

CHAPTER 2

Literature Review

The development of the “Model of Supervision Monitoring and Evaluation Capabilities in Research to Develop Teaching and Learning of Student Teachers” was derived from studying documents and relevant research as detailed in the following concepts.

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2.1 Human Resource Development

2.1.1 Definition of Human Resource Development

Swanson (2001) defined human resource development as an approach towards developing and releasing of expertise. It aimed to improve organizational systems, operational processes, teamwork, and individual performance. The core beliefs of human resource development were classified into three issues as follows:

(1) Organizations were human-made entities that relied on human expertise in order to establish and achieve their goals.

(2) Human expertise developed and maximized through human resource development processes and were supposed to be done for the mutual long-term and short-term benefits of the organization and the individuals.

(3) Human resource development professionals were advocates of individual/group, work process, and organizational integrity.

The human resource development lay on seven fundamental hypotheses of development which reflected from the philosophy of human resource development as follows:

(1) Worth of individual: human beings were considered important and valuable for organizations. Therefore, the organizational quality could be considered from their employees when they did something useful and valuable toward their organizations.

(2) Employees as resource: the employees could respond to their organizations toward their needs both in the present and in the future via the skills of learning new things.

(3) Quality work environment: the organizations were supposed to pay attention to the rights, safety, and cleanness regarding employees' work.

(4) Employees' satisfaction: every human being possessed the rights to receive satisfaction and positive feeling regarding their methods of doing something useful for their organizations. Work achievement was derived from deep satisfaction of the employees. Therefore, the organizations had to design new work to be appropriate

to the employees' nature, instead of perceiving them as robots. This was an appropriateness between technologies and employees' capabilities.

(5) Continuous learning needs: employee training and development was not supposed to be performed only one period of time. There were no employees who possessed complete knowledge and skills as needed by the organizations. Although each employee was selected to work on a basis of necessarily fundamental knowledge for working, they still needed challenges to improve new knowledge and skills. Consequently, the organizations had to assist their employees to be able to learn continuously.

(6) Change opportunity preparation: due to the changes of situations, environment, and resource needs, it was necessary that new employees in new positions be prepared. As a result of continual changes, the organizations had to realize in constructing personnel's potential.

(7) Realization of wide-scope human resource development: the human resource development was more than just training. It covered an understanding toward human behavior, response, and relationship between various things and employees. This could be used to produce outputs for the organizations. The employees needed to know beyond their routines. The understanding toward wide-scope knowledge of the employees played an important role for the organizations.

According to the definition and hypotheses of human resource development employed as fundamental evidence in developing research capabilities for developing instruction of student teachers, it was necessary to consider and realize the identity, values, environment, human beings' needs, and organizations' needs. In order to construct their personnel to possess values and be able to produce qualified yields for the organizations, various and continual developmental processes were supposed to be employed to prepare for likely changes.

2.1.2 Foundations of Human Resource Development

Swanson and Holton (2001) mentioned that the discipline of human resource development, in order to understand, explain, and carry out its process and roles, relied on three core theories. These were psychological theory, economic theory, and system theory. The whole theory of human resource development was proposed to be the

integration of psychological, economic, and system theories within an ethical frame. This integrative state was central to securing human resource development as a discipline as follows:

Economic Theory

The economic theory captured the core issues of the efficient and effective utilization of resources to meet productive goals in competitive environment. By dealing with the scarce resource, it could meet its maximum benefits for the organization. Investing in human resource could earn an income for the organization. There were three minor theories employed to explain the economic theory which were as follows:

(1) Scarce Resource Theory

Scarce resource theory explained that there were limitations in money, raw materials, and time. It required practitioners to make choices as to how capital would be utilized in order to gain the greatest return.

(2) Sustainable Resource Theory

Sustainable resource theory was much like scarce resource theory except for the concern for the long-term versus short-term agenda.

(3) Human Capital Theory

According to Becker, the organization could generate differences by improving and generating values for human resource on medical care, education, a training course, and public health. Therefore, it was fully in keeping with the capital concept to say that expenditures on education, training, and medical care were investments in capital.

Psychological Theory

Psychological theory involved with psychological processes that affected an expression of human behaviors. It focused on learning, human motivation, information processing, group dynamics, and psychology-based theories of how we made decisions and behaved in organizations. The psychological theory consisted of three minor theories which were as follows:

(1) Gestalt Psychology

Gestalt psychology mentioned that we did not see isolated stimuli but stimuli gathered together in meaningful configurations. Gestalt believed that people added something to experience that was not contained in the sensory data and that we experienced the world in meaningful wholes. Therefore, learning involved moving from one whole to another.

(2) Behavioral Psychology

Behavioral psychology was concerned with what could be seen, and therefore behavior was what was studied. It mentioned that individuals responded through motivation, support, reinforcement, punishment, and programmed learning.

