

A Comparison of Teaching Efficacy, Commitment to Teaching Profession and Satisfaction with Program Effectiveness of Preservice Teachers under 5 Year-Program Curriculum and under 4+1 Year-Program Curriculum

Prawit Erawan*

prawit.e@msu.ac.th

Abstract

The problems of teacher qualities have been taken into consideration for decades in Thailand. That is the reason why to change the policy of teacher preparation by revising the curriculum of teacher production from the 4 year- program to 5 year-program and 4+1 year-program. The purpose of this research was to compare the results of the curriculum of teacher productions on teaching efficacy, commitment to teaching profession and satisfaction with program effectiveness of the preservice teachers under both curricula with different fields. Participants included 322 Thai preservice teachers in 12 universities. MANCOVA reveals that when GPAX score is deleted both curricula the preservice teachers studied are different and different fields (science and social sciences) are not correlative. The tests of between-subjects effects appear that the preservice teachers under 5 year-program curriculum has higher in all variables and all majors.

Keywords: Teaching Efficacy, Commitment to Teaching Profession, Satisfaction with Program Effectiveness, preservice teachers Curriculum

1. Introduction

Regarding education, a teacher is very important active participant in the school as “the teacher” is a person who plays the crucial role in developing a student in all aspects. That is why teacher qualities are quite significant; moreover they are related to variables of personality traits

*Associate Professor Dr. Faculty of Education, Mahasarakham University

as well as working experiences. The researchers have tried to study the correlation between a teacher's teaching variable and a student's studying variable (Greenwood & Maheady, 1997). It appears that the teacher must have knowledge in teaching fields along with teaching skills or good teaching, employing teaching method appropriate with the student, being able to put his own fields fit for standardization including effective or successful teaching defined as teaching efficacy or learning efficacy and learning achievement of the student (Berliner, 2005 ; Fenstermacher & Richardson, 2005). The previous findings revealed that teaching efficacy was a very important variable related to the teacher's performance in the classroom and the student's achievement (Ross, 1992) and also related to commitment to teaching profession (Coladarci, 1992; Evans & Tribble, 1986). The former research on preservice teachers revealed that those educated from the university were said that they had both knowledge and skills but unable to apply them in the classroom effectively; especially, while confronting with an aggressive student or that with opposed behavior. Some of them who were opposed had left the class along with the feeling out of confidence for being a teacher absolutely (Redmon, 2007). Besides, the researcher's investigation revealed that the preservice teachers who enrolled course work with different teaching practice experiences had different teaching efficacy. (Lin & Gorell, 2001 ; Woolfolk-Hoy, 2000)

In Thailand, the problems of teacher qualities have been taken into consideration for decades by the Ministry of Education and identified for the policy of promoting teacher qualities in the National Education Act in 1999. Hence, the function of the Ministry of Education is to contribute a systematic developing and producing process for the teacher with proper qualification as well as standardization of advanced teaching profession through supervising and coordinating the teaching institutions to produce and develop the teacher, to get ready and stable for new teacher management and current teacher development continually. That is the reason why in the year 2003, the Ministry of Education changed the policy of the teacher production by revising the curriculum of teacher production from the 4 year- program to 5 year- program or known as Bachelor of Education Degree (5 year-program curriculum). The first group of preservice teachers has been enrolled since 2004 over the belief that 1 year more for the study is able to train them for the sake of intensive academic and expert in teaching as advanced profession which returns the faith of teaching profession in Thai society.

The teacher's curriculum of 5 year-program is a kind of Bachelor's Degree that the teacher student has to spend the time for course work study intensively for 4 years and teaching experience practice through teaching practice in the school recognized by the Teachers Council of Thailand for another year. After preservice teachers finish teaching practice in last year, the

teacher license will be provided. Apart from the teacher's curriculum of 5 year-program, there is another curriculum named the Certificate of teaching profession which is provided to the one who graduated from Bachelor's Degree on other fields. He has to study on both teaching course work along with teaching practice in a school at the same time for 1 year or as known as "The teacher's curriculum of 4+1 year-program". The university has to provide the instruction as well as practice on teaching profession in accordance with teaching professional standard identified by the Teachers Council of Thailand (Office of the Secretary to the Teachers Council of Thailand, 2007). The teachers' curriculum of 4+1 year-program has been employed for the problem solution of lacking science teachers in the country. However, the enrollment of the universities is set for preservice teachers of both 2 curricula covering major fields; science fields i.e. mathematics, physics, chemistry, biology, computer and so on and social sciences fields i.e. Thai language, English language, social studies, music, fine arts and so on. Regarding the products through both two curricula, there has not been any researches or evaluations shown accurately which one is suitable and produced teachers more. Besides, the preservice teachers under science fields and social sciences fields maintain different values of being the teacher or not.

