

## **The Development of Learning Management Model focusing on Thinking Skills in the Basic Education Curriculum, B.E. 2544**

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### **Abstract**

The objectives of this research were to develop the teaching profession and to synthesize learning management focusing on thinking skills in the Basic Education Curriculum, B.E. 2544. The developing learning model focusing on thinking skills were treated in 7 learning strands. This include Thai language, Science, Mathematics, Social Studies, English, Vocational Education, and Art. There were a total of 70 teachers participated in the project from the target groups in the four schools of Khon Kaen Educational Service Area 1, Khon Kaen Province. The research instruments included 1) the questionnaire, 2) the opinion survey, 3) the interview form, and 4) the observational record form. The data were analyzed the conclusions were drawn which were presented in a descriptive form. The research findings found that the development of teaching profession in learning management focusing on thinking skills in Basic Education Curriculum, B.E. 2544 was implemented as follows : (1) the development of body of knowledge regarding to thinking, (2) the development with the focusing point, (3) the supervision and classroom visit, (4) the devilmnt of modeled teachers for supporting their teacher friends, and (5) the development of teaching profession competency and research studies, and synthesis of learning management model focusing on thinking skills by the indicators showing relationship of the teachers' teaching process, the students' learning, and their learning achievement.

**Keywords:** Thinking Skills, Learning Management, Basic Education

### **Introduction**

The teaching of thinking skills is a very important viewpoint in the educational management in developing the quality of the students. The main idea of the educational reform is based on the National Educational Act 1999 focusing on educational reform in order to adapt the traditional learning culture of all Thai people from transferring knowledge rather than learning through real life situations. The instructional management

didn't facilitate people's development to have wider vision, broader thinking, and more willingness to know since the classroom management is focusing on transferring content of knowledge rather than learning from authentic situations, but it focused on the process which students can improve their analytical thinking, can express their idea, search for knowledge by themselves, and participation in shared thinking and practicing. Although the Ministry of Education consisted of process in improving curriculum and measure for supporting the application continuously in every educational level, the overall image of learning climate of most schools still do not have changes. According to many research studies, it showed that most of the teachers didn't understand and were confused on the guidelines for reforming curriculum in instruction (Amonwiwat, 1998; The Office of Accreditation and Educational Standard, 2003).

The National Educational Act determined schools to manage education focusing on *student-centered*. Tissana Kammanee stated that "It is the instructional management as student centered by considering the appropriateness to students and the most benefit which they should obtain. The learning activities were managed providing opportunity for students in playing an important role in learning, actively participating in learning activities, and applying various kinds of learning processes which would lead them to authentic learning." Active participation refers to the students participated as persons who managed the stimulus or learned things rather than being only receivers. As a result, the students are developing physically, intellectually, socially, and emotionally. There are four aspects of active participation that affect the students' development and learning. When they moved themselves during performing different activities (physical), used their thinking (intellectual), interacting and sharing with others (social), and expressing emotion or feeling which would help them in acquiring meaningful learning for themselves (emotional). Authentic learning would occur which might be cognition, skill, characteristics and the like. The students could be able to create meaning from stimulus or learned things by combining to their own former knowledge and experience until the meaningful meaning could be understood and explained by themselves. This is termed as "authentic learning".

The overall results from external assessment of schools throughout the country regarding students, the research report entitled "The Curriculum Development of Pilot Schools in Khon Kaen Provinces, found that regarding to teachers' instruction, they didn't understand learning process of student centered especially the application of learning innovation focusing on the development of thinking skill integrated in the classroom instruction concretely (Situwong et, al., 2003). Almost three years ago, the Ministry of Education supported learning reform projects in developing the quality of the students. Consequently, the teachers improved their teaching, managing instructional process, encouraging their students to know how to think analytically, search by themselves the information from various sources of knowledge, learn from real life experiences, and a more real practices. Based on teachers adapting their students' learning process, the students had good attitude toward learning, friendly relationship from their teachers and feeling the sense of happiness in learning. However, their achievement in learning competencies didn't clearly appear (Poonlaptawee and Saeng-prteep-tong, 2004). In order to develop the students' thinking process occurring in real learning climate which would affect cognitive development, it was necessary for teachers to understand and use media/