(3) Cognitive Psychology

Cognitive psychology integrated theory from Gestalt and behavioral psychology. It attempted to explain goal-directed behavior and the idea that human beings organized their lives around purposes. For cognitive psychology, behavior was purposeful, cognitive, and molar. Human resource development had to harmonize the goals and behaviors among individual contributors, work process owners, and organization leaders.

System Theory

System theory, a small body of knowledge compared to economics and psychology, contained a harvest of low-hanging fruit for human resource development. According to a system theory perspective, a wide range of systemic disconnects was adversely affecting performance. The system theory consisted of three minor theories which were as follows.

(1) General System Theory

At the core, general system theory mentioned about inputs, processes, outputs, and feedback. Furthermore, general system theory dealt with the reality of open systems versus closed systems and limitations of a single personality theory in predicting human behavior.

(2) Chaos Theory

Chaos theory purposefully acknowledged and studied phenomena that were unsystematic, that did not appear to follow the rules. Similarly, human resource development activities could not avoid this uncertainty as well.

(3) Futures Theory

Futures theory focused on predicting the future. It was critical for sustainable performance in that human resource development activities were supposed to be designed and planned for future changes.

According to these three aforementioned theories of human resource development, the theories played a role in developing models of supervising, monitoring, and evaluating research abilities in developing instructions of student teachers. By integrating the theories, the development model was obtained on a basis of ethics. When designing, experience, perception, stimuli, generation of learning motivation, and maximum benefits gained were supposed to be considered on a basis of systematic improvement and worthwhile results of scarce resource systems.

2.1.3 Theories and Principles of Adult Education

Adult education theory was premised on the following characteristics. Adults wanted to know why they needed to learn something. They wanted to understand the value. They wanted their learning experience to meet their needs, be relevant, and help them achieve their goals. This theory lay on a set of four assumptions as follows (Knowles: 2005).

(1) Learners' self-concept: adult learners wanted respect and to be seen as capable learners. They were supposed to be offered choice and be encouraged to set their own learning goals. Therefore, instructors had to support, give advice, and assist the learners so that they could be self-directed on a basis of their own individual desires.

(2) Roles of the learners' experience: adult learners were a valuable resource as they brought richness and diversity of their lives with them. They were supposed to be given the opportunity to use their existing knowledge and experience, which they could apply to new learning experiences.

(3) Readiness to learn: adults were ready to learn when they identified something they wanted to know or become proficient, or when they experienced something that connected with their life situations. They became ready to learn things in order to cope efficiently with real-life situations.

(4) Orientation to learning: adult learners wanted to be engaged in life-centered or problem-centered learning experiences. They wanted to learn what would help them perform tasks or deal with problems they saw in their lives at the moment.

According to the aforementioned theories of adult education, when used in a training context, it could be seen that the focus of these theories lay on method and resource supply in order to facilitate the participants so that they could gain information and skills needed to convey. Consequently, moderators' roles were to perform as facilitators, supervisors, change leaders, and providers of methods in taking the participants to participate in the following processes (Pont: 1991).

- (1) Construct learning atmosphere.
- (2) Construct a mechanism of planning and training together.
- (3) Diagnose needs and necessities of learning.
- (4) Determine objectives and content to respond to the needs and necessities.
- (5) Design learning experience.
- (6) Operate experience and learning via proper techniques and materials.
- (7) Evaluate learning outcomes and examine the needs and necessities for learning of the participants once again.

Moreover, the principles enhancing adult education consisted of equally important nine items as follows (Kroeh: 1995).

- (1) Recency: R

Something that was learned or received at the last moment was the most remembered by participants. Therefore, speakers were supposed to make the summary as often as possible and believe that the key messages were emphasized again at the end of the session. They had better make the plan to review per section in presentation.

(2) Appropriateness: A

Activities, materials, case studies, and training content had to be tailored to the needs of the participants. Participants would be easy to lose motivation if the speakers failed to strive for material relevant to their needs. In addition, the speakers had to continually provide opportunities for participants to connect new information with previous knowledge already obtained in order to enhance confidence among participants.

(3) Motivation: M

Participants could learn well if they had a strong motivation to learn or felt the desire to succeed. If the speakers failed to use the motivation and neglected to make the material relevant, we would be bound to lose motivation of participants.

(4) Primacy: P

The first things that the participants learned were usually well-studied. The first impression or a series of information obtained was really very important. For this reason, there was a good practice to incorporate all the key points at the beginning of the session. During the current session, key points and other information-related content were expanded in details.

(5) 2-Way Communication: 2

2-way communication clearly emphasized that the training included communication with participants. The training session was supposed to allow the interaction between the speakers and the participants.

(6) Feedback: F

Feedback showed that both speakers and participants needed information from each other. The speakers needed to know that the participants followed and kept paying attention to what was said. The participants also needed feedback in accordance with their performance. Reinforcement also needed feedback. If we appreciated the participants to do things right, we had a much greater chance for them to change their behavior as we wanted.

