Development of Public Mind of Student Teacher at Maha Sarakham Rajabhat University, Thailand

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Abstract: *This research was a research and development aimed to: 1) develop a teaching model applying Scientific Thinking approach on promote the public mind in first year student at the Faculty of Education at this university and 2) to determine the efficacy of empirical development activities of the teaching of Good Scientific Thinking to promote the public mind of the Faculty of Education students. Samples were first year students at the Faculty of Education, 31 of the instruments used in this study were concerned with planning of activities, the test of public mind, the evaluation of public consciousness, and satisfaction. Data were analyzed using percentages, means standard deviations and a statistical test (Paired t-test). The results indicated that: 1) development activities of the teaching of Good Scientific Thinking on promoting the public mind of first-year students at the Faculty of Education consisted of four steps: creating a connection (Connection) between the interrogation learning. (Questioning) self-reflection (Self - reflecting), and to ask questions about the truth or the ability to trust, (Questioning the Truth or Believability) 2) The development of the public mind found that the experiments of the Faculty of Education, with an average score of public affection increased over the previous period with a statistically significant result (p-value = 0.001), with a difference of the average increase of 20.16 points (95% CI: 18.65-21.67), characteristics of the public mind, the overall self-assessment and evaluation of teachers at a high level, and satisfaction with the development activities at a high level.*

Introduction

Recently, the pubic mind in Thai society was more prominent as can be seen from the National Education Act 1999, Section 7, which specified the learning objective and process to be emphasized on different aspects of right awareness for students. (Ministry of Education, 2003. P.5), the Core Curriculum of Basic Education 2001 specified the desirable characteristics of curriculum as "the students should have awareness in natural conservation as well as contribution and development of good things for society. (Ministry of Education, 2002, p.4), and the Core Curriculum of Basic Education 2009 (Ministry of Education, nd.) determined the public mind as 1 out of 8 characteristics schools had to provide as student development to obtain desirable characteristic of "Public Mind," or "Public Consciousness." The vocabularies in Social Science was interested in by academics being responsible for development extensively. In practice, the word "Public Awareness," or the other words like "Volunteer Spirit" "Awareness for Society" "Awareness for Public" "Awareness for Mass" etc. were words including similar meanings which were based on the group of users. This

could be classified into sub-groups based on a specific group's interest. (Sooksom, 2010. P. 15). Obtaining one's public awareness, was to be aware of as well as consideration of the public or considering others who collaborated in relation into one group. (The Royal Institute, 2003; Takontong, 2007, p.24; The Office of National Research Commission, 1999. P.14) But the present world has rapidly grown owing to the progress of different technologies. As a result, Thailand had to quickly develop itself in order to keep pace with many other countries. The trend of rapid growth in development and a depressed economy had an impact on people's ways of life in Thai Society to be highly competitive, to value objectivism, take advantage of each other, focus on searching for benefits for oneself rather than the public, lack of development in ethics and morality. Consequently, there was no balance in both mental, and physical aspects which would lead to gradually decreased public awareness. In addition, owing to the present growth in objectivism, this caused the society to value the importance of money and being power oriented rather than concentrating on mental significance. Therefore, the society got worse causing various problems. The inculcation in one's mind to be responsible for themselves as well as society should occur in society. According to the study of the Department of Religious Affairs (2007, p.5), the findings showed that it was caused by the students' lacking of sufficient mental inculcation that resulted in lacking of awareness as well as intelligence for thinking and express the undesirable behavior.