This research aims to compare the results of the curricula of teacher productions on teacher qualities which are very important i.e. teaching efficacy, commitment to teaching profession

and satisfaction with program effectiveness. It reveals that they are very important variables to predict the student achievement and the sense of competence (Bakar, et al, 2008 ; Chuene, Lubben, & Newson, 1999 ; Tschannen-Moran & Hoy, 2001) of the preservice teachers under both 2 curricula with different fields which will be beneficial to make use of the results to review the policy of teacher production and the curriculum of teacher production revision.

2. Literature Review

Pre-service Teachers' efficacy

The issue of teachers' efficacy is of importance as teacher preparation programs throughout the world attempt to address shortages of qualified, competent teachers. Teacher efficacy has been found to be one of the important variables consistently related to positive teaching behavior and student outcomes. (Woolfolk & Hoy, 1990; Henson, 2001). Although teacher efficacy has been documented over more than 20 years as being highly related to teacher performance in the classroom, researchers have shown that teachers' perceptions of their self-capability to educate students are significantly and positively related to teacher behaviors that enhance student achievement, studies on teacher efficacy, also noted that teaching efficacy among pre-service teachers in school is a complex, pluralistic and multi-faceted enterprise (Bakar, et al, 2008).

Teaching efficacy can be modified through experiences preservice teachers have

during their undergraduate program. Modification can occur when they have opportunities to successfully experience activity, see the modeling of effective teaching and learning strategies, and receive positive verbal persuasion (Morrell & Carroll, 2003). Woolfolk-Hoy (2000) demonstrated that pre-service teachers had strong efficacy beliefs throughout their course work and prior to the formal student teaching experience, and explained that the pre-service teachers who participated in the study had a year-long practicum prior to the formal student teaching experience in which they were able to practice teaching in a supportive, protected environment. Once that support was taken away during the student teaching semester and teaching environments became more complex, efficacy levels dropped. Clift & Brady (2005) found that the influence of pedagogical methods courses and field experience courses throughout teacher education programs on pre-service teachers' thoughts and beliefs about their teaching practice. This finding demonstrates the advantages of field experience courses early in a teacher education program. These early field experiences provide pre-service teachers with the opportunities to gain experiences through observation, simulation, tutoring, and small group instruction opportunities-all which can influence the development of pre-service teachers' efficacy levels and teaching skills.

Gurvitch and Metzler (2009) explained the field-based practicum teachers who experienced challenging yet authentic teaching

situations during their field experience practicum demonstrated an increase in their self-efficacy levels prior to the student teaching semester. The pre-service teachers attained a mastery experience in the form of successful teaching performance in authentic environments, ostensibly contributing to a strengthening of their efficacy beliefs regarding teaching physical education in authentic school settings. This study demonstrated that providing pre-service teachers with early and frequent authentic teaching opportunities eventually fostered stronger teaching efficacy, once initial challenges were met in their teaching.

Teaching efficacy and commitment to teaching profession

With the study of Bandura (1986) as a theoretical base, efficacy of teaching and teacher efficacy was first conceived as the extent to which teachers believed that they could control the reinforcement and environment in classroom. Teacher efficacy, which refers to the extent to which a teacher feels capable to help students learn, can affect teachers' instructional efforts in area such as choice of activities, level of effort, and persistence with students (Tschannen-Moran & Hoy, 2001). If teachers are self-efficacious, they will be more likely to plan appropriate activities, persist with students who are having difficulties, and expend considerable effort to find appropriate teaching materials (Ware & Kitsantas, 2007). Teachers with high self-efficacy beliefs are more likely than teachers with a low sense of self-efficacy to

implement didactic innovations in the classroom and to use classroom management approaches and adequate teaching methods that encourage students' autonomy and reduce custodial control (Cousins & Walker, 1995), to take responsibility for students' needs and manage classroom problems (Chacon, 2005; Allinder, 1994), and to keep students on task (Podell & Soodak, 1993). In turn, teacher efficacy relates and influences performance, commitment, and professional retention (Darling-Hammond, 2003, Tschannen-Moran & Hoy, 2001, Ware & Kitsantas, 2007). Previous research also found that teachers' sense of efficacy is related to their satisfaction with their choice of profession. In addition, teachers who report high teacher efficacy may affect teachers' perceived commitment to the profession and collaborative relationships with colleagues, school, and parents (Caprara, et al, 2003; Coladarci, 1992; Imants & Van Zoelen, 1995; Weiss, 1999). Ware & Kitsantas (2007) found that the work environment can enhance commitment to teaching in schools. That commitment is enhanced when teachers believe that they have efficacy to enlist the support of their principals, influence policies at their schools, and control their instruction.