innovation appropriately with learning management model. Thinking is a process based rather than content based. The teaching of thinking development is a process or technique which couldn't be easily transferred from one person to another person. The students' effective thinking development is needed to study the model and technique of learning activity management supporting each other in connection with each learning substance based on Basic Education Curriculum focusing on skill development of integrated thinking in the taught subjects. The research team who are the lecturers of Department of Elementary Education, Faculty of Education, Khon Kaen University, with a major responsibility of producing graduates teaching in the primary schools, gave an importance and thought of its necessity in the teacher development and in order to create guidelines of educational management based on National Educational Act 1999 especially the learning management focusing on thinking skill development in Basic Educational Curriculum, 2001, class level 1-2, in learning substances of Thai Language, Mathematics, Social Studies, Religion, and Culture, Science, Foreign Languages (English Language), Work, Occupation, and Technology, and Visual Art (Art Education) which are the major learning substances of the curriculum (The Ministry of Education, 2003).

### **Theoretical Approach**

The National Educational Act of 1999 has determined the schools to manage education that focused on "*student centered*". Tissanana Kammanee stated that "It is the instructional management as student centered by considering the appropriateness to students and the most benefit which they should obtain. The learning activities were managed providing opportunity for students in playing an important role in learning, actively participating in learning activities, and applying various kinds of learning processes which would lead them to authentic learning." Active participation refers to the students participated in managing on stimulus or the studied things, not only being only receivers. Consequently, they are physically, intellectually, socially, and emotionally enthusiastic. The participation to all four aspects would have relationship with each other and would affect students' development and learning.

When the students moved in performing various activities (physical), in using thought (intellectual), in interacting and sharing with the others (social), and in showing emotion or feeling which would help them in obtaining meaningful learning (emotional). The authentic findings from learning would occur which might be cognition, skill, attitude, characteristics which they could develop meaning for stimulus or studied things by combining to their own former knowledge and experience which would be an authentic learning. Therefore, an active participation is a process of helping students in obtaining authentic learning. Thus, the teachers should implement two major processes: (Kammanee, 2004) (1) the learning activities/experience which they had to facilitate their students for active participation in as the established goal, and (2) while the students actively participated in, the teachers should lower their roles and changed from transferring knowledge such as telling, ordering, suggesting, or interrupting their students' concentration to facilitate or support them in implementing the learning activities smoothly and efficiently. However, the teachers still have prominent and important role on their students' learning because

they have to prepare for teaching such as the preparation for the time they should have in using questions to encourage their students' thinking, and how to use words which are not demanding or hurting to the feelings of the students. They have to arrange the activities/ experiences and appropriate learning process for their students to facilitate the smooth flow of the teaching process. There are various kinds of learning processes of a student centered. The important things to be considered in this chapter including the learning management focusing on thinking process and integrated learning management with the guidelines for developing students are as follows:

1.1 The learning management focusing on thinking process, Kammanee (2003, 2004) explained that "Thinking is a process, not content. Therefore, teaching of thinking development has to be teaching for process or technique. There were various guidelines in developing the students' competency in thinking; wit:

1.1.1 The support for various factors facilitating brain development such as getting food substance, water, appropriate breathing, adequate rest, and brain exercise.

1.1.2 The management of good environment. The students are trained as good example and lived in the environment facilitating their thought.

1.1.3 The program/curriculum/instant media. These are used in developing and training the students' direct specific thinking skills.

1.1.4 The learning activities are given to students based on various thinking theories or approaches such as Multiple Intelligence Theory, Constructivist Theory, and Dharma Principle in religion relating to thinking such as Yoniso-Manasikan principle.

1.1.5 The teaching and training for thinking skill by using various instructional models and processes focusing on thinking such as The Synectics Instructional Model, the instructional model used in creating faith, and Yoniso-Manasikan by Sumon Amonwivat, CIPPA instructional model by Tissana Kammanee.

1.1.6 The integration of teaching and training for thinking skill in teaching for various contents taught by teachers, and the use of various techniques supporting and developing thinking such as questioning technique, performing graphic map technique, and six hats thinking technique.

1.2 For thinking process (Kammanee, 2004) viewed that the thinking is a brain process (intelligence) which was inside. It could be seen when persons showed steps of thinking. The stimulus stimulated brain as thinking outcome. Each person received the same stimulus but the brain differently expressed. The recent Science progress helped us to understand the things inside more. The knowledge of consideration for at least two dimensions: Thinking Skills and Thinking Process.