Public Mind was a major characteristic of University Students as good citizens of Country (Ministry of education ,2008, p.3-6), because the public minded persons would be aware of their duty as well as responsibility for caring for the public property of society, and ones' own rights without violating others' rights. In the present crisis of Thai Society, most of people struggle for themselves. The basic information was congruent with research findings of research project called Child Watch during 2005-2007 of Jitradab (2007) found that Thai children's GPA was 3.5. In addition, more than 90% lived with warm family focusing on the learning competition which were apart from religion and dishonest. The youths are not interested in what would occur in public, and for the public property. The Public Mind consists of one's care for public benefit, respect for the others' rights, and creation in public benefit. It also includes the care for and creation of common benefit, respect for the other persons' rights, responsibility for the public, generosity and care for e others, participation in public utility activity, and integrity for both oneself and others. (Makpin, 2011, 0pp.1-10). If people in society lack Public Mind (Kuha and Nara-ong-aj, 2011. Pp.81-93) the effect would be also occur, for instance, the case of big news that there were some people stealing the knots from electric posts, narcotic drug addiction caused by the sellers' selfishness since they do not care for potential problems in overall society, the problem in releasing waste water from factories without purification, the problem in parking one's car without stopping the engine, the neglected children, the use of footpaths for personal benefit, for instance, selling the goods and riding the bicycle for sales on foot path etc., the problem in throwing the garbage into rivers or canals injections to make meat look more attractive, the feeding of animals especially pigs and chickens, and the problem of alcoholic drinking and driving or riding cars/motorcycles. It could be viewed that those problems are caused by the lack of public mind. Consequently, the public mind is the most important characteristic in every member at the global level, national level, and individual level which everyone has to give an importance as well as being aware of this issue at an emergentcy level in order to prevent

the problems to harm to oneself or others. In the family, unity has decreased, they try to grab, quarrel, discriminate, be selfish, compete with others, corruption of organizational property to be one's own, and the disadvantage of organization. (Kasemnet, 2004. p. 126; Wattana-dharm-siri and Sanjon, 2000, p.55).

The development of a public mind could be created by learning through intellectual method since the intellectual method is a learning technique for developing one's intelligence in thinking and considering the various things as they are , or seeing them in reality, one's understanding of the world as well as life associated with development of life and mind. As a result, there are changes in one's personality as well as gestures on different things or an overall world and life, and independent ways of livelihood being able to contribute to other persons (Prayut Pautto, 1989. pp.242-253). One would know how to take benefit sufficiently as they exist, behaving oneself, supporting the environment, and knowing how to create a new environments being useful for life. These things would be a process helping the students to live sufficiently and happily, having freedom from the oppressed suffering situation to connect with an increase of public mind. These things would be a process helping the students to live sufficiently and happily, having freedom from the oppressed suffering situation to connect with an increase of public mind. Likewise, research findings of Kuha and Nara-ong-aj (2011. pp. 81-93). Study patterns of student life, then led the way to the intellectual development of students in the public mind, found that the students had a public mind at a "High" level. In addition, there was a positive relationship between the students' public mind, and livelihood model. ($p<0.05$). The participant students in a public mind program, had significantly higher posttest score of public mind than in the pretest one. ($p<0.05$) (Cheutong et,al., 2012. P. 30). After the experiment, the students had a higher level of public minded behavior than before the experiment. Furthermore, there were no significant differences in posttest, and in the 4 week-following up of the experimental group' public minded behavior still stayed at a high level.

Learning by using a Good Scientific Thinking Model, was a kind of inquiry learning in teaching for student development to be competent and understand the findings of inquiry which would lead to Scientific Learning. (National Research Council, 2000 p. 24-27) Learning by a a the good scientific thinking model consisted of 5 steps as: 1) the construction for associating one's thought, 2) questioning one's own learning, 3) self-reflecting on one's idea, 4) asking the truth or believability of ideas, and 5) comparison of one's own thoughts and others.' (Sukseengam,2007, p. 12). The good scientific thinking model was a technique for developing one's scientific thinking process skill to be successful by using the thinking technique for connecting with one's prior knowledge in creating one's comprehension with the new one. One's learning, thinking, and credibility of approach were investigated for Science Learning. Then, they were compared with the others' ideas which would lead to the development of learning achievement as well as critical thinking very well. (Mittlefeldf and Grotzer, 2003 ; Sooksri-ngam, 2007). According to research findings, found that one's learning achievement in Environmental Study based on the good scientific thinking model by using the thinking technique for developing the learning achievement, critical thinking, and basic scientific learning efficiently. (Siwina, 2009) Moreover, a good scientific thinking model by using the thinking technique, could develop the students' learning achievement as well as a public mind for conserving and developing the environment of learning achievement, in higher level than general learning. (Seehapong, 2009)