In 1998, Tschannen-Moran and others complied various research results under Bandura's social learning theory studied on the perception of teacher's efficacy and found that there are consistent components of perception of teacher's efficacy in two dimensions; personal teaching efficacy or PTE and the perception of

general teaching efficacy or GTE. Both of two dimensions are little correlative as general teaching efficacy is the second component of expectation according to Bandura's social learning theory (1986). The results were able to explain about motivation not much because the results expected were occurred from the person's evaluation related to the possibility of other's successes in the similar situations (Tschannen-Moran, Woolfolk Hoy & Hoy, 1998). Regarding measuring general teaching efficacy, the three factors were covered for measurement; the self confidence in instructional strategies, the classroom management, and the student engagement (Bakar et al, 2008 ; Klassen et al, 2009 ; Robert, Harlin & Ricketts, 2006 ; Tschannen-Moran & Woolfolk Hoy, 2001) Hence, this research is to measure teaching efficacy of preservice teachers on these three factors through the applied instrument from the tools created by Bandura (1982); Tschannen-Moran, Woolfolk Hoy & Hoy (1998); and Bakar, et al (2008) .

The Curriculum of Teacher Production in Thailand

The teacher production in Thailand has been changed since 2003 under two types of curriculum; Bachelor's Degree in Education (5 year-program curriculum) and Bachelor's Degree plus Certificate of Teaching Profession (4+1 year-program curriculum). According to 5 year-program curriculum, the student has to spend 5 years for Bachelor's Degree in Education along with the teaching license for teaching profession but the 4+1 year-program curriculum is opened for the

one with Bachelor's Degree on other fields (4 years) wishing to study beyond the Bachelor's Degree on teaching professional courses for 1 more year and able to hold the teaching license for teaching profession as well.

The university opening for teaching profession field has to design a curriculum, course lists, and teaching methods providing to the teacher student educated based on two elements under the standard of the Teachers Council of Thailand i.e. teaching knowledge standard and teaching experience standard. The first standard includes 9 aspects; 1) languages and technology for teachers, 2) curriculum development, 3) learning management, 4) psychology for teachers, 5) measurement and evaluation of education, 6) administration and management in the classroom, 7) educational research, 8) innovation as well as educational information and technology and 9) being a teacher. The second standard is focusing on teaching experience through practice teaching in the school not less than 1 academic year. They are two elements of the standard required for the teacher student to pass for the teaching license.

3. Method

Participants

In Thailand, there are 25 universities opening for teacher's curriculum of Bachelor's Degree (5 year-program) as well as certificate of post Bachelor's Degree (4+1 year-program). The participants of this research are 322 preservice teachers in 12 universities through multi stage

random sampling classified into 78 males (24.2%) and 244 females (75.8%), 166 under 5 year-program (51.6%) and 156 under 4+1 year-program (48.4%), 123 under science and technology (38.2%) and 199 under humanities and social sciences (61.8%). All of them are under the fifth academic year of 2009 with 1 semester of teaching experience in the school. Both groups are still practice in the schools recognized by the Teachers Council of Thailand under the similar backgrounds as well as environments including supervision through the same sets of the university instructors.

Measures

The data collection is treated through The Teaching Efficacy Test applied from the tools created by Bandura (1982) ; Tschannen-Moran, Woolfolk Hoy & Hoy (1998) ; Baker, et al (2008). It is a form of five-point Likert scale (4=the most, 3=more, 2=some, 1=least, 0=none) covering 24 items and over all reliability estimate of teaching efficacy questionnaire is a $\alpha = .94$, and item-total correlation is from .57 to .72. In terms of commitment to teaching profession measurement, the researcher has treated through the tool applied from the ones belonging to Caprara, et al (2006) ; Ware & Kitsantas (2007) ; Bakar, et al (2008) in the form of five-point Likert-type response scale ranking from 1 (strongly disagree) to 5 (strongly agree) covering 12 items with reliability of $\alpha = .94$ and item-total correlation from .72 to .86. Regarding satisfaction with program effectiveness, it is conducted through the 19 items constructed

questionnaire by the researcher which is in the form of five-point Likert scale ranked from 1 (least reality) to 5 (most reality) to measure the curriculum objectives, courses studied, teaching-learning activities, teaching techniques and teacher's suggestions, evaluation, research in the classroom, and teaching skills trained. The preservice teachers compare what they have got from the program applying into the real classroom situations for more or less. The reliability estimate of the questionnaire was $\alpha = .95$ and item-total correlation is from .63 to .77.