1.2.1 Thinking Skills. Thinking Skills referred to thinking sub-skill as basic component of complex thinking processes. There were 2 kinds of thinking skills: Basic Thinking Skills and Higher-Ordered Thinking Skills (Kammanee, 2001)

1) Basic Thinking Skills referred to thinking sub-skills as basic foundation on higher order thinking which are divided into two subgroups: a) Communicate Thinking Skills such as listening, reading, perceiving, remembering, speaking, and writing and the like, and b) Core Thinking Skills are general thinking skill using in daily life such as observing, exploring, questioning, collecting data, classifying, grouping, sequencing,

comparing, inferring, translating, interpreting, associating, clarifying, reasoning, and concluding, to name a few.

2) Higher-Order Thinking Skills such as analyzing, synthesizing, organizing of thinking, searching for pattern, and constructing knowledge and others.

1.2.2 Thinking Process. Thinking Process was thinking including thinking stages based on basic thinking skills and higher-order thinking skills depending on appropriateness. There are major thinking processes such as critical thinking, problem solving, and creative thinking processes.

There are two guidelines in developing the thinking ability. These are the (1) Sub-skill thinking Training, and (2) Overall Training.

### **The Support of Thinking Ability**

Technique 1: The support started from being in mother's womb by giving factors affecting organs using for thinking such as food, water, air, and music and others.

Technique 2: The environmental management (person) supporting children's thinking both in their family and school such as the climate facilitating questioning.

Technique 3: The use of specific training package such as skills are needed to be trained which is a direct training or content free. Simply says, various games for training thinking. Most of these training packages were sold such as De Bono Training Package. In Thailand, there were theses regarding thinking exercises or training packages which could improve a better quality output.

Technique 4: Each subject was offered to be taught or as one part of subject preferable to perform in higher education such as Philosophy for Children by teaching children to be little experts. It was tried out in Thailand with considerable positive results.

Technique 5: Some sort course curriculum is managed such as three-day curriculum or five-day curriculum.

Technique 6: The integration of thinking skills in various subjects.

Technique 7: The use of instructional model developed by the academics based on theories or approaches, with process in instructional implementation, and goal accomplishment such as the instructional model using analogy as major point. After using the instructional model, the students' essay pattern would be different from former essay written before using the instructional model.

Technique 8: The use of a technique promoting thinking such as questioning.

### **Research Objectives**

1. To develop the teaching profession in learning management focusing on thinking skills in Basic Education Curriculum, B.E. 2544.

2. To synthesize learning management model focusing on thinking skills in Basic Education Curriculum, B.E. 2544.

### **Methodology**

The researcher presents the implementation procedures and outcomes as follows:

**Stage 1:** Planning for the implementation of the research project set in the development of learning management focusing on thinking skills in Basic Education Curriculum, B.E. 2544.

**Stage 2:** The selection of target group and development of research instrument used in data collection.

**Stage 3:** The survey of the needed assessment and development of body of knowledge.

**Stage 4:** The visit and follow up.

**Stage 5:** The drawing of conclusions and reporting of the salient findings.

### **Respondents of the Study**

The subject of this study were the teachers under the jurisdiction of The Office of Khon Kaen Educational Service Area 1, The Ministry of Education, covering four schools including Bantoom School, Ban-none-muang School, Ban-muang School, and Thairat Wittaya 84 School (Ban-samran-piafan) teaching level 1-2 in Thai, Mathematics, Social Studies, Religion, and Culture, Science, Foreign Language (English Language), Work, Occupation, and Technology, and Visual Art (Art Education), Learning Substances, ten respondents in each learning substance and with a total of seventy (70) persons.

### **Data Collection and Analysis**

The qualitative data were analyzed by observing, interviewing, and recording the field data notes. The quantitative data were analyzed from questionnaire and assessment forms. Descriptive Statistics was used by the researcher such as the Mean (  $\bar{X}$  ), Percentage ( % ), and Standard Deviation ( S.D. ) The interpretation of the data was obtained from the analyzed questionnaire and different assessment forms of five (5) level Rating Scale.

