ORIGINAL ARTICLES

Study on Group-based Problem-solving of Pre-service Teachers in Early Childhood Education Program

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ABSTRACT

This research aims to investigate how to develop pre-service teachers in early childhood education through employing group-based problem-solving. Participant in this research are 4th year study of pre-service teachers in early childhood education. Forty seven pre-service teachers were selected in the second semester, academic year 2010 by purposive sampling. Research tools were experiences plan and attributes test of pre-service teachers in early childhood education. Findings revealed that pre-service teachers aware their interpersonal accord and conformity at highest percent than those others. Knowledge, and moral and ethics of pre-service teachers expressed in medium and high levels. While learning management showed in low and medium levels.

Key words:

Introduction

In the current of teaching and learning process change based on classroom reform, we must be more critical in our diagnoses of problems and how to solve the problems. Thus, the method can be varied in which diagnosis differs from old solutions. Wiggins (1992) writes three major assumptions (1) education is a constantly changing and multi-faceted endeavor. Educators must be willing to constantly confront, (2) education is a complex and changing endeavor, the preparation of educational leaders is multi-faceted and complex and requires the willingness of teachers, students, and administrators to confront and challenge existing paradigms and methods and to change and rearrange the various components of a program, forming different patterns as does a kaleidoscope each time it is turned, and (3) consistently and continuously confronting and challenging multiple existing educational perspectives necessitates the use of multiple approaches to evaluation in order to accommodate different data uses and evaluation purposes.

Early childhood education is an important period year of children life to develop in many aspects based on concept of best child care, best future preparation. The promotion of learning process needs to serve nature of learning in which differ from cultural context. Parent and educator are keys success to promote learning opportunity in all children with balanced. Community and all social sectors have responsibilities to gain quality of education on how to do best education. Early childhood has been attention to the quality of the care and education that young children receive. Teacher development is now looking for way of growing up quality of education as well as relevant to the current of changing world (Cochran-Smith and Lytle. 1999; Darling-Hammond. 1994). The process of teacher preparation has been continually searching for the best possible ways of preparing a good teachers to be most effective in teaching and learning (Bullough *et al*., 2002; Nuangchalerm, 2009).

The content of teacher education program requires knowledge and necessary skills (Pultorak. 1996). Especially, teacher in the future should be created based on cognitive apprenticeship, interpersonal skills, and also collaborative problem-solving (Campbell-Evans and Maloney. 1997). Pre-service teacher is part of responsibility to education sector and supporting field-based experiences in schools and communities in which prospective teachers should be done. They are often not aware of what is known from classroom about how to support student thinking and learning, and its transfer to the years of professional experiences program (Darling-Hammond, 2006). Teachers are always looking for ways to create a classroom environment that supports a productive and friendly learning experience. Hence, the way to improve learning in which teachers should be known is relevant to team or group-based problem solving. The situation will be solved because learning is now based on culture and changes by the organizations to transform the behavior of the learners (Khalaf & Rasli. 2011).

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This research aims to develop pre-service teachers in early childhood education through group-based problem-solving. The result of this research can be implemented to pre-service early childhood education, also they can learn about how to design a experiences plan for their student as well.

Methodology:

Participant in this research are 4th year study of pre-service teachers in early childhood education, Faculty of education, Mahasarakham University. Forty seven pre-service teachers were selected in the second semester, academic year 2010 by purposive sampling.

Research tools in this research two research tools were created: experiences plan and attributes test of pre-service teachers in early childhood education.