Design and Analysis

Two kinds of students' program (5 year-program vs. 4+1 year-program) were crossed with two kinds of students' major (science major vs. social sciences major) to form a 2 x 2 between subjects factorial design. The independent variables included students' program and students, major with three dependent variables: teaching efficacy, commitment to teaching profession, and satisfaction with program effectiveness. In this study, GPAX score of preservice teachers was collected and served as covariate in MANCOVA analysis. All statistical tests were performed with alpha at .05.

4. Results

Descriptive Statistics

The means and standard deviations are reported in Table 1.

Table 1: Descriptive Statistics for Teaching Efficacy, Commitment to Teaching Profession, and Satisfaction with Program Effectiveness

	Program	Major	Mean	Standard Deviation	N
Teaching Efficacy	5 years	Science	2.96	.36	87
		Social Sciences	2.94	.47	79
		Total	2.95	.41	166
	4+1 years	Science	2.59	.45	36
		Social Sciences	2.77	.41	120
		Total	2.73	.43	256
	Total	Science	2.85	.42	123
		Social Sciences	2.84	.44	199
		Total	2.84	.43	322

Commitment to Teaching Profession	5 years	Science	4.22	.51	87
		Social Sciences	4.21	.62	79
		Total	4.22	.56	166
	4+1 years	Science	3.88	.60	36
		Social Sciences	3.99	.64	120
		Total	3.97	.63	156
	Total	Science	4.12	.56	123
		Social Sciences	4.08	.64	199
		Total	4.10	.61	322
Satisfaction with Program Effectiveness	5 years	Science	4.08	.35	87
		Social Sciences	4.08	.51	79
		Total	4.08	.43	166
	4+1 years	Science	3.66	.53	36
		Social Sciences	3.77	.52	120
		Total	3.75	.52	156
	Total	Science	3.96	.45	123
		Social Sciences	3.90	.54	199
		Total	3.92	.51	322

With regard to the teaching efficacy the 5 year-program ($\text{Mean}_{5\text{years}} = 2.95$) had teaching efficacy higher than the 4+1 year-program ($\text{Mean}_{4+1\text{program}} = 2.73$). Further, science major students in the 5 year-program ($\text{Mean}_{5\text{years}} = 2.96$) had teaching efficacy higher than their counterparts under the 4+1 year-program ($\text{Mean}_{4+1\text{program}} = 2.59$), and also social sciences major in the 5 year-program ($\text{Mean}_{5\text{program}} = 2.94$) seemed to have teaching efficacy higher than their counterparts in the 4+1 year-program ($\text{Mean}_{4+1\text{program}} = 2.77$). With regard to commitment to teaching

profession the 5 year-program ($\text{Mean}_{5\text{program}} = 4.22$) committed higher than the 4+1 year-program ($\text{Mean}_{4+1\text{program}} = 3.97$). Both science major and social sciences major of student under the 5 year-program outperformed their counterparts in commitment to teaching profession scale. With regard to satisfaction with program effectiveness the 5 year-program ($\text{Mean}_{5\text{program}} = 4.08$) were satisfied with their program higher than the 4+1 year-program ($\text{Mean}_{4+1\text{program}} = 3.75$). Both science major and social sciences major of student under the 5 year-program seemed to have satisfaction

higher than their counterparts in satisfaction with program effectiveness scale.

MANCOVA Tests

A multivariate analysis of covariance (MACOVA) was conducted with program and major of student group as independent variables, the teaching efficacy, the commitment to teaching profession, and the satisfaction with program effectiveness as dependent variables, and GPAX score as covariate. The Wilks' Lambda

estimate was used to determine the main effects. The results indicated that there was a main effect for students' program (Wilks' Lambda = 11.550; $p = .000$) and for students' major (Wilks' Lambda = .571; $p = .634$). There was not an overall interaction between the program and the major (Wilks' Lambda = 1.070; $p = .362$). The covariance analysis indicated that none of the covariate (GPAX score) was significant: education (Wilks' Lambda = 2.948; $p = .003$) (Table 2).