(7) Active Learning: A

Participants studied harder when they were actively involved in the training process. The exercises/practice and a lot of questions for providing instruction were supposed to be employed. A quick quiz could be used so that the participants remained active.

(8) Multiple-Sense Learning: M

Learning was much more effective if participants utilized more than one of the five senses. It was suggested to use as many senses of the participants if it was necessary as a means of learning them.

(9) Exercise: E

Something repeated was the most memorable. By making the participants do the exercises or repeat the information provided, the likelihood they were increasingly able to recall information could be increased. It was best if exercises were added. A lesson could be repeated in different ways. The more often the participants to repeat something, the more they remembered the information given.

Therefore, the research conducted to develop the model of supervising, monitoring, and evaluating research capabilities for developing instruction of student teachers was based on the andragogy of adult education believing that each adult possessed perfect qualification, needs, and abilities in directing themselves in employing their experience in learning and they were ready to learn and manage their learning.

2.1.4 Training

Training was considered one of the key and popular methods in developing organizations and individuals in order to increase operational potentials effectively.

Definition and Importance of Training

Chan Sawatsalee (2005), Suwimol Tirakanan (2005), Nattaphan Kejornnan (2006), and Chuchai Samittikrai (2006) defined the training similarly in that it was a learning process aiming to develop appropriate knowledge, abilities, skills, and attitudes within the participants so that they changed their behavior in being capable in working for a

particular task. For this reason, training was different from education in that education was managed in schools aiming to achieve norms, values, philosophy, and general knowledge which was necessary for human beings.

According to the aforementioned training definition, it could be seen that training was considered a key process that contributed to the changes in learning, skills, and desired attitudes. It also motivated the participants to possess learning needs and helped them receive the knowledge in line with conditions, problems, and needs of individuals and departments. They could apply the experience gained from the training to solve problems or develop their operation so that it achieved their needs and those of the organizations (Wiyada Lemtrakul: 2003).

The efficiency of the training could be measured from the level that the participants could apply knowledge, skills, and attitudes gained from the training context to their work context. Therefore, the effective training was supposed to be performed as follows:

Before the training, the following operation was supposed to be performed.

- (1) Analyze the needs and necessities by those relevant.
- (2) Figure out how to receive supports from the administrators as they were considered a key variable affecting learning transfer processes.
- (3) Give the data to the participants regarding the characteristics of training projects, objectives, behavioral objectives, methods, time periods, venues, moderators, and examples of applying the skills into their work.
- (4) Assign tasks to the participants before the training in order to motivate their interest.

During the training, the following operation was supposed to be performed.

- (1) Arrange the environment and conditions of the training to be in line with those at the offices ultimately.
- (2) Allow the participants to practice and experience regarding their work as much as possible since several practices could transfer the learning more positively.

(3) Allow the participants to practice their new skills gained in authentic situations they were likely to face in their work.

(4) Provide various examples while lecturing on paradigms or skills.

(5) Identify key characteristics of the work. This could help the participants to classify the key characteristics of their assigned work.

(6) Guarantee that the participants comprehended general principles prior to expecting that there was more learning transfer which could be positively good provided that the participants understood the general principles well.

(7) Provide the participants with knowledge, skills, and perception toward their own abilities in controlling their behavior when returning to work.

(8) Design the training content so that the participants could apply at work. The more the participants thought that the training helped them to learn and gain similar concepts they could use at work, the more tendency they employed the knowledge gained from the training at their work.

(9) Ask interesting questions. There was the research finding expressing that questioning would enable the participants to learn and memorize the data regarding that particular question.

After the training, the following operation was supposed to be performed.

(1) The participants were assigned to perform a task they gained from the training.

(2) The participants had a chance in participating with the others to plan and apply the knowledge gained from the training.

(3) The confidence regarding using the concepts gained from the training and receiving an award in operational situations was established.

(4) The return to the previous condition was prevented with the help of self-management principle.

According to the aforementioned statement, it could be summarized that the factors influencing the participants' learning consisted of participant characteristics, surrounding arrangement, and training knowledge transfer. The training efficiency could be measured from the fact that the participants could apply the knowledge, skills, and attitudes gained from the training into their work context.

2.2 Teacher Development

The development of the model of supervising, monitoring, and evaluating research capabilities for developing instruction of student teachers was based on cooperation from several parties. Therefore, the researcher primarily gave precedence to generating a sense of participation. The developmental process then employed the model of participatory development to supervise, monitor, reflect work, and share the learning, the knowledge body, and experience. As a result, documents regarding teacher development were explored as follows:

2.2.1 Concepts and Theories of Participatory Development

Narinchai Pattanapongsa (2003) and Thawilwadee Bureekul (2005) proposed the participatory processes concept and theory in that there were at least two sections involving in any activity which shared the aims together in order to possess good decisions and gain support from the public. Participating in a development project was a participation from the first step that was making a decision to determine the desires of a community or society to the last step that was collaborating in searching for conditions, problems, and causes. Then, the guidelines were established in order to yield those desired. Those relevant would perform, evaluate, and receive benefits from the outcomes together. There were three aspects of participatory conditions which were voluntary participation, equal participation, and adequate abilities among those target groups participating. The components of participation consisted of (1) clear objectives or goals, (2) clear activities in terms of formats and characteristics, and (3) appropriate individuals or target groups participating in the activities.