- ***Experiences plan***: this tool emphasizes pre-service teacher to share ideas to solve the problem of teaching within group. It can be categorizes into 6 steps.
  - Problem statement: this step of learning is allowed pre-service teachers to share and generate their ideas for determining alternative problem or evaluate how problem can be set as hypothesis
  - Problem diagnosis: this step of learning provides pre-service teachers to have inquiry method for collecting data or facts in which relevant to elicit learning experiences, and leads it to meet source of problem
  - Alternative selection: pre-service teachers collaborate in both the hands-on and mind-on inquiry to plan and experiment, data collection is conducted to serve alternative selection through prior knowledge and new experiences
  - Analyze and evaluate choice: this step allows pre-service teachers to analyze and evaluate their learning experiences, they also show what they have learned through class presentation and group seminar.
  - Conclusion: they have to conclude what they have learn through mind-on and hands-on experiences, what they have practices with group and how to do when face with group conflict.
  - Application: pre-service teachers reflect themselves how to develop classroom environment and self-developed group planning.
- ***Attributes test of pre-service teachers in early childhood education***: the test is made in two sets.
  - **Test I** : the test is situation measured in the classroom, pre-service teachers who enrolled seminar in early childhood education. They have to express freely feelings through 8 situational items of test. The item test is measured based on Kohlberg's theory by providing score with different 4 levels.
  - **Test II**: this test emphasize on how pre-service teachers reach goal of Thailand Qualification Framework (TQF) for higher education. TQF indicates three aspects in which concerning teacher education: moral and ethics, knowledge, and learning management.

Data collection:

Forty seven pre-service teachers in early childhood education express their feelings and provide information through the program of study. They have implemented and then measured by attributes test after end of program. Data is analyzed and presented by the descriptions in terms of relative information within data groups.

Results:

Development of pre-service teachers through group-based problem-solving the findings showed that they have different attributes as shown in Table 1 and 2. The level of moral development in which pre-service teacher express were measured 4 levels by 8 situations. They are mostly accepted interpersonal accord and conformity, and also self-interest orientation.

Table 1: Level of moral development

Situation	Level of moral development							
	Obedience and punishment orientation		Self-interest orientation		Interpersonal accord and conformity		Authority and social-order maintaining orientation	
	frequency	%	frequency	%	frequency	%	frequency	%
1	6	12.77	16	34.04	15	31.91	10	21.28
2	3	6.38	20	42.55	20	42.55	4	8.51
3	0	0.00	11	23.40	24	51.06	12	25.53
4	1	2.13	15	31.91	20	42.55	0	0.00
5	0	0.00	13	27.66	23	48.94	12	25.53
6	0	0.00	11	23.40	19	40.43	17	36.17
7	2	4.26	11	23.40	18	38.30	17	36.17
8	0	0.00	8	17.02	14	29.79	25	53.19

Eight situations can be resulted that pre-service teachers aware their interpersonal accord and conformity at highest percent than those others. It also can be described that self-interest orientation and authority and social-order maintaining orientation is followed. The eighth situation in the level of authority and social-order maintaining orientation is the highest percent. The finding indicated that most of pre-service teachers have level of moral development relevant to the group work and also group-based thinking especially problem-solving needs to be found in their personal description as well.

Table 2 Thailand Qualification Framework for teacher profession

Thailand Qualification Framework	Degree of profession	frequency	%
Moral and ethics	Low	1	2.44
	Medium	24	58.54
	High	16	39.02
Knowledge	Low	5	12.20
	Medium	18	43.90
	High	18	43.90
Learning management	Low	19	46.34
	Medium	18	43.90
	High	4	9.76

The innovative to stimulate problem-solving based on group work and discussion can also described in which monitored by Thailand Qualification Framework (Table 2). Three degree of profession- low, medium, and high levels determined. Moral and ethics of pre-service teachers expressed in medium and high levels. It is not different in knowledge of profession in which still at medium and high levels. While learning management showed in low and medium levels.

Conclusion:

Pre-service teachers have assumptions and beliefs of what good and bad teachers are and do depend on what they have perceived from teacher education program. It is not unexpected or problematic that pre-service teachers' beliefs are formed as a result of their socialization (Nuangchalerm and Prachagool, 2010). When they finish teacher education program with their beliefs and perceptions of what a teacher is and does (Oliveira et.al., 2011). Pre-service teachers should know and how they should teach their students that can be described as a transformation of teacher knowledge from a variety of domains of knowledge (Botha and Reddy, 2011; Nuangchalerm, 2011).

The knowledge and significant skills should be incorporated in teacher preparation program, especially thinking skills and teacher professions that need to be implemented in the program.

Pre-service teachers have interpersonal accord and conformity at highest percent than those others. This finding can be explained that the interpersonal skills need to perform in teacher education and necessary of teacher production (Darling-Hammond, 1994; Darling-Hammond, 2006). They have also to have self-interest orientation and authority and social-order maintaining orientation because the program want to fulfill in-service teacher in the future. It indicated that most of pre-service teachers have level of moral development relevant to the group work and also group-based thinking (O'Donnell, 2006).