Table 2: MANOVA Tests

Effect		Value	F	Sig.	Partial EtaSquared
GPAX	Philai's Trace	.027	2.948	.003	.027
	Wilks' Lambda	.973	2.948	.003	.027
	Hotelling's Trace	.028	2.948	.003	.027
Program	Philai's Trace	.099	11.550	.000	.099
	Wilks' Lambda	.901	11.550	.000	.099
	Hotelling's Trace	.110	11.550	.000	.099
Major	Philai's Trace	.005	.571	.634	.005
	Wilks' Lambda	.995	.571	.634	.005
	Hotelling's Trace	.005	.571	.634	.005
Program*Major	Philai's Trace	.010	1.070	.362	.010
	Wilks' Lambda	.990	1.070	.362	.010
	Hotelling's Trace	.010	1.070	.362	.010

The between-subjects analysis showed that there was a significant difference between the 5 year-program of student and the 4+1 year-program in terms of the teaching efficacy ($F(1, 321) = 22.166$; $p = .000$), commitment to teaching profession ($F(1, 321) = 13.511$; $p = .000$), and satisfaction with program effectiveness ($F(1, 321) = 32.728$; $p = .000$). There was no

significant difference between the science major and social sciences major of student for teaching efficacy, commitment to teaching profession, and satisfaction with program effectiveness. With regard to the program of students and major of student interaction, there was no overall interaction for all of dependent variables (Table 3).

Table 3: Tests of Between-Subjects Effects

Source	Dependent Variable	df	Mean Square	F	Sig.	Observed Power
Program	Teaching Efficacy	1	3.924	22.166	.000	.997
	Commitment to Teaching Profession	1	4.876	13.511	.000	.956
	Satisfaction with Program Effectiveness	1	7.586	32.728	.000	1.000
Major	Teaching Efficacy	1	.305	1.724	.190	.258
	Commitment to Teaching Profession	1	.132	.366	.545	.093
	Satisfaction with Program Effectiveness	1	.151	.653	.420	.127
Program*Major	Teaching Efficacy	1	.534	3.015	.083	.410
	Commitment to Teaching Profession	1	.249	.691	.406	.132
	Satisfaction with Program Effectiveness	1	.136	.588	.444	.119
Total	Teaching Efficacy	322				
	Commitment to Teaching Profession	322				
	Satisfaction with Program Effectiveness	322				

5. Discussion

Multivariate analysis of covariance reveals that when GPAX score is deleted both curricula the preservice teachers studied are different (5 year-program curriculum and 4+1 year-program curriculum) and different fields (science and social sciences) are not correlative (Wilks' Lambda=1.070; $p=.362$). The tests of between-subjects effects appear that teaching efficacy, commitment to teaching profession, and satisfaction with program effectiveness of the preservice teachers under 5 year-program curriculum are different from those of which under 1+4 year-program curriculum as those under 5 year-program curriculum has higher in all variables and all majors. The research

results indicate that the 5 year-program make them have teaching efficacy and commitment to teaching profession higher than those under 4+1 year-program curriculum that opens to those with Bachelor's Degree in different fields for teaching profession program for one more year along with practice teaching. As the 5 year-program curriculum group is trained for teaching profession skills in the classroom through the courses in relation to teaching profession continuously since the first year till teaching efficacy has been occurred and effected to the students forming commitment to teaching profession. It indicates that creating teaching efficacy and commitment to teaching profession to the preservice teachers takes a long time and continuity until they have their experiences and

have seen good models. This is in accordance with Bandura (1997) proposing that experiences contribute to teaching efficacy; moreover, they are not from the performance capabilities but from seeing performing the task. Besides, the effects of social persuasion are influenced to work operation (Gurvitch & Metzler, 2009) including the research finding shown that the study of courses in relation to teaching effects to teaching efficacy (Clift & Brady, 2005). Hence, studying teaching profession program spending longer time is able to create experience and social persuasion effects to teaching efficacy of the preservice teachers.