There were seven factors and motivating guidelines leading to the participation based on Narinchai Pattanapongsa (2003) as shown below.

(1) Managerial factors: the project needed to be motivated for participation by adjusting organizational culture, especially among the personnel toward their profession. The understanding toward shared development and shared assistance was supposed to be enhanced. Mutual agreement toward tasks assigned to each section was

supposed to be made. Trust and confidence was also constructed in order to decrease competition among them.

(2) Communicative factors supporting participation: this aimed to enable everyone to realize their own self-esteem. The supporting communication was supposed to build trust among one another by focusing on verbal communication. The various mixed media that every level of personnel could access to were supposed to be used. This could be in a formal or informal format. In terms of individual media, it could start from wearing in a polite and simple style. Powerful symbols had to be avoided. Being friendly and using soft and polite tone could stimulate opinion expression and good attitude toward participation. Small communicative tools could be used to communicate at all horizontal levels. Democratic manner was supposed to be performed regarding content and objectives which were not decided from above. Satisfaction was supposed to be built so that the participants were happy during their participation which lasted permanently not temporarily.

(3) Political factors: society and customs were considered the factors of decentralizing authority to the participants so that they could make a decision. Economic, customary, and physical conditions also influenced the participation.

(4) Project factors: facilitating the participants in possessing a sense of belonging from the start to the end could seriously benefit the project.

(5) Mentor or facilitator factors: the mentors or facilitators necessary for participating in exploring the project components possessed knowledge and understanding toward participatory processes. A group of individuals and a leader supporting information, messages, and encouragement were sincere, reliable, and faithful in collaborating and solving participatory problems.

(6) Leader factors: the leaders had to be sincere in helping. They were capable in motivating the participants to search for problems and realize the importance and necessities for solving problems.

(7) Social and psychological factors: this could motivate the participants to possess interests and concern toward a particular problem. They would share the problem and cooperate in solving it together.

The pros and cons of participation could be summarized as follows:

(1) Encourage the exchange of learning, experience, and opinions among one another leading to discrimination recognition which was considered a democratic foundation. However, it could delay activities on condition that there was an objection toward a particular activity. Unity might not be preserved if they did not possess a mutual understanding. Alternatively, it could be a waste of time while waiting for a decision on certain issues.

(2) Make difficult tasks successful in a case that needed a lot of participating people. However, this might waste a lot of resource as well.

(3) Make the participation be in line with problems and needs. This was derived from the needs of individuals who wanted to help themselves without waiting for helps from others. It resulted in possessing a sense of belonging and pride in participating in development. However, it might be taken over by a hidden objective resulting in a waste of participation.

(4) Strengthen a society/community due to the participation in making decisions, transparent performance, and benefit management. The community was considered a person who determined its own fate.

2.2.2 Principles of Creating a Sense of Participation in Teacher Development

Hord and others (1987) stated about bringing some innovation to use in an organization. It was necessary to create the feeling of being the part of the members of the organization and these authors proposed the steps of creating the feeling of being a part in seven steps. These had a positive relationship with the belief of teachers to the changing of behavior in the instruction as follows:

(1) Step of Perception. In this step, teachers did not change their behavior in teaching and did not participate in the innovation that was used in the school. It was just a perceiving about the changes.

(2) Step of Response. In this step, teachers started to be interested in the innovation by making inquiry of additional information but still did not know how to

show commitment to oneself to take part in it, to have any feeling nervousness, or to be worried about the innovation.

(3) Step of Creation of Value. In this step, teachers started to be aware of the importance of the innovation and built the need to bring the innovation to use. However, the need was still insecure and full of curiosity, uncertainty, with some conflicts in the behavior of instruction of oneself. There might be problems and obstacles on the resources and budget to use the innovation in some cases.

(4) Step of Organizing the System. In this step, there was determination to use the innovation. Teachers created the changes in behavior in instruction by emphasizing on the steps and mission that the teachers had to do when the innovation was used. The teachers had plan on the data and the information technology, sources, and time.

(5) Empirical Results. The teachers who developed the feeling to be a part until to this step would consider to the impact that might occur from using the innovation. Teachers paid attention to potential results which might occur to the learning that the innovation would create the changes, i.e., on how innovation created changes on the behavior of learners. The teachers would evaluate the learners in order to get information about knowledge, skills, and attitude of learners to use as setting conclusion and making decision about improving the instruction and improving the instructional system.

(6) Step of Creating Networks. The teachers who developed the feeling of being a part of this steps wanted to exchange experience and opinion on the best or most appropriate alternative with others and had the need to publish their own works including giving advice to others.

