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Importance Of Investment In Research's Of Students And Teachers Epistemological And Pedagogical Beliefs

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Abstract

This paper seeks to highlight the importance of investing in research of students epistemological and pedagogical beliefs and teachers epistemological and pedagogical beliefs. Faculty of Education-Bitola takes first step in this kind of importance investigation. We want to give attention on responsibilities which have all institution who trains teachers. Faculty of Education-Bitola is in the beginning of couple of research's who investigate this kind of beliefs. This is very important for improvement the quality of teacher education. The paper briefly explains and makes literature review of epistemological and pedagogical beliefs. Also in this paper shortly are present research's that are already in process and future steps that will be taken in part of science research's. These kinds of research's are important not only for Faculty of Education-Bitola and institutions who trains teachers but for whole society. Results of this investigation will help in improvement of whole educational system. Getting information about students and teachers' epistemological and pedagogical beliefs in lot can change improving the classroom practice.

1. Introduction

As a member of University St. Kliment Ohridski-Bitola, Faculty of Education-Bitola is leading pedagogy centre

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in area and wide. Developing innovative teacher education is more than 50 years tradition for Faculty of Education-Bitola and continues to improve the quality of teacher education compliance with European educational principles of teacher's profile. Profession teacher is becoming more and more complex and complicated and faces with many challenges every day. Therefore Faculty of Education-Bitola in front self have the responsibility to improvee the models for teacher training in-service and pre-service. Searching students and teachers' epistemological beliefs and students and teacher pedagogical beliefs considering teaching and learning is becoming valuable especially in teacher training process. Student's epistemological and pedagogical beliefs and teacher epistemological beliefs and teacher pedagogical beliefs have a lot of influence in that how the classroom practice will look like.

2. Epistemological beliefs and pedagogical beliefs

Epistemology is the branch of philosophy that investigates what knowledge is and how people know whether they know something (BonJour, 2002). Epistemic beliefs are personal beliefs about knowledge and the acquisition of knowledge. As subjective theories of an individual, they have the function of directing and controlling actions.(Paechter et al. 2013,1). Mostly researchers (Bråten & Strømsø, 2005; Bråten, Strømsø, & Britt, 2011;Bromme, Kienhues, & Porsch, 2010; Buehl, 2003; Buehl& Alexander, 2005; Cavallo, Rozman, Blickenstaff, & Walker, 2003; Hofer & Pintrich, 1997; Hogan, 2000;Paulsen & Feldman, 2005; Schommer-Aikins, 2002;Strømsø & Bråten, 2009) investigate numerous aspects of academic learning,how students approach learning processes, which learning strategies they use, or how they view their role as learners. Researchers nowadays give a big attention on searching relations between epistemic and pedagogical beliefs. Mostly of them say and agree that these two kinds of beliefs are related to each other. Some of the researchers use quantitative approach to searched relations for these two concepts like: Chan &Elliott in 2004 investigate Relational analysis of personal epistemology and conceptions about teaching and learning.; Hofer in 2001 investigate Personal epistemology research: implications for learning and teaching; Wong, Chan, & Lai in 2009 investigate Revisiting the relationships of epistemic beliefs and conceptions about teaching and learning of pre-service teachers in Hong Kong. Beliefs about learning and teaching are related to how knowledge is acquired, and in terms of the psychological reality of the network of individuals' beliefs, beliefs about learning, teaching, and knowledge are probably intertwined" (Hofer &Pintrich ,1997, 116). Researchers say that we can compare two kind of pedagogical beliefs view: knowledge transmission view and constructivist view. In these two kinds of view we can see the ways of teaching by teachers. Teachers who embrace the knowledge transmission view are inclined to prepare and conduct lessons in a teacher-centered and content-oriented manner. They prefer didactic instruction and act as the sole provider of knowledge. Students accordingly act as passive recipients of content knowledge. By comparison, the knowledge construction view advocates that students should actively make sense of their learning experiences while teachers design meaningful learning experiences and scaffold students' sense making. Teachers who hold the *constructivist* view tend to emphasize more student-centered activities that facilitate students' knowledge construction through active self-reflection, peer interaction, and meaning-making process (Wong et al., 2009; Chan & Elliott, 2004 taken from Chai, 2010, 130). Also according to Chai cited: "There are currently only a small number of studies of in-service teachers' epistemic beliefs and these studies are generally situated in the Western society (Feucht & Bendixen, 2010; Kang & Wallace, 2005; Schraw & Olafson, 2002). These studies indicate that practicing teachers' epistemic beliefs are related to their pedagogical beliefs". We already mention that research about epistemological and pedagogical beliefs are important because in lot can be improved classroom practice. Brunning et al. (2004) say that teachers' behaviour is affected by their beliefs about three classroom factors.