According to the collection of related document and research literature, it indicated that the Public consciousness or Public mind was one's awareness for the public because the word "Public" referred to the thing which did not belong to anyone. Therefore, the public mind was one's feeling of the owner of a public object, right and duty in caring and maintaining it, or the spirit of persons who know dedication, cooperation in giving benefits for the public. They would decrease the potential problem to occur in society, help to develop the quality of life for being a principle in one's livelihood, solving the problem and creating the happiness for society, for instance, the collaboration in caring and maintaining the environment by not dumping the waste into water sources, caring for public property such as public telephones, electric bulbs for the lighting on the street, even the economy of using water taps as well as electricity of the public by utilizing it for worthiness and care, helping the suffering persons or persons who ask for help as much as possible, and cooperation in preventing problems or solving problems without being unlawful. Especially, university students should set this type of example. Especially, university students should set this type of example. Therefore, the researcher developed a public mind study for the Education students of Mahasarakham Rajabhat University in order to inculcate or enhance their experience as foundation for them to be able to develop themselves. For the inculcation, the knowledge, comprehension, and awareness of the importance of a public mind, and training for real practice should be emphasized in order to behave in a public mind truly until it was their habit which was appropriate with their age in order to obtain the learning being suitable with age and continuous development. Since people would behave with public mind truly until it was their habit which was appropriate with their age in order to obtain the learning being suitable with age and continuous development by instructional activity using the scientific model with steps and technique to help the students to obtain thinking process, awareness, and consideration for the impact of their behavior before practicing. It was necessary for them to obtain correct guidelines advised by the instructors so that the students would follow the correct and appropriate practice guidelines further.

Research Objectives

1. To develop the activity by using the Good Scientific Thinking Model , the learning by using Good Scientific Thinking Model consisted of 5 Steps as follows: 1) the development of associating one's ideas, 2) the inquiry one's own learning, 3) the self-reflection in one's ideas, 4) the inquiry of fact or reliability of ideas, and 5) the comparison of one's own ideas and the others' for enhancing the Public Mind of first year students, Faculty of Education for enhancing the Public Mind of first year students, Faculty of Education.

2. To study the empirical efficiency of activity development these students by using the Good Scientific Thinking Model for enhancing the Public Mind of first year students, Faculty of Education.

Research Hypothesis

The students obtained higher posttest score of Public Mind than did the pretest.

Delimitation of the study

This research was Research & Development Design. The implementation was classified into 4 steps as follows:

Step 1 Problem/ Need

Objective: to study context and related information concerning need for developing the Public Mind of students studying at the Faculty of Education, Mahasarakam Rajabhat University.

Method:

1. Study and analyze the approach from related research literature on Public Mind as well as activity development for enhancing one's Public Mind.

2. Study Needs Assessment of the administrators in teacher production unit including the Assistant Dean of Faculty of Education, the Teacher Professional Experience Training, Advisors, Students, Mentors in schools regarding to the desirable characteristic in Public Mind, by interviewing and observation.

3. Study the related research literature of Public Mind, and interview the Assistant Dean of Education in Teacher Professional Experience Training as the producer of teachers, and the mentors in schools, as the trainers of teachers.

4. Study and analyze the seminar activity for students practicing the teacher professional experience, study the characteristic of Graduates in Thai Ideals, desirable characteristic, good characteristic of teachers, and teachers' code of ethics.

Research instruments using for data collection

For activity development for enhancing the Public Mind for Education Students, it was necessary to use the quality instrument for collecting data. The used instrument was the Semi-structured Interview.

Construction and validation of instrument

The semi-structured interview

1. Study the document and related research literature in constructing the Interview Form, and issues to be studied.

2. Present the interview form to 3 experts for being investigated the congruence with the research objective, and find the IOC (Index of Item Objective Congruence).

3. Improve and revise to be accurate and correct based on the experts' advice.

4. Try out the interview form with 3 related persons for investigating the accuracy and propriety of language, and comprehension in interviewing.

5. The findings from trying out found that the developed interview form, was efficient and being able to collect data truly.

The document analysis form of basic information in developing one's public mind.

1. Study of documents and textbook of document analysis construction

2. Determine the issues for document analysis, and construct the document analysis for developing the education students' public mind.

3. Present the document analysis to thesis advisor for investigating the accuracy and propriety of language, the content covering, and research objectives.