(7) Step of Creative Thinking. This was the last step of developing the feeling to be a part. Teachers were confident in their own abilities that they could change the behavior in the instruction according to the new concepts. They expanded their experience through the innovation which was found by themselves.

From such information above, this study summarized that bringing the innovation to use had aims that the teachers changed their behavior of instruction. They had to consider the facts on the feeling and being part of the system.

2.2.3 Principles of Professional Teacher Development

Clarke (1994) proposed ten key factors or principles for developing teachers into professionals who followed certain principles.

Principle 1 was the creation of the feeling of being a part of the system by the teachers themselves. This feeling would open opportunity for teachers to be a part with the system with their voluntary decision in the organized program. To develop teachers' professionalism that affected the success was available by bringing the teachers' development program to use. There were many research reports that showed consistently that programs of teacher development, such as the "One-Shot Model" for example One-day Workshops during the school vacation, showed the results associated towards the changes in the behavior in instruction. In addition, the changes appeared on teachers' personalities such as knowledge, belief, and skills or abilities to think flexibly of each teacher during attendance in teachers' development program. These programs influenced the changes in the behavior in instruction of teachers.

Principle 2 was the development of the group more than improvement of individual teachers in schools, committees, learners, parents and school committee boards that had to participate and support the improvement programs. Teacher development programs were supposed to be done under the climate of culturally and friendly climate. It would influence the success of changing the behavior of teachers and lead to real implementation. The mission of arranging the regular instruction of teachers could be integrated with the teacher development in the form of giving feedback data under internal monitoring process. The meeting to exchange opinions among teachers in small groups on the innovation of teachers and learning of the teachers would brought into use including the problems, obstacles, and opening opportunities for teachers to prove their own innovation of teaching in the public.

Principle 3 was an acceptance that teacher development into professionals had to have faced some obstacles during the teacher development process. Clarke summarized the obstacles that might occur in the process of teacher development process by categorizing them into four groups as what follows.

The obstacle group which was made of the external factors such as the use of inappropriate theories, lack of support from central organization, lack of funding or budget, lack of monitoring, and failures in creating mutual understanding.

The other obstacle group was about the administration, the management of school and communities such as the followings: (1) no opportunities for individual teacher to study and set a teaching plan together and work together, (2) the evaluation methods of learners and evaluation of teachers were not consistent with the innovation that was used for developing the teachers, and (3) the perception of learners, parents, school administrators, the school committee boards and community towards the innovation which was used for developing the teachers.

The other obstacle group was also related to beliefs, knowledge and the implementation or practice of teachers. These were (1) the teachers' lack of determination in their behavior in instruction, (2) familiarity and attachment to what was practiced as something standing against the innovation, (3) knowledge on the subject contents that were going to be taught of the teachers were still not good enough.

The obstacle groups that were related to the developing the working teams in the school were (1) the groups' lack of linkage between theories and actual condition in classroom, (2) giving importance to making correction rather than stimulating the creation of improvement and development, and (3) lack of integration of knowledge on instruction and the methods to develop the teamwork.

Principle 4 was the Experience-Based Approach or EBA or learning from the implementation in the real situation in term of participating in the activity in the classroom. This was very effective as the methods to change the behavior of instruction of teachers. The activities to develop the teachers could be arranged in term of training or seminar in short-term (one or two days) or through the listening, lecturing or watching demonstrations by the experts; without monitoring these methods might have produced less effective results to the changes of teachers' behavior.

Principle 5 was the Motifs for Teachers to be part enthusiastically and to give commitment in the process to develop the professionalism; motifs provoked teachers

into willingness to inquire and implement the teaching by using activities and the works that they might develop or improve in their own classroom. The factors that influenced the teachers' commitment, acceptance of innovation, and application of real implementation were getting support from peer groups, practicing in sessions and units, getting experience of the changes that came from the experience, and changing their own implementation methods. The revision of improvement in instruction of oneself was accomplished continuously in an incremental manner to see the impact or results of the learning of learners.

Principle 6 was to be aware that the changes in beliefs of teachers in learning were originally coming from the real implementation in the classroom continuously, and it was a result of opening opportunity for teachers to think critically, check their own implementation result through observation to create the learning behavior and learners.

Teacher Development Leading to Professionalism. Most of development attempts had desirable targets to set changes among teachers in terms of knowledge, belief, attitude, teaching implementation in the classroom as well as the changes in the learners' learning methods. In the development process, motivation needed to be created that the teachers felt confident that they were able to develop competence. They might learn better than the way they did it before. They believed that results of development would create benefits for learning. The process of creating the motivation would set the teachers' determination and commitment to oneself in developing the curriculum and the instruction for learning into real implementation in the classroom. Afterwards, the teachers realized the results through the process that would occur to the learners. The changes of the belief and attitude of teachers would become permanent results. Therefore, if teacher development was separated from the real situation where teaching implementation was done regularly, it would produce less influence of the changes of the behavior of teachers and learning behavior of learners. When teachers participated through facing the problem in teaching by themselves, they evaluated and arranged their own belief system to the thinking process critically. It led to the changes of desirable behavior of instruction.