### **Research Findings**

The research findings of teaching development in learning management focusing on thinking skills has focused on a collaborative strategy by every part including school administrators, teachers, and educators from The Educational Service Area and supervisors with the following stages:

(1) the workshop for teaching professional development as the short course training so that the participants could participate in sharing for work development such as (Outline) learning plan, the examples of learning media and findings report, and creating network for instructional development among schools,

(2) the development as common focus as “Thinking Skills” which is the innovation of this development. There would be different thinking skills which are relevant to appropriateness of content and nature of each learning substance. These are as follows:

Thai Language	focused on Creative Thinking Development.
Mathematics	focused on Mathematical Process Skill Development.
Science	focused on Science Process Skill Development.
Social Studies	focused on Thinking Skills by using Project.
English Language	focused on Language Creative Thinking Development

Vocational education focused on Creative Thinking Development.

Visual Art (Art) focused on Creative Thinking Development.

(3) the supervision and visit classroom which is considered as the major mechanism in helping the implementation of teaching professional development as concrete and successful outcome. Fifty two out of seventy teachers were supervised and visited their classrooms by the experts coming from Khon Kaen University who were also researchers of the sub-projects of all seven learning substances - at least one time per expert. The supervision was in a friendly style which support the development and improvement of learning activity management based on the focused innovation and

(4) the teaching professional development focusing on research gave a strong influence on learning management affecting the students' efficiency. The said approach emphasized the importance of the project and it is necessary to the teachers to acquire it further develop the body of knowledge and make other related professions stronger. In recent time, the promotion system of teachers which tied up with the position revenue was still be challenging and interesting for teachers to be aware of their responsibilities in developing themselves using research based development especially the classroom research which affects teachers in searching for innovation relating to learning.

The implementation is focused on collaborative strategy from school personnel and administrators by using the office of Khon Kaen Educational Service Area 1 as the center for developing and expanding the network. Moreso, this is together with the research team who are the instructors of the Faculty of Education, Khon Kaen University. In conducting research and developing knowledge of learning process focusing on thinking in the seven learning substances as well as following up and supervising throughout the project, the implementation techniques were included. These are as follows:

(1) The Project Initiation Stage . It is the planning stage with the researchers (sub-project of all 7 learning substances), the educators from The Office of Educational Service Area and supervisors who manage the research team of the learning substance group and contacted for cooperation with the Educational Service Area in selecting schools with enthusiastic staff who wanted to develop their own profession and are ready in participating in the project and live in the area with convenient contacting and traveling access.

(2) The Awareness Developmental Stage and search for common working technique with specific focus of development especially on skills for following up the thinking skills of various learning substance groups which are affected by the external quality assessment of The Office of Accreditation and Educational Quality Assurance especially in Standard 4: (the students have ability in analytical thinking, synthetic thinking, critical thinking, creative thinking, considered thinking, and vision.) Standard 5: (the students have necessary knowledge and skill-based on curriculum.) Standard 22: (The teachers have the ability in the efficient instructional management and focus on *student centered*.)

(3) The Implementation Plan of Project Set Level the work plan of sub-project research of 7 seven projects and school level plan.

(4) The Implementation as the Plan Stage by *The First Stage*. The workshop was held for teachers in gaining knowledge relating to thinking and related body of knowledge including the instructional media development, construction of measurement and evaluation

instruments and classroom research. *The Second Stage*. The teachers were taught in developing and creating lesson plans with the help of the research team, and improving the lesson plans periodically focusing on Classroom Action Research (P-D-C-A). *The Third Stage* The classroom visit was performed in order to assess the plan used in classroom for all seven learning substances basing on a friendly assessment.

(5) The Stage for Collecting and Synthesizing Data gathered from supervision, observation, and interview from the teachers regarding learning activity management. Thereafter, the head of sub-projects of seven learning substances synthesized indicators showing relationship of teachers' teaching process, students' learning process, and learning outcome.