4. Present the document analysis from to 5 experts for being investigated the accuracy and propriety of content, and content analysis. Analyze the index of item objective

congruence: IOC, found that the IOC values ranged from 0.80-1.00 every item. It could be stated that the document analysis included the propriety in using for data collection.

5. Improve the document analysis based on recommendations, and establish for complete final issue later.

Data Analysis: for data obtaining from interviewing the related persons of education students' public mind as well as document analysis, the researcher analyzed by Content Analysis and presented in Descriptive Form.

Step 2: Design and development of activity to develop public mind.

Objective: to design the activity for enhancing the education students' public mind based on variable of synthesized factors for determining the activity objective, experience activity management, determining the measurement and evaluation of activity, and experimentation.

Method:

1. Develop the outline of activity plan for enhancing the Education Students' Public Mind.

2. Present the tentative activity plan for enhancing the Education Students' Public Mind, developed by the researcher, for being investigated its theoretical reasoning, Feasibility, and Congruency to 5 experts. Then, improve the tentative activity plan based on recommendations.

3. Develop the instrument for data collection including the activity plan, the characteristic evaluation form of public minded persons, the students' public mind, and the students' satisfaction questionnaire.

The instruments using for data collection

The instruments using for data collection were:

1. The Investigation Form of Theoretical Reasoning, Feasibility, and Congruency of Activity Management Plan.
2. The Activity Plan for enhancing the Education Students' Public Mind.
3. The Characteristic Evaluation Form of Public Minded Persons.
4. The Education Students' Public Mind Evaluation Form.
5. The Students' Satisfaction Questionnaire.

Steps of research instrument construction

For research instrument construction, the researcher developed them as follows:

1. Study the related document in different kinds of research instrument construction.
2. Construct the instruments using for data collection.
3. Investigate the Content Validity.
4. Validate the efficiency and quality of instruments.

Step 3: Trying out of the development activity

Objective: to try out the activity plan for enhancing the education students' public mind.

Population and samples

1. The population of this study included 840 Second Year Undergraduate Students, Faculty of Education, Mahasarakam Rajabhat University, 7 fields of study, 21 classrooms.

2. The samples of this study were 31 Second Year Undergraduate Students, Faculty of Education, Mahasarakam Rajabhat University, in Computer Study, selected by Cluster Random Sampling.

Research design:

This research was Research and Development Design, the researcher conducted the experiment according to the Pre Experimental Design as One Group Pretest-Posttest.

T1 X T1

T1 represented the pretest evaluation of students' public mind.

X represented the public mind development by using the activity plan for enhancing one's public mind.

T1 represented the posttest evaluation of students' public mind.

The difference testing in Mean Values between the Pretest and Posttest Scores of Public Mind, was administered by using the Paired *t*-test.

The content using in experiment, the content or approach of activity planning, was the content of public mind in Behavior, and Thought by determining the behavioral characteristic clearly based on all of 14 sub-factors. For the Thought: included one's wish for helping human beings or animals who were suffered, one couldn't help providing support for those human beings or animals, one's shame on doing guilty and being afraid of guilty (Conscience), one's prohibition on doing something wrong, consideration in public benefit, belief in helping the others or public was one's responsible duty, one's awareness of impact from social problems as well as one's need for solving those social problems, one's self-confidence in ability to solve the occurred social problems, and awareness of problem as well as learning how to solve those problems. For behavioral aspect included one's participation in performing activity for society, perception in one's right and duty as well as paying respect in the other persons' right for using the public property, one's care and maintenance for public property and the usage carefully, one's economy use, after using it one would keep it into the same place, collaboration in energy and spirit for participating in activity for public, unity, not being selfish, maintenance for natural resource as well as balance between human being s and environment, generosity, dedication one's property and energy for the public.

Duration of the experiment: in trying out the Activity Management Plan for enhancing the Education Students' Public Mind of this study, 8 weeks were spent in implementation, excluded the pretest and posttest. The researcher provided activity once a week, 3 hours each session, in the first semester, from August 2014 to December 2014.

Research Findings

The researcher presented research findings as follows:

1. The activity for developing students' public mind comprised of 4 steps activity, they were; 1. Connecting, 2. Questioning, 3. Self-reflecting, and 4. Validating.