Principle 7 was allotment of the time and opportunities for student teachers to make plans to rethink and give feedback on the success and failures of their own teaching

implementation to the group to exchange good and appropriate methods of each one for others to know and to discuss about the problems and the appropriate alternatives to solve problems including new methods that appeared.

Principle 8 was inducement of teachers to take part in making the decision to brought the innovation on instruction to use, arrange the teacher development program that teachers could take part or participate in all steps or planning and lead to the implementation. This would influence teachers to integrate the techniques and methods, and they would achieve the development processes that led to the real implementation in the classroom.

Principle 9 was awareness that changed about behavior and instruction methods were something that would come gradually through practice. Sometimes it was a complicated process, but teachers might become worried, curious, or have conflicts during creation of the climate that helped support from peers and co-workers. These supports were important.

Principle 10 was encouragement for teachers to participate in identifying the future target for maintaining their teaching professionalism. The sustainable development of teachers could create their instruction innovation by themselves after completing the development program, and teachers could learn by themselves and join the networks of teachers in order to develop other teachers.

2.2.4 Models of Professional Teacher Development

The concept of teacher development was applied through the development principle of Sparks and Louks Horley (1990) who proposed the five models for teacher development.

The Model of Participation in the Development Process. This Model emphasized that learning was supposed to be coming out of the teachers' experience in participating in the project or program for developing the curriculum and improvement in the quality of educational management and the schools. This model was composed of the important processes which were identifying the problem or the needs, developing the implementation of school, making an inquiry or the skills to use for bringing the plan

into practice, and implementing through the implementation plan or the skill which was required for production of curriculum and evaluation of the results. The agreement which was the basic concept of the use of this model in developing teachers into teaching professionalism was that the teachers had to create the learning effectively to the maximum. When teachers wanted to clarify and solve the problems, teachers who got development through this set of methods would have development of caring the feeling of participation until the last step.

The Training Model teacher was the capable learner. The training model was related to making an inquiry or seeking for knowledge and skill through the instructional process and training, which were composed of discussion, theories, demonstration or creation of the model of skills, the workshops of the skills and giving feedback on the implementation, and agreement on the use of training model to develop the teacher professionalism. These would promote teachers to have knowledge on things that influenced to teachers' belief. This knowledge induced teachers to comply, mimic, or apply the use the techniques of teaching methods to be their own repertoire of teaching methods. The use of the appropriate training model to step of creating of feeling participation among the first three steps were the Step of Perception, the Step of Response and the Step of Creating Values in arranging the program for teacher development through the use of training models. The model was supposed to open opportunity for teachers in the team work to participate in the steps of planning which was composed of selecting the contents, objectives, schedules of training, and the persons who proposed the model or present in the training.

The Model of Acquiring Knowledge by Teachers Themselves. Through this model, teachers would identify the problems that were related to the instruction of their own interests, gather data to seek for their causes, create the instruction innovation that response to the causes of the problems, and arrange the instruction according to the new developed concept. This model would be flexible to be used for teacher development. This model developed teachers individually or in small group or in the whole school. It was composed of important steps which were identifying the problems and the problem condition regarding instruction, gathering data, analyzing data, interpreting the available data, creating the instruction innovation based on the results of data analysis, and then

bringing them into real practice and evaluating the outcome. The model to make inquiries and methods were based on the agreement that each individual among teachers had own knowledge and abilities to seek for ways to solve the problems in their own classrooms. The model for teacher development would help teachers to create the feeling of taking part or being a part starting from second step which was the Step to Response and developing into the other steps until reaching the last Step.

The Model to Suggest or Introduce Individually. Under the advice of the development team, teachers could learn and implement things by themselves based on the teachers' existing knowledge. This model of teacher development had agreed that adults were able to learn, could learn effectively to the maximum, and could be motivated the most if they were allowed to select the learning target and mission by themselves. This model of teacher development could brought to use with teachers who had different targets. This type of teacher development model was composed of several development periods or times which were identifying the needs, developing the teaching plan, bringing the teaching plan to use in real practice, and evaluating the results.

The Model of Observation and Evaluation. The observation of the teaching implementation of teachers might give some feedback data creatively. This method was effective to change the instruction behaviors. At present, most of the teachers were hardly getting any feedback on their teaching implementation. The teacher development model was done through the use of observation and evaluation methods which mean the process of data gathering, observing on the teaching implementation of teacher, and evaluating and drawing creative conclusions or summaries on teaching implementation.

From the statement above, it could be concluded that the model for teacher development to professionalism was supposed to emphasize the participation or being a part which was done through creating a training process, making inquiries by themselves, offering individual suggestions, and observing and evaluating the results.