(6) The head of the project writes a written report inn a project level which contains the findings obtained from the synthesis of indicators from learning activity management in classroom of all seven learning substances, and from empirical information as observed from learning management obtaining three aspects of indicators: The teachers' teaching process for nine indicators are as follows; The Teachers' Teaching Processes which include (1) preparation for various learning resources, (2) preparation for questions stimulating the students for analytical thinking, (3) presentation of problem situation/question relating to incidences occurring in daily life and challenging the students for thinking, (4) allowing students study information and conclude the occurred knowledge and understanding focusing on observing, analyzing, and summarizing the main idea, (5) introduction of necessary thinking skills/techniques focusing in learning/problem solving/finding solution in each time, (6) allowing students share their knowledge among friends focusing on brainstorming, (7) allowing students conclude their lessons and performances by themselves, and (9) allowing students apply their knowledge in new situations. The Indicators of Students' Learning Process which include: (1) the selection of appropriate learning resources and collection of data from selected learning resources, (2) reading, thinking, analyzing, and writing for expressing one's opinion, (3) solving problems for finding various solutions both in techniques and answers, (4) explaining the techniques/searching for knowledge techniques/problem solving techniques by oneself, (5) applying one's own former knowledge for reviewing, (6) sharing of knowledge/thought with one's friend group, (7) presenting the group body of knowledge with reasons, (8) selecting patte5rn in presenting one's group performance in summarizing the new obtained knowledge, (9) analyzing one's working and group working, (10) determining guidelines/planning one's own and group workings, and (11) applying knowledge in new situations. The Indicator of Learning Performance which include: (1) identifying sources and techniques of information search, (2) selecting necessary techniques and skills in explaining techniques for finding solutions/solving problems, (3) obtaining skills in collecting data and organizing data in solving problems/finding solutions, and concluding body of knowledge, (4) obtaining skills in learning assessment by oneself and planning for future work, (5) obtaining process skills based focusing on total learning substance groups, and (6) obtaining group working skills.

## Discussions

The findings of the research implementation which were consisted of the discussed issues were as follows:

1. The issues in developing teaching profession of this study has focused on the target group of teachers implementing the quality learning management affecting the development of thinking skills in Thai Language, Mathematics, Science, Social Studies, Foreign Language (English Language), Work, Occupation, and Visual Art (Art).. Learning Substances of class levels 1-2. A conference in developing the awareness and surveying need assessment of school teachers and administrators was organized with regard to guidelines in developing students' quality in lieu of using major principles as "Development of Common Issues". For this study, every school searched for common point in development as "Thinking Skills" which was successful in creating motivation and encouraging teachers to participate in their own teaching profession and in order to affect the development of students' quality in learning. Besides, it was the support from the teachers in the same school in helping and sharing with other teachers who might have problems in learning management in bringing innovation to classrooms. It was supported by the findings of Kammanee et.al., (2001) and Panpreuk (2004) proposing the schoolwide learning reform model by "determination of developmental focus and creating common awareness". Moreover, there is a collaborative effort in the school causing the pilot teachers to cooperate in academic work. As a result, the extension of knowledge network in learning management focusing on thinking skills has occurred.

2. The teaching professional development done by the outside academics as consultants provide support since it focused on the learning innovation development using classroom research in which most of the teachers were trained to develop the learning units and bring it in the classroom. Consequently, they obtained their confidence in developing themselves and learning innovation. However, basing on the follow up of a classroom visit, it was found that the supervision and following up of outcomes very much affected the progress of development. The extension of the collaboration with other related work units should be performed such as the super-ordinate Office of Educational service Area would be motivator for development very well .

3. The school readiness especially the school administrators affected the continuity of development and lesson plan improvement. If the administrators could associate with curriculum administration and management, the development would be clearer, systematic and effective.

4. The innovation development using research based in solving problems and developing students, found that the teachers were interested in it because it could be extended as academic performances for promoting their research knowledge information. Therefore, the administrators should provide support and apply this thing as a changing point in developing instructional activities in schools.

5. The research has implications in Thailand education for enhancing thinking skills. These include

5.1 There must be a need to change the old curriculum into a new one integrating the current educational development in consonance with the *innovation discoveries* (teaching learning management in developing thinking skills). The administrators should,

if possible, seek and hire for its appropriate facilitators for a better result.

5.2 The administrators should encourage school teachers as the mentors or academic pilot teachers for teacher team and organize the administrative and management system to facilitate and provide educational facilities especially in the place where the teachers are teaching or practicing the said innovation.

5.3 The staff development of this type should be combined to the internal quality assurance of schools.

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