2. The effectiveness of the activity.

Table 1: The effectiveness of the developed activity for developing students' public mind

	N	$\overline{X}$	SD.	Diff.	*p*-value
Pretest	31	22.90	3.09	20.16	0.001
Posttest	31	43.06	3.83		

According to Table 1, the posttest, the students in Faculty of Education, Mahasarakham Rajabhat University, obtained higher Mean Value of Public Mind than the pretest (*p*-value = 0.001). The difference between the Mean Value, was increased for 20.16 points. (95% CI : 18.65-21.67)

Table 2: The Mean, Standard Deviation, and Level of Characteristic of Public Minded Persons in Education Students, Mahasarakham Rajabhat University, from self-evaluation.

Characteristics of Public Minded Persons	$\overline{X}$	SD.	Levels of Public Minded Persons
1. Students' self-evaluation	4.14	0.06	High
2. Evaluation by instructors	3.89	0.21	High
Overall Mean	4.01	0.17	High

According to Table 2, found that the Education Students, Mahasarakham Rajabhat University, had characteristic of public minded persons from self-evaluation, and evaluation by the instructors, in overall, in "High" level. ($\overline{X}$= 4.01, SD.=0.17) For students' self-evaluation ($\overline{X}$= 4.14, SD.=0.06), it was higher than the evaluation by instructors. ($\overline{X}$= 3.89, SD.=0.21)

Table 3: The Mean, Standard Deviation, and Satisfaction Level on Instructional Activity for Enhancing the Education Students' Public Mind.

Aspect	$\overline{X}$	SD.	Satisfaction Level
1. Orientation	3.64	0.19	High
2. Instructional Activity	3.60	0.25	High
3. Learning Method	3.57	0.25	High
4. Daily Life Application	3.59	0.24	High
Overall Mean	3.60	0.03	High

According to Table 3, found that the Education Students, Mahasarakam Rajabhat University, had satisfaction on instructional activity for enhancing the Education Students' Public Mind, **Mahasarakam Rajabhat University, all of 4 aspect, in "High" level. ($\overline{X}$= 3.60, SD.**=0.03) The **highest level of** Mean value, was in satisfaction on Ori**entation. ($\overline{X}$=** 3.64, **SD.**=0.19) The **second order was** the Instructional Activity. ($\overline{X}$= 3.60, **SD.=0.25) But**, it was **noted** that the **Lowest** level of Mean value, was in the Satisfaction on **Instructional** Activity. **($\overline{X}$=** 3.57, SD.=0.25

Conclusions of the Findings:

The research findings should be concluded that: 1) the activity management by using the Good Scientific Thinking Model for enhancing the first year Students, Faculty of Education, consisted of 4 steps: 1.1) Connection Development, 1.2) Questioning, 1.3) Self – reflecting, and 1.4) Questioning the Truth or Believability 2) the findings of public mind development, found that the students from Faculty of Education, had significantly higher posttest score in than the pretest. (p-value = 0.001) The difference of Mean Value was increased for 20.16 points (95%CI: 18.65-21.67). The public minded persons' characteristic in overall, self-evaluation, and evaluation by the instructors were in "High" level. In addition, the satisfaction of activity management was in "High" level.

Discussions

The researcher discussed the findings according to research objectives as follows:

1. The activity management by using the Good Scientific Thinking Model for enhancing the First Year Education Students' public mind, consisted of 4 steps as follows: 1.1) Connection, 1.2) Questioning in learning, 1.3) Self – reflecting, and 1.4) Questioning the truth or believability. It was supported by the research findings of Kijroongreung (2010 pp. 109-121) found that the instructional model by using the instructional science for enhancing the teaching professional students' critical thinking ability consisted of rationale, objective, instructional process, and condition of instructional model use. The instructional process consisted of 5 steps including the Preparation, case presentations, selection of solutions, Sharing with groups, and construction for new knowledge. Likewise, National Research Council (2000 : 24-27) stated that the teaching for developing the students' competency and comprehension in Scientific Approach and Knowledge, and comprehension in the inquiry findings which would lead to Scientific Learning very well , consisted of 5 steps as follows: 1) the connection of one's ideas, 2) questioning one's own learning, 3) Self – reflecting in one's ideas, 4) Questioning the truth or believability of one's ideas, and 5) comparing one's own ideas with the others'. As the Knowledge Management Model focusing on the Analytical Thinking, consisted of 5 factors follows: the rationale, objective, learning substance, teaching step, and measurement and evaluation. It consisted of 5 steps as: the orientation, lesson presentation, analytical thinking practice, presentation and discussion, and lesson conclusions. (Art-in. 2011 pp. 72-82) Furthermore, it was supported by Adsawasowan (2011. pp. 81-95) study in teaching practice for stimulating the students' curiosity and found that it was necessary to encourage the students to think, learn by practicing to think so that the students would constrict their new knowledge structure which was grown or expanded the former knowledge basis by 5 steps of instructional management as follows: 1) to inspire one's interest by providing the activity for investigating students' prior knowledge, attracting the students' interest and maintaining their interest into the Introduction, the example of teaching method, and teaching method the instructors could be able to use it in discussion step including: the discussion, the question, the usage of different media such as picture etc. 2) the survey and investigation was to provide the activity challenging for student to practice in order to collect the information technology, example of teaching method, and teaching technique which the teachers could use it during this step, 3) the thought enlargement included : to provide activity for students to analyze, and promote the learning for students