2.3 Professional Teaching Practice

The training of teacher professional internship for teachers was preparing students to be ready for the real performance in occupation. It was emphasized that students learned from their real situation, tested the theories they learned into practice, created the knowledge through the learning in activities, worked, solved problems, and learned from the team. It was also implanting the awareness among teachers through the process of learning management and getting the good models from relevant people. With this reason, the researcher gathered the related documents related to training the experience on teacher professionalism as follows.

2.3.1 Definition and Importance of Professional Teaching Practice

The Office of the Teachers' Council (2006), Kietsuda Srisook et al. (2007), Warapak Maitriphan (2009), and Pramote Prommakan (2010) defined the teacher professional internship for teacher professionalism consistently that it was the process in the implementation section which aimed to develop the teacher professional skills through direct experience with real students that they learned in real situations through the implementation of mission as well as the professional teachers in schools.

According to the definition of the teacher professional internship for teacher professionalism above, it was clear that the training for teacher professional internship for teacher professionalism was an important process for the student teachers to learn to solve problems in the classroom and learn to live with personnel in the school. The teacher professional internship for teacher professionalism was identified based on the condition of Teachers and Educational Personnel Council Act of 2003 that identified the Teacher Council as the main organization to build teacher professionalism to reach the standard quality (Sections 8 and 9). The student teachers who had been trained with the teacher professional internship on teacher professionalism had to pass the teaching implementation in the school according to the educational curriculum based on the curriculum for a minimum of one year (Section 44 (3)) and had to follow the professional standard which was identified by the Educational Council (Sections 48, 49 and 50). These standards were composed of the standards of knowledge, professional

experience, standards of implementation, and standards of individual code of conduct (the Secretariat Office of Teachers' Council of Thailand: 2005).

Therefore, the teacher professional internship for teacher professionalism was preparation of student teachers to be ready for real performance of occupation and be ready to face the continuous challenges of the academic work which was the product of labor force with quality to the country. The training aimed to produce and develop the personnel with quality that they could adjust themselves to the work for the rest of the professional life. This training developed potential for higher education in creating the knowledge and innovation to maximize their abilities in the competition of the country in the globalization (the Office of the Higher Education Commission: 2008).

2.3.2 Content and Capacity of Professional Teaching Practice

The Secretariat Office of Teachers' Council (2005) identified the standard of experience training for teachers who got the teaching license that they had to perform the teaching in the schools according to the educational degree curriculum for minimum of one year and they had to pass the criteria for evaluating the teaching according to the criteria of the methods and conditions that the Committee or Board of Educational Council had identified. For the practice of teaching in the schools in certain subjects, the contents of training on skills and competence were given as what follows.

Contents on Training Skills

- (1) Integrate the whole knowledge to be used in implementing the teaching in the schools.
- (2) Arrange the teaching management plan with the student center.
- (3) Arrange the learning process.
- (4) Select to use, produce the media and innovation consistent with learning management.
- (5) Use the technique and strategy for learning management.
- (6) Measure and evaluate the results of learning.
- (7) Conduct the action research to develop learners.
- (8) Brought the evaluation result to develop the learning management and develop the quality of learners.

- (9) Record and report the results of learning management.
- (10) Set Educational Seminars.

Competence

- (1) Ability to arrange the learning in certain fields.
- (2) Ability to evaluate, improve and develop the learning management which was appropriate to learners.
- (3) Ability to conduct the action research to develop learners.
- (4) Ability to arrange the report on the results of learning management and learner development.

2.3.3 Roles and Duties of Those Relevant in Professional Teaching Practice

The teacher professional internship for teacher professionalism aimed for the participation and cooperation from individuals in several sectors as follows (the Manual for Teacher's Profession Internship at Lampang Rajabhat University: 2011)

