

The province of Human Development and Cognition, a branch of Educational Psychology draws on insights from a range of fields that deal with learning and development. Trainee teachers should imbibe from this field to be able to know and understand how do children learn? What makes children want to learn? How can teachers create contexts in which all children benefit from instruction? How can we help children and youth develop into healthy, happy, and productive adults? How does learning happen outside of schools, in workplaces, museums, and other informal settings?

In knowing about all these questions, a pre-service trainee teacher would adjust his knowledge and form an overview about his future learners. Until then he would think to work as an educational psychologist, a curious inquisitive researcher into the prospective minds of his learners. He will accordingly seek Personal development (changes related to an individual's personality); Social development (refers to changes in the way an individual relates to others) and cognitive development (refers to changes in thinking).

Table 2. On trainees' personal, social and cognitive development

Options	Would be teachers' Criteria for personal, social and cognitive development	Tick
1.Personal Development	1.I gain self-confidence in my teaching skills	
	2.I rely on my teaching abilities and experience	
	3.I am aware of my role as a teacher due to my attitudes and knowledge	
	4.I know my role as the imparter of knowledge ready to cooperate and interact	
	5.I am open-minded, sociable and possess strong personal traits	
2.Social Development	1. I know how to greet people with smiles and laughter	
	2. I believe in my interpersonal attitudes towards the others-learners, parents and administration	
	3. I like sharing my views, cooperate and contribute in solving problems	
	4.I know when and how to give compliments and promote learners to work	
	5.I know how to work with colleagues and peers for the school future projects	
3.Cognitive Development	1.I know how to bridge the gap between the students and syllabus contents	
	2.I possess cognitive flexibility in finding solutions to the unexpected	
	3.I have no problem teaching my subject matter	
	4.I have a good pace of information processing in terms of input, and output	
	5.I know how to cope with learners' questions, and how to respond confidently	

Tayeb Bouazid (2022)

3.3. Knowledge and the way trainees learn how to teach.

Pre-service teachers, intending to aspire for professionalism, need to possess both cognitive insights that involve learners' self-awareness of their cognitions, through which they acquire information, gain understanding, and learn in the classroom metacognitive strategies about classroom teaching which includes self-awareness and ability to reflect on one's cognitive knowledge for classroom learning and teaching. In this respect, the teacher will not stand limited in his mental scope but open to the unexpectedness in teaching circumstances. He, at least, possesses an idea about the content knowledge of his subject matter.

Shulman (1986) distinguished three kinds of content knowledge: Subject matter content knowledge, pedagogical content knowledge and curricular knowledge (knowledge of materials and resources for teaching particular content, including how subject matter content is structured and sequenced in different materials). Krauss et al. (2008) define three main components of pedagogical content knowledge: knowledge of tasks; knowledge of students' prior knowledge; knowledge of instructional methods. These three elements have been implemented through a specimen questionnaire delivered to trainee teachers.

3.4. The scope and contents of Educational Technology related to would-be teachers training syllabus.

Trainees need to be trained on how they learn about their future students by studying a series of lessons on the innate capacities of their learners, the individual differences existing with learners, the overt, covert, conscious as well as unconscious behaviour of the learner, the characteristics of his growth and development and each stage beginning from childhood to adulthood.

Trainees need to acquire which learning experiences could be suitable for their learners and at which stage these could be implemented and under what learning process. So, after knowing the learner and deciding what learning experiences are to be provided, trainees would learn Educational Psychology laws, principles and theories of learning as remembering and forgetting, perceiving, concept formation, thinking and reasoning, problem -solving, transfer of learning, ways and means of effective learning etc. Just then, trainees need to be introduced to how to secure classroom climate for learning by studying topics like classroom climate and group dynamics, techniques and aids that facilitate learning and evaluation, techniques and practices, guidance and counselling to create efficiency in learning.

Trainee teachers should be introduced into the role of the teacher as a working power in the teaching-learning process. His role as a pivot in knowing himself first,

his inspirations, his training, his reactions, his psychological aspects that help him know his learners; their differences, their needs and motivational drives and his aptitudes.

Trainees' psychology of education credit will enhance them to know more about Human Behaviour in educational situations. It shed some lights on the Growth and Development of the child. How a child passes through the various stages of growth and what are the characteristics of each stage are included in the study of educational psychology. Besides, by studying this credit, trainees with get an overall idea about Heredity and Environment which contribute towards the growth of the individual, and how this knowledge can be made use of for bringing about the optimum development of the child.

Trainees will have opportunities to study the Nature and Development of the Personality of an individual and introduces them to the study of the learners' differences: Thanks to educational psychology, trainees will at last form an idea about their learners' intelligence which helps them know the students that need tutorship, guidance and counselling. In short, if trainee teachers are given sufficient amounts of time studying the aforementioned features, we believe they could enter their profession with offhand ease.