to understand intensively and extensively. The example of teaching method and technique which teachers could be able to use in this step included: the students were allowed to write their explanation on basis of activity they performed, search for supplementary document, analyze major issues, discuss, write concept map, 4) the step in putting into practice included the activity management for enhancing the students to apply knowledge with situation, example of teaching method which teachers were able to use in this step included: the discussion, searching for solution, setting the question for discussion, and 5) the conclusions and evaluation was to provide activity the students recorded evidence of their knowledge and comprehension in what kind of knowledge, how. And in what extent, the example of teaching method and technique which teachers were able to use in this step included: the allowance for students to investigate the constructed knowledge by sharing their ideas with the others, recording the findings of activity, exercise, and recording the learning performance.

Moreover, it was supported by research findings of Onsri (2010. pp. 249-255) found that the instructional model enhancing the Nursing Students' Brain-based Learning consisted of 5 steps as follows: the technique for relaxation, usage of concept map, transfer of learning, brain exercise, and critical thinking.

The research findings might be due to the researcher constructed and develop the activity plan for enhancing public mind based on assumption of instructional design on basis of Constructivist Theory by developing the activity plan focusing on Learning Construction. Since the knowledge would be constructed from learning experience as the process in constructing the thing to represent knowledge or representation in the learner's brain, Personal Interpretation. Learning was to learn from real situation of each person "Learning is caused by Active Learning as to create the meaning developed from the basis of experience. Collaborative Learning, the meaning of learning was to bargain from various approaches." The development of one's concept caused by sharing various ideas in group while adjusting one's construction of Knowledge representation responding the various ideas. In other words, while there was sharing by discussion and presenting each one's various ideas, the students would adjust their knowledge structure and construct their own new meaning. (Bednar *et al.*, 1991 pp.17-34) It was congruent with the approach of Cunningham(1996, p. 34) who stated that "the role of Education is to promote one's collaboration with the others by presenting various ideas which would lead to specific problem as well as selection for the point or situation they would accept with each other...." The Appropriate Learning should be occurred in real classroom (Situated or anchored)." Learning had to be suitable with context of authentic situation or reflect the real context." Furthermore, the Integrative Testing, the testing should be integrated with Learning Task. It shouldn't be separated from Learning Context." The Learning assessment was the method the students used knowledge structure as an instrument for enhancing one's thinking in those learning contents." (Bednar *et al.*, 1991 pp.17-34)

1. For the posttest, the Education Students had significantly higher posttest Mean Value than pretest. (p-value = 0.001) The difference of Mean Score was increased for 20.16 points. (95% CI: 18.65-21.67) It was supported by research findings of Kijroongreung (2010. P. 109) found that the teaching professional students had significantly higher critical thinking ability. (p-value < 0.05) It was also congruent with research findings of Onsri (2010. p.249) found that there were significant differences in knowledge score between pretest and posttest. (p-value < 0.01) In addition, it was supported by Adsawasopon (2011. pp. 81-95)

found that the students had significantly higher posttest Mean Score of Analytical Thinking and Learning Achievement than the pretest. (p-value < 0.01) Besides, the research findings of Art-in (2011. Pp. 72-82) found that the findings of teacher development in Learning Management focusing on Analytical Thinking, found that the teachers participating in training, had posttest Mean Score of Analytical Thinking = 35.09 or 77.98% which was higher than specified criterion as 70%.