Effective teaching needs also to put moral character with best practice instruction for school hours. The pre-service teachers not only share their content knowledge base that supports best practice instruction, but also what they are know can be influence the moral formation. Pre-service teachers should consider not only how instructional practice influences academic learning but also how it shapes their student character development. Pre-service teachers can have reflective professional practice could address the pedagogical strategies that are correlated with student academic achievement, making implications for moral development. The results of this study can help us to serve pre-service teachers appreciate how and where moral values permeate classrooms and schools.

Group-based problem-solving is an innovative instruction that help pre-service teachers to aware their role in terms of how to be professionals in teaching and learning. This point, it can be indicated by TQF. This study found that they needs to have more program to promote what to teach and how to manage their classroom even though content knowledge is in higher level, but learning management showed in medium and low levels. Social and emotional skills are crucial to school success (Goleman, 2004). They teach children social and emotional skills that are intimately linked with cognitive development. It facilitates everyday life of children, affecting relationships between pre-service teachers and children in various skills in communication, conflict resolution, decision making and cooperation. The findings on how to implement group-based problem-solving needs to be more discussed because individual differences and cognitive and moral development are likely differences in pre-service teachers.

References

Botha, M.L. and C.P.S. Reddy, 2011. In-service Teachers' Perspectives of Pre-service Teachers' Knowledge Domains in Science. *South African Journal of Education*. 31: 257-274.

Bullough, R.V., Jr., J. Young, L. Erickson, J.R. Birrell, D.C. Clark and M.W. Egan, 2002. Rethinking Field Experiences : Partnership Teaching versus Single-placement Teaching. *Journal of Teacher Education.* 53(1): 68-80.

Campbell-Evans, G. and C. Maloney, 1997. An Alternative Practicum Curriculum : Exploring Roles and Relationships. *Asia-Pacific Journal of Teacher Education.* 25(1): 35-52.

Cochran-Smith, M. and S.L. Lytle, 1999. The Teacher Research Movement : A Decade Later. *Educational Researcher*., 28(7): 15-25.

Darling-Hammond, L. (Ed.). 1994. *Professional Development Schools : Schools for Developing a Profession.* New York : Teachers College Press.

Darling-Hammond, L., 2006. *Powerful Teacher Education.* San Francisco: Jossey-Bass.

Goleman, D., 2004. In Zins, J.E., Weissberg, R.P., Wang, M.C. and Walberg, H.J. (Eds.). Building Academic success on Social and Emotional Learning. New York: Teachers College Press.

Khalaf, A.B. and A. Rasli, 2011. Key Role of Strategic Human Resource Management (SHRM) in Advancing the Degree of Team Learning. *African Journal of Business Management*., 5(26): 10446-10451.

Nuangchalerm, P., 2009. Implementing Professional Experiences to prepare Preservice Science Teachers. *The Social Sciences*., 4(4): 388-391.

Nuangchalerm, P., 2011. In-service Science Teachers' Pedagogical Content Knowledge. *Studies in Sociology of Science.,* 2(2): 34-37.

Nuangchalerm, P. and V. Prachagool, 2010. Influences of Teacher Preparation Program on Preservice Science Teachers' Beliefs. *International Education Studies*., 3(1): 87-91.

O'Donnell, A.M., 2006. The Role of Peers and Group Learning. In Alexander, P.A. and Winne, P.H. (Eds.), *Handbook of Educational Psychology*. 2nd ed. 781-802.

de Oliveira, J.M., M.R. Carbonell, P.B. Caballero and M.G. Cervera, 2011. Student Teachers' Changing and Enduring Perceptions on Teachers' Knowledge. *Revista de Informatică Socială*., 8(15): 26-35.

Pultorak, E., 1996. Following the Developmental Process of Reflection in Novice Teachers : Three Years of Investigation. *Journal of Teacher Education*., 44(4): 288-295.

Wiggins, T., 1992. *The Mythology of Reform in Educational Administrator Preparation: Antecedents of Paradigms lost. Reform in Administrator Preparation: Myths, Realities and Proposals*. Austin, Texas: University of Texas—Austin, University Council for Educational Administration.