The research result is also in accordance with Ware & Kitsantas's findings (2007) that teacher efficacy beliefs are related to professional commitment of the teacher. Besides, it reveals that teaching efficacy and commitment to teaching profession are related and effected from different programs. The other research result shows that if the teaching efficacy is promoted through the feedback and support of making a decision on teaching of the teacher including collaborating on ideas of the teacher effected to commitment to teaching profession of the teacher as well. (Ingersoll, 2001 ; Weiss, 1999) This result reveals that satisfaction with program effectiveness is related to teaching efficacy and commitment to teaching profession being in accordance with Bakar, et al (2008) who treated the study on Malaysian preservice teachers and found that satisfaction of science preservice teachers with teacher training program is related

to attitude towards the teaching profession and teaching efficacy. However, the data analysis shows that satisfaction with program effectiveness of preservice teachers under each of both programs are different as those under 5 year-program curriculum have higher satisfaction ($F(1,321)=32.728$; $p=.000$). It shows that the program effectiveness effected to teaching efficacy and commitment to teaching profession which makes both groups different. It is reflected that the curriculum of 4+1 year-program should be revised for more effectiveness.

Having treated the tests of between-subjects effects, it reveals that those under the fields of science are not different from those under the fields of social sciences (Table 3) and the means as well as standard deviations of both the group under 5 year-program curriculum and the one under 4+1 year-program curriculum are very close (Table 1). The result indicates that pedagogical method is important and effected to teaching efficacy as well as commitment to teaching profession of the preservice teachers. The curriculum design is covered 3 group courses including 1) major courses, 2) general education courses, and 3) methods of teaching and teaching profession courses. Hence, studying courses on method of teaching is very important and it should change the way of teaching major courses by convincing the students learn how to learn more than before such as science. Friedrichsen (2001) viewed that studying science courses traditionally should be changed through inquiry-based instructional strategies for the students are

able to have better learning new fields of science and might be effected to teaching efficacy as well as creating their confidence in teaching more. It is in accordance with Posnanski (2007) who found that redesigned geoscience content courses into constructivist-based course effected to teaching efficacy and the confidence in being a teacher in the future of preservice teachers. This point of view may lead to revise the curriculum of teaching profession under 4+1 year-program by revising courses in Bachelor's Degree program through the method of learn how to learn as it is focused on methodology more than the content and also revise the instructor's methods of teaching from content lecture to teaching strategies.

6. Conclusion

This research indicates that the preservice teachers under 5 year-program of teaching profession curriculum have teaching efficacy, commitment to teaching profession and satisfaction with program effectiveness more than those under 4+1 year-program curriculum, hence, it should pave the way to review and revise the teacher production in Thailand at least 3 aspects. The first aspect is to consider if it is necessary to produce teachers under 4+1 year-program of teaching profession curriculum

or not. It may be better as such a kind of program to open for the current teachers for professional development only, and should not open to the students with Bachelor's Degree who are not teachers based on the result outcomes showing its difference from those under 5-year program of teaching profession curriculum accurately. The second aspect refers to the project of production of the teachers in sciences major who are lack in Thailand through the grants for students with Bachelor's Degree in science with good grades for 1 year of teaching profession curriculum study. It is running as a special project of the Ministry of Education which should be reconsidered and revised by taking teaching efficacy and commitment to teaching profession in consideration along with recruiting the students for study as well as for the degree. Moreover, there must be the revision of courses concerning teaching method designs that are stronger than the 5 year-program curriculum. And the last aspect is that the university producing teachers must contribute and develop the instructors to design courses focusing on learning process of learn how to learn more to create teaching efficacy and confidence in teaching for preservice teachers and it is also effected to commitment to his teaching profession in the future as well.