The research findings might be because when the students learned from Activity Plan by using the Good Scientific Thinking Model, could help students' learning and be started from the connection development. Since the instructors would encourage their students to associate their knowledge by using Games, Still Picture, and Video Tape. The students had to answer the question in order to connect relationship between different situations related to their daily life. They answered question and express their opinion individually from sampling by the instructors for stimulating to think, review, solve problem, express their basic attitude before participating in group activity. Step 2, the learning questioning, the instructors determined related situation or problem to the students regarding to society as well as daily life situation in order to encourage them to learn and find the reason or evidence for supporting their thought. They participated in discussion, brainstorming, opinion sharing, and connecting with other situations being occurred in daily life. Step 3, self-reflection, the students presented the findings of their group discussion for reflecting their ideas, practice guidelines or problem solving. The students investigated themselves from their answers to instructors whether the students behaved themselves as public minded persons bee don the approach. If they didn't, what would be disadvantage, and how they should behave. If they behaved well, what issue they should be careful, and how was their plan for expanding the findings. For the last step, they questioned the conduct by asking the truth or trustworthiness. The instructors set questions in self practice by asking the potential impact which might be occurred if they lacked of public mind or confidence in practicing as public minded persons. For instance, if they didn't have public mind in ...., what the society would be like? What was the significance of public mind? What were students' practice methods as public minded persons to be appropriate with their age? Besides, did they believe in merit "As you sow, so shall you reap" or "Do good things, and good things will happen to you"? According to those activities, there was relationship with Constructivist since the students could search for as well as construct knowledge by themselves. The strength and growth of knowledge would be occurred when the students had opportunity to learn and share with the others.

1. The Education Students had characteristic from self-evaluation as well as evaluation by instructors, in overall, in "High" level. It was supported by research findings of Naowanich (2012. Pp. 212-135) found that the findings of evaluation in Propriety for using the instructional model, was in "High" level. It was supported by research findings of Onsri (2010.p.239) and Kijroongreung (2010. P. 109) found that the Education Students had satisfaction on the developed instructional model, in overall, in "High" level.

The findings of Focus Group Discussion by related persons including the teaching professional students, instructors, and persons with experience in using the activity plan through Good science thinking technique regarding to the model as well as issue in factors of instructional model, in overall, the Propriety was in "High" level in both of Process and Duration of time in each step. Most of them found that the students would have problem in performing the activity at the beginning of learning based on model. Since the

technique of Good Scientific Thinking Model, was the inquiry learning in order to search for knowledge. In the classroom, it was similar to the searching for knowledge as Opened Inquiry or the searching for knowledge which activity guidelines were determined by instructors called Structured Inquiry. For the Opened Inquiry, the students would control to search for knowledge by themselves from the construction of question issue, the survey as well as investigation and explanation what they were studying through the information or evidence obtaining from their survey and investigation, evaluation and association in related knowledge or other kinds of explanation in order to improve their explanation, and present to the others (Sooksri-ngam, 2002) For the knowledge inquiry which activity guidelines were determined by the instructors, the instructors advised their students rather than the knowledge inquiry as Opened Inquiry. In instructional management, it was based on the learning objective of those topics. Consequently, the students had to think throughout the time from the simple level to the complex one. (Kammanee *et al.*, 2001)

Besides, the tension was occurred because they had to find the Instructional Science Reasons for supporting every idea being presented to the group as well as the issues in using the instructional model, found that the participants in Focus Group Discussion, stated the obtained usefulness regarding to the development for critical thinking skill as the direct goal of instructional model, and the other related skills as well as competencies including the occurred analytical thinking, synthetic thinking, discussion skill and academic opinion expression, and academic personality.

Recommendations

1. Recommendations for application.The instructors should use the Activity Management model for activity in developing the other aspects of students' morality, by studying the steps of activity management as well as the questioning technique to be understood, and providing the activity continuously for being skillful.

2. Recommendations for future research. The instructor should study and compare the findings from activity management for enhancing the public mind of students from other Faculties or Major Fields of Study etc.

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