- Beliefs about course content. (Teachers plan instruction in ways that are consistent with their assumptions about class material. Teachers who believe in certain knowledge are more likely to focus on didactic instruction and essential course content while de-emphasising discovery in the classroom.)
- Beliefs about students. (Most teachers form strong opinions about students based upon physical characteristics, test scores, class performance, social skills, parent attitudes, and student self-efficacy.)
- Beliefs about teaching. (Teachers plan and implement instruction according to whether they believe in external, teacher-directed, or student-internal knowledge-constructed models.)

We think that is best when we consider together epistemological and pedagogical beliefs. In this way we can understand the process of teaching and learning in better whole.

3. Students and Teachers epistemological beliefs and students and teachers pedagogical beliefs literature review

The beginning of searching epistemological beliefs starts with William Perry when in 1968 he examined the beliefs of Harvard man students. Using interviews and questionnaires Perry has delineated the developmental trajectory of epistemic beliefs into four stages: dualistic, multiplistic, and relativistic and commitment with relativism. *Individuals with a dualistic view of knowledge believe in right-or-wrong knowledge handed down by authority. They move on to the multiplistic stage when they begin to acknowledge the possibilities of multiple views, but they still believe that most knowledge is certain. Individuals progress to a relativistic stage when they see most knowledge as tentative and contextual. Individuals at this stage also tend to believe that knowledge is generated by the self through thinking rather than given by authorities. At the last stage, individuals may commit themselves to the belief that knowledge is uncertain and based on the weighing of accumulated evidence.(Chai, 2010, 128)* After Perry in last 40 years searching epistemological beliefs is racing and becoming more attractive. Following developmental model of Perry, other researchers have refined and proposed other models: Kitchener and King (1981) have introduced the Reflective Judgment model: learners' belief of absolute and concrete knowledge validated by authority and belief that knowledge is tentative justified by reason. Belenky, Clinchy, Goldberger and Tarule (1986) searching women epistemological beliefs have proposed model of four levels of woman epistemological development: silenced/received knowing, subjective knowing, procedural knowing and constructed knowing. After them Hofer and Pintrich (1997) suggested that epistemic beliefs should be divided into two major categories: nature of knowledge, which includes certainty of knowledge and simplicity of knowledge, and nature of knowing, which comprises source of knowledge and justification of knowledge. Hofer (Hofer, 2000; Hofer & Pintrich, 1997) categorised people's beliefs about knowledge (epistemology) into four dimensions: 1.Certainty of knowledge: Some people believe that knowledge is fixed, while other people believe that knowledge is fluid; 2. Simplicity of knowledge: Some people believe that knowledge consists of an accumulation of facts, while other people believe that knowledge is a system of related constructs; 3. Source of knowledge: Some people believe that knowledge is transmitted from external sources while other people believe that knowledge is internally constructed; 4. Justification for knowing: Some people rely upon external authority while other people believe that knowledge relies on personal evaluation and integration. Schommer (1990, 1993a, 1993b; Schommer-Aikins, 2002) developed a concept of epistemic beliefs that consists of five independent dimensions: structure of knowledge, stability of knowledge, source of knowledge, (control, and speed of knowledge acquisition. Investigations of epistemological and pedagogical beliefs are made in many different contexts. Schommer (1990) developed a standardized questionnaire, the Schommer Epistemological Questionnaire (SEQ), with 63 items for the measurement of the above five dimensions of epistemic beliefs. In her questionnaire, individuals rate on a 5-point Likert scale the degree to which they agree or disagree with certain views on knowledge and knowing. Schraw et al. (2002) aimed to develop a questionnaire that would measure all five dimensions of epistemic beliefs described by Schommer but that would be shorter than the SEQ and show better psychometric properties. They say that one of the main problems to investigate epistemic beliefs lies in the lack of reliable and valid measurement instruments. Using some instrument in another context different from context where the instrument is developed can make a big problems. Researchers have another problem when they use some instrument in different context. To solve some of the problems some of them make revision of the instruments. For example Paechter et al. 2013 developed an instrument for measurement of epistemic beliefs in German-speaking samples. The new instrument is partly based on the EBI Epistemic Belief Inventory but also includes new items and it is call Oldenburg Epistemic Beliefs Questionnaire (OLEQ).