References

- Allinder, R. (1994). The relationship between efficacy and the instructional practices of special education teachers and consultants. *Teacher Education and Special Education*, 17, 86-95.
- Bakar, A. R., Konting, M. M., Jamian, R., & Lyndon, N. (2008). Teaching efficacy of Universiti Putra Malaysia Science student teachers. *College Student Journal*. 42(2), 493-509.
- Bandura, A. (1982). Self-efficacy mechanism in human agency. *American Psychologist*, 37, 122-147.
- Bandura, A. (1986). *Social Foundations of thought and action: A Social Cognitive Theory*. Englewood Cliffs, NJ: Prentice-Hall.
- Bandura, A. (1997). *Self-efficacy: The exercise of control*. New York: W. H. Freeman.
- Berliner, D. C. (2005). The near impossibility of testing for teacher quality. *Journal of Teacher Education*. 56: 205-213.
- Bielaczyc, K., & Collins, A. (1990). Learning communities in classrooms: A reconceptualization of educational practice. In C. M. Reigeluth (Ed.), *Instructional-design theories and models: A new paradigm of instructional theory* (Vol. II, pp269-292). Mahwah, NJ: Erlbaum.
- Caprara, G. V., Barbaranelli, C., Borgogni, L., Steca, P. & Malone, P. S. (2006). Teachers' self-efficacy beliefs as determinants of job satisfaction and students' academic achievement: A study at the school level. *Journal of School Psychology*, 44, 473-490.
- Chacon, C. T. (2005). Teachers' perceived efficacy among English as a foreign language teachers in middle schools in Venezuela. *Teaching and Teacher Education*, 21, 257-272.
- Chuene, K., Lubben, F., & Newson, G. (1999). The views of pre-service and novice teachers on Mathematics teaching in South Africa related to their education experience. *Educational Research*, 41, (1), 23-34.
- Clift, R. T., & Brady, P. (2005). Research on methods courses and field experiences. In M. Cochran-Smith, & K. M. Zeichner (Eds.), *Studying teacher education: The report of the AERA panel on research and teacher education* (pp. 309-424). Mahwah, NJ: Lawrence Erlbaum Associates Publishers.
- Coladarci, T. (1992). Teachers' sense of efficacy and commitment to teaching. *Journal of Experimental Education*, 60, 323-337.
- Cousins, J., & Walker, C. (1995). Predictors of educators' valuing of systemic inquiry in schools. *Journal of Program Evaluation, Special Issue*, 25-35.
- Darling-Hammond, L. (2003). Keeping good teachers: Why it matters what leader can do. *Educational Leadership*, 60, 6-13.

- Evans, E. D., & Tribble, M. (1986). Perceived teaching problems, self-efficacy and commitment to teaching among pre-service teachers. *Journal of Educational Research*, 80(2), 81-85.
- Fenstermacher, G. D., & Richardson, V. (2005). On making determinations of quality in teaching. *Teachers College Record*. 107: 186-213.
- Friedrichsen, P. (2001). A biology course for perspective elementary teachers. *The American Biology Teacher*, 63, 562-568.
- Greenwood, C. R., & Maheady, L. (1997). Measurable change in student performance: Forgotten standard in teacher preparation?. *Teacher Education and Special Education*. 12 : 275-267.
- Gurvitch, R., & Metzler, M. W. (2009). The effects of laboratory-based and field-based practicum experience on pre-service teachers' self-efficacy. *Teaching and Teacher Education* 25, 437-443.
- Henson, R. K. (2001). Teacher self-efficacy: Substantive implication and measurement dilemmas. Paper presented at the annual meeting of the Educational Research Exchange, Texas.
- Imants, J., & Van Zoelen, A. (1995). Teachers' sickness absence in primary schools, school climate and teachers' sense of efficacy. *School Organization*, 15, 77-86.
- Ingersoll, R. (2001). *Teacher turnover, teacher shortages, and the organization of school*. Retrieved December 1, 2009, from <http://depts.washington.edu/ctpmail/PDFs/Turnover-Ing-01-2001.pdf>
- Klassen, R. M., Bong, M., Usher, E. L., Chong, w. L., Huan, V. S., Wong, I. F., & Georgiou, T. (2009). Exploring the validity of teachers' self-efficacy scale in five countries. *Contemporary Educational Psychology*, 34, 67-76.
- Lin, H. & Gorrell, J. (2001). Exploratory analysis of pre-service teacher efficacy in Taiwan. *Teaching and Teacher Education*, 17, 623-635.
- Morrell, P., & Carroll, J. (2003). An extended examination of preservice elementary teachers' science teaching self-efficacy. *School Science and Mathematics*, 103, 246-252.
- Office of the Secretary to the Teachers Council of Thailand. (2550). A Handbook of the Work Operation for Recognition of Degree and Certificate in Education for Professional Performance. Bangkok : Professional Standards Beaureau, Office of the Secretary to the Teachers Council of Thailand.
- Podell, D., & Soodak, L., (1993). Teacher efficacy and bias in special education referrals. *Journal of Education Research*. 86, 247-253.
- Posnanski, T. J. (2007). A redesigned Geoscience content course's impact on science teaching self-efficacy beliefs. *Journal of Geoscience Education*, 55(2), 152-157.