3.5. Experimental Procedure

Most of would-be pre-service teachers today in Algeria lack sufficient training that would qualify them to enter into the profession with offhand ease. This is certainly due to the lack of mastery of both cognitive and psychological aspects. The problem that future teachers encounter is that they don't realize the importance of teaching young children until they are faced with reality. Teachers think the very good lessons they have learnt at their incubation training period are enough but the reality proves another. Teachers need to reinforce their learners' psychological

states by enhancing them with more educational psychology to equip them to cater for the difficult learners' needs.

4. Conclusion

We conclude that scrutiny of the contents related to pre-service teacher training in higher schools in Algeria needs to be strongly revisited by giving a lion's share to educational psychology and the psychology of education. As inculcating learners' minds with knowledge does not suffice in an age where pedagogy and psychology reign, learners need to imbue from the knacks of pedagogy to control and master their classes efficiently. The young generation of today is harsh to manipulate and harness; hence, a bit of pedagogical policy will incite them not to deviate from the norms.

Teachers need to grow aware about the knowledge they need to inform their recipients about, to consolidate the psychological knowledge to understand their attitudes, tastes and drives to help them solve their problems and step forward in their understanding of learners' mentalities. In addition, they need to resort to psychology to understand the way learners learn, how they react and respond, how they ask questions and reason and the way they react to their peers.

We highly recommend educationalists and educational psychologists to share hands in developing a strong curriculum that serves the would-be teachers, not to strive for teaching adequately, but to restore order, discipline and motivation within classrooms.

Recommendations

1. Theory and research suggest that meaningful learning and application of educational psychology might be facilitated by closer collaboration between educational psychologists, teacher educators, and subject matter researchers. This is a good point to emphasize

2. 'pre-service teachers need to construct their own meaningful and conceptually functional representations of the external world' (Duffy and Jonassen, 1992, p. 11)

3. The teacher becomes more of a coach who assists students in 'crisscrossing the landscape of contexts ', looking at the concept from a different point of view each time the context is revisited (Spiro et al., 1992, p. 8).

4. Cohen (1988) adopts the term 'adventurous teaching'. Research has indicated that teachers' beliefs about their level of competence and their sense of self-efficacy affect their practice and students' performance (e. g. Ashton and Webb,1986; Midgley, Feldlaufer and Eccles, 1989; Ross, Hogaboam-Gray and Hannay, 2001). Self-efficacy is a future-oriented belief about the level of competence a person expects he or she will display in a given situation (Bandura, 1997).

5. Trainees' training textbooks and syllabi should specify through clear-cut objectives the use of psychology as a credit score in the formation. Educational psychology should take the lion's share. Its role should be reflected through teachers' preparation by stating 'the primary goal of educational psychology courses should be the development of a useful psychological perspective by prospective teachers' (Anderson, et al., 1995, p. 144). Its implementation should be taken as a module included in the curses where trainees should be enhanced on how to master knowledge about personality psychology.

For effective training and teaching, Brophy (2001) distinguishes 12 principles of effective teaching:

1. Supportive classroom climate: students learn best within cohesive and caring learning communities. The role of the teacher as a model and socialiser is emphasised.

2. Opportunity to learn: students learn more when most of the available time is allocated to curriculum-related activities and the classroom management system emphasizes maintaining students' engagement in those activities.

3. Curricular alignment: All components of the curriculum are aligned to create a cohesive programme for accomplishing instructional purposes and goals.

4. Establishing learning orientations: teachers can prepare students for learning by providing an initial structure to clarify intended outcomes and cue desired to learn strategies (e.g. providing advance organisers and queuing the kind of responses that are expected).

5. Coherent content: to facilitate meaningful learning and retention, content is explained clearly and developed with an emphasis on its structure and connections. When making presentations, providing explanations, or giving demonstrations, effective teachers project enthusiasm for the content and organise and sequence it to maximize its clarity and "learner friendliness".

6. Thoughtful discourse: questions are planned to engage students in sustained discourse structured around powerful ideas.

7. Practice and application activities: students need sufficient opportunities to practice and apply what they are learning and to receive improvement-oriented feedback.

8. Scaffolding students' task engagement: the teacher provides whatever assistance students need to enable them to engage in learning activities productively. Structuring and support can be lessened as the students' expertise develops.

9. Strategy teaching: the teacher models and instructs students in learning and self-regulation strategies. Meta-cognitive awareness and self-regulation are sought in contexts like problem-solving and general learning and study skills. An example is a teacher who thinks out loud while modelling the use of the strategy. Students are stimulated to monitor and reflect on their learning.