A different approach to studying personal epistemology was proposed by King and Kitchener (1994). King and Kitchener took into consideration the contextual dependencies of students' beliefs about knowledge and constructed a seven-stage rubric to assess two aspects of epistemological beliefs, namely, "view of knowledge" and "justification of beliefs."(Angeli &Valanides, 2012, 3). *Other researchers, including Patricia King and Karen Kitchener, Marcia Baxter Magolda, and Deanna Kuhn have also investigated changes in epistemological ideas over time. This research has generally aimed to make claims about broad, overall epistemological stances expressed by individuals. For example, in Kuhn's scheme (Kuhn & Weinstock, 2002), children move from a realist epistemology (assertions are copies of reality) to an absolutist epistemology (assertions are correct or incorrect facts), and later to a multiplist epistemology (assertions are opinions, and everyone has a right to their own opinion), and finally (in some but not all people) an evaluativist epistemology (assertions are judgments based on weighing arguments on different sides of a question).(Chin, 2009).*

We can conclude that research's about epistemological and pedagogical beliefs are becoming more and more attractive and necessary for solving a lot of problems and giving answers for lot of questions in process of teaching and learning.

3. In what kind of researches' work teams of researchers in Faculty of Education Bitola?

At this moment on Faculty of Education-Bitola teams of researchers are working in two projects: Pre-service teachers epistemological beliefs and Teacher epistemological and pedagogical beliefs about using ICT in education (case study research). R. Macedonia makes a lot of reforms in education. Teachers today in front self have lot of obligations. As a leading pedagogical centre in area we have obligation to help teachers and students to manage with all challenges in educational process. In the first research project we investigate the relations between student's epistemological beliefs and concepts of teaching and learning. With this investigation of students beliefs we will give answer for existing similarity and difference in epistemological beliefs of students between man and woman students, are the beliefs during studies changeable or constant, is there similarity or difference between students from different groups (for example students trained for working in kindergartens in early child development with students who will work in primary education), similarity and difference of epistemological beliefs respecting students age, conception of teaching and learning during the study.
Using ICT in education is one of the biggest reforms that take Ministry of education of science and Government of R. Macedonia. Because of that second research project is about teacher epistemological and pedagogical beliefs when ICT is use in process of teaching and learning. We hope that this research's in lot will improve process of education and training of teachers and also quality of process of education.

4. Conclusion

It is very important to invest in students and teacher belief researches in the future. Researching students and teachers epistemological beliefs and students and teacher pedagogical beliefs, will offer possible ways for intervention in existing models of teacher education for improving the quality of teacher education, for improving methodology of work with teachers and to help them to improve their work in practice. Results of this research's will give opportunity to create and give support of teachers involved in practice and future teachers. Also with this research's we can make comparation with research's of students and teachers epistemological beliefs and students and teachers pedagogical beliefs in other countries. It will be possibility to compare students and teacher's beliefs from Macedonia with other socio-cultural context different from Macedonian. Also it will be experience and opportunity for improvement of capacity of teacher trainers at the University, and it will be opportunity to create way for future cooperation between other institutions which have similar goals and that is teacher training.

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