- Redmon, R. J. (2007). Impact of teacher preparation upon teacher self-efficacy. Paper presented at the Annual Meeting of the American Association for Teaching and Curriculum at Cleveland, Ohio.
- Robert, T. G., Harlin, J. F., & Ricketts, J. C. (2006). A longitudinal examination of teaching efficacy of agricultural science student teachers. *Journal Agricultural Education*, 47(2), 81-92.
- Ross, J. A. (1992). Teacher efficacy and the effect of coaching on student Achievement. *Canadian Journal of Education*, 17(1), 51-65.
- Tschannen-Moran, M., & Hoy, A.W. (2001). Teacher efficacy capturing an elusive construct. *Teaching & Teacher Education*, 17(7), 783-850.
- Tschannen-Moran, M., Woolfolk Hoy, A., & Hoy, W. K. (1998). Teacher efficacy: Its meaning and measure. *Review of Educational Research*, 68, 202-248.
- Ware, H., & Kitsantas, A. (2007). Teacher and collective efficacy beliefs as predictors of professional commitment. *The Journal of Educational Research*. 100(5), 303-310.
- Weiss, E. M. (1999). Perceived workplace conditions and first-year teachers' morale, career choice commitment, and planned retention: A secondary analysis. *Teaching & Teacher Education*, 15, 861-879.
- Woolfolk, A. E. & Hoy, W. K. (2000). Changes in efficacy during the early years of teaching. Paper presented at the American Educational Research Association, New Orleans, LA.
- Woolfolk, A. E. & Hoy, W. K. (1990). Prospective teachers' sense of efficacy and beliefs about control. *Journal of Educational Psychology*, 82, 81-91.

Appendix

Teaching Efficacy

A. Approaches to students are;

1. Creating motivation to interest the students for study
2. Making students' self confidence for ability of working better
3. Stimulating students to realize the significance of the study
4. Stimulating students to have analytical thinking on various evidences
5. Promoting creative thinking to students
6. Helping and reteaching weak students to be able to study better
7. Developing learning achievement in the class teaching for higher level
8. Managing learning activities appropriate with the ability and interest of the students individually.

B. Teaching Strategies are;

9. Questioning to expand the students' knowledge
10. Answering hard questions of the students
11. Explaining or giving examples to make students understand what they learn
12. Adjust the lessons appropriate with the level of students' learning
13. Employing teaching strategies in the classroom effectively,
14. Evaluating learning results with different methods
15. Stimulating students' needs for next lessons
16. Managing activities for students working together.

C. Classroom Management are;

17. Controlling students' behaviors while teaching
18. Having students following regulations of the class
19. Coping with the students' behavior problems or disturbing others in the class
20. Managing the class system for group study
21. Responding appropriately to the students with risk behaviors
22. Preventing behavior problems caused from outside the class
23. Solving problems at once if the students commit problems while teaching
24. Managing students who stop or don't do the learning activities turn to do so.

Commitment to profession

1. Teaching is fun
2. I choose to study teacher profession as I am interested it by myself
3. I'm happy when I teach the students
4. I'm satisfied with being a teacher
5. The teacher's work is not too hard for me
6. Teaching is challenged for me
7. I feel concerned being a teacher
8. The negative image of society towards a teacher is not affected to my decision for being a teacher
9. I choose to study for a teacher without the others' persuasion
10. I choose to study for a teacher without concerning to the payment to get in return
11. I'm proud of teacher profession
12. I'm satisfied with working in the school.

Satisfaction with program effectiveness

1. Whatever studied is in accordance with my learning objectives
2. The contents studied are up to date and in accordance with real situations
3. The courses studied are covered the work in reality in school
4. Learning activities promote being a good teacher to me
5. The knowledge perceived is enough for teaching in the classroom
6. Teaching techniques are really able to make use in the classroom
7. The instructors' methods are able to be models, 8. The instructor's suggestions are possibly able to follow
9. Learning experiences are applied in teaching
10. Techniques of learning evaluation are authentic in practice
11. Research in the classroom is possible to follow
12. I have trained from the instructor till I have skills enough to employ in the school and they are
 - 12.1 Speaking and communicating
 - 12.2 Conveying ideas through writing
 - 12.3 Making a decision and problems solving facing
 - 12.4 Being a good member of the team and working in team
 - 12.5 Working by oneself confidently
 - 12.6 Learning how to work in school seriously
 - 12.7 Applying technology in teaching and working
 - 12.8 Planning and managing working system
 - 12.9 Having analytical thinking reasonably and scientifically
 - 12.10 Coping with emotion and stress caused from teaching and working operation in the school.