10. Co-operative learning: students often benefit from working in pairs or small groups to build understanding or help one another master skills.

11. Goal-oriented assessment: The teacher uses a variety of formal and informal assessment methods to monitor progress towards learning goals. The comprehensive assessment also examines students' reasoning and problem-solving processes.

12. Achievement expectations: the teacher establishes and follows through an appropriate goal-oriented process established right from the beginning to end up with positive expected outcomes.

References

1. Anderson, L.M. & Holt-Reynolds, D. (1995). Prospective teachers' beliefs and teacher education pedagogy: research based on teacher educators' practical theory. Retrieved March 27, 2005, from http://ncrtl.msu.edu/http/rreports/html/pdf/rr956.pdf

2. Ashton, P.T. and Webb, R.B. (1986). Making a difference: teachers' sense of efficacy and student achievement. New York: Longman.

3. Bandura, A. (1997). Self-efficacy: The exercise of control. New York: Freeman.

4. Brophy, J. (2001). Generic Aspects of Effective Teaching. In Wang, M.C. and Walberg, H.J. Tomorrow's Teachers. McCutchan Publishing Company.

5. Cremin, Lawrence. 1976. *Public Education.* (Basic Books).

6. Datnow, K. Leithwood and D. Livingstone (eds.), International Handbook of Educational Policy, 527-543. Dordrecht: Kluwer Academic Publishers.

7. Duffy, Th.M. and Jonassen, D.H. (1992). Constructivism and the Technology of Instruction: A Conversation. Hillsdale, NJ: Lawrence Erlbaum Ass.

8. Feiman-Nemser, S., McDiarmid, G.W., Melnick, S.L. & Parker, M. (1989). Changing the beginning teachers' conceptions: a description of an introductory teacher education course. East Lansing, MI: National Centre for Research in Teacher Education, Michigan State University.

9. Gerges, G. (2001). Factors Influencing Preservice Teachers' Variation in Use of Instructional Methods: Why Is Teacher Efficacy Not a Significant Contributor. Teacher Education Quarterly, 4, 71-87.

10. Krauss, S., Brunner, M., Kunter, M., Baumert, J., Blum, W., Neubrand, M. and Jordan, A. (2008). Pedagogical Content Knowledge and Content Knowledge of Secondary Mathematics Teachers. Journal of Educational Psychology, 100(3), 716-725.

11. McCrae, R. R., & Costa, P. T., Jr. (1999). A five-factor theory of personality. In L. A. Pervin and O. P. John (Eds.), Handbook of personality: Theory and research (pp. 139-153). New York: The Guilford Press.

12. Pajares, M. F. (1992). Teachers' beliefs and educational research: cleaning up a messy construct. Review of Educational Research, 62(3), 307-333.

13. Putnam, R.T. and Borko, H. (2000). What do new views of knowledge and thinking have to say about research on teacher learning? Educational Researcher, 29, 4-15.

14. Reber, A.S. (1995). Dictionary of Psychology (2nd ed.). New York: Penguin

15. Ross, J.A., Hogaboam-Gray, A. and Hannay, L. (2001). Effects of teacher efficacy on computer skills and computer cognitions of Canadian students in Grades K-3. The Elementary School Journal,102, 141-156.

16. Shulman, L.S. (1987). Knowledge and teaching: Foundations of the new reform.Harvard Educational Review, 57, 1, 1─22.

17. Schempp, P. G. (1995). Learning on the job: An analysis of the acquisition of a teacher's knowledge. Journal of Research and Development in Education, 28(4), 237-244.

18. Sleegers, P., Bolhuis, S. and Geijsel, F. (2005). School improvement within a knowledge economy: Fostering professional learning from a multidimensional perspective. In N. Bascia, A. Cumming. A.

19. Smylie, M.A. and Hart, A.W. (1999). School leadership for teacher learning and change: A human and social capital development perspective. In J. Murphy, and K.S. Louis (eds.), Handbook of Research on Educational Administration, 2nd ed., 297-322. San Francisco: Jossey-Bass.

20. Spiro, R.J., Feltowich, P.J, Jacobson, M.J. and Caulson, R.L. (1992). Cognitive flexibility, constructivism and hypertext: random access instruction for advanced knowledge acquisition in ill-structured domains. In Th.M. Duffy and D.H. Jonassen (eds.), Constructivism and the Technology of Instruction: A Conversation. Hillsdale, NJ: Lawrence Erlbaum Ass.

21. Wilke, R. (2004). How content area influences the choice of instructional methods: an examination of one component of preservice teacher belief. Unpublished master's thesis, The Florida State University, College of Education, USA.

22. Wubbels, T. (1992). Taking account of student teachers' preconceptions. Teaching and Teacher Education, 8, 137-150.