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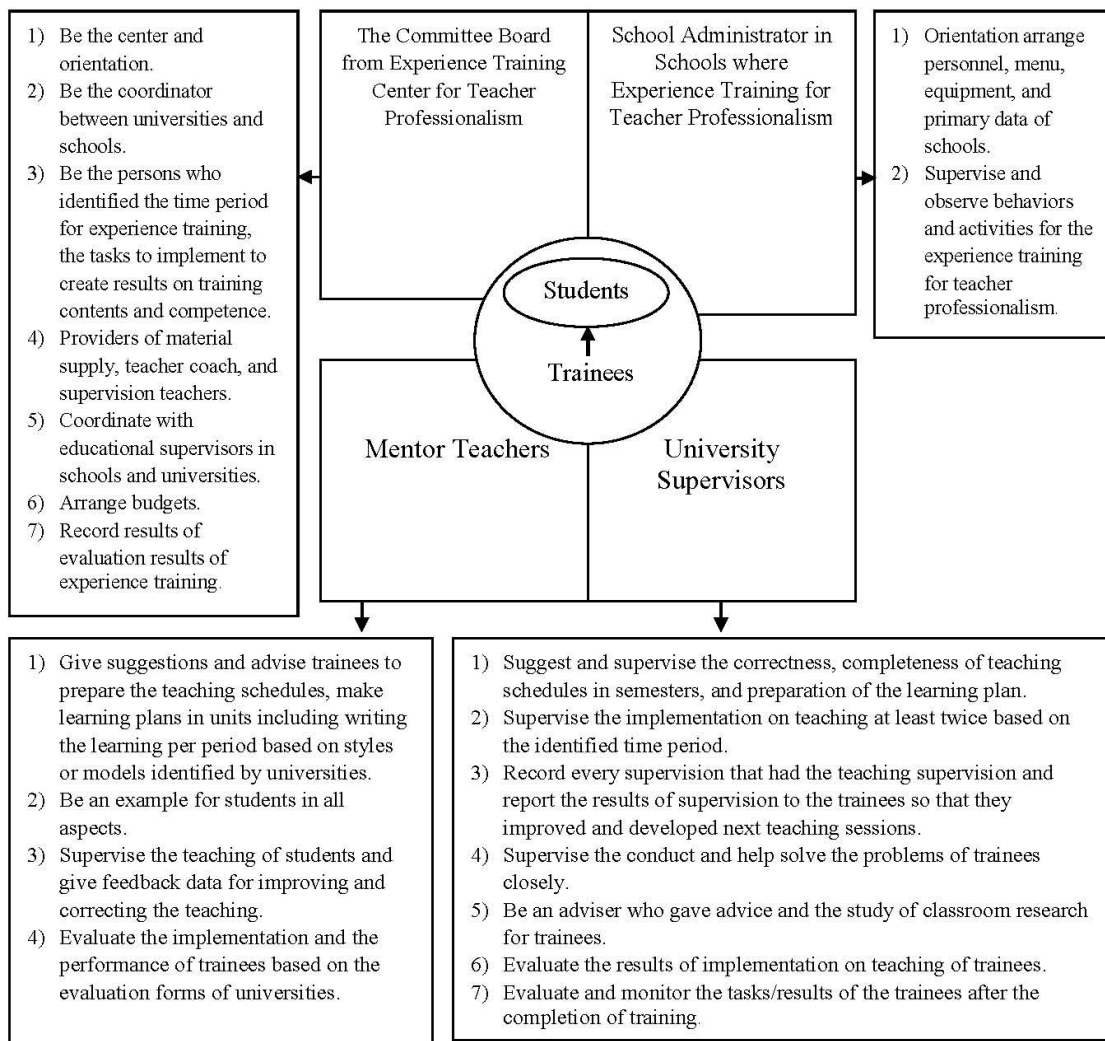


Figure 2.1 Roles and Responsibilities of Each Sector in the Teacher Profession Internship for Teacher Professionalism

2.3.4 Steps in Professional Teaching Practice

The steps for the teacher professional internship for teachers of institutes that produced teachers emphasized that the student teachers performed the teaching in actual schools. The institutes producing teachers were responsible for the orientation including the supervision to assist and evaluate the results of development during the teacher professional internship for teachers. Therefore, after the training of professional experience, the educational institutes producing the teachers would arrange seminars to allow the trainees opportunities to exchange knowledge with their colleagues and ask for consultation or advice including suggestion from supervisors from universities. The details were given below (Wachira Kruekam-ai: 2009).

(1) Preparation before Teacher professional internship for Teachers

(1.1) Make plan for teacher professional internship. The Committee Board of the Teacher professional internship Centers made a plan to send students or trainees to train their professional experience in the school networks for the whole system during the teacher professional internship period.

(1.2) Hold meetings to identify relevant supervisors. After making the plans and identifying the clear framework then the Committee arranged for meeting to identify supervisors to know about the teacher professional internship plan throughout the system including receiving additional suggestion to revise the plan for supervision to be more appropriate.

(1.3) Hold seminars for school administrators and mentor teachers who understood about the plan for teacher professional internship throughout the system. It was the implementation framework to work together to develop student teachers who got the teacher professional internship towards the same direction.

(1.4) The training for the student teachers was to prepare their readiness before the teacher professional internship for teachers. The Committee formed the teacher professional internship for teachers that would be implemented as the incentive training to prepare students.

(2) Orientation for trainees before the teacher professional internship was set that the student teachers understood the things they were supposed to know and the regulations during the teacher professional internship in the schools.

(3) Performance of the teaching and the responsibilities as teachers

(3.1) Report oneself to get the teacher professional internship to become teachers and get assignment. The Teacher professional internship Centers for teachers would identify the dates for the student teachers to report themselves at the schools. The representative of the students would brought the formal letter from the Teacher professional internship Centers for teachers and gave it to the schools. And then these trainees would get assignment from schools of their responsibilities throughout or during the teacher professional internship. The student teachers prepared themselves before the semester begins.

(3.2) Study the primary data of the schools to prepare before the teaching.

(3.3) Students/trainees got the teacher professional internship to perform the teaching as planned. During this time there would be teaching supervision by mentor teachers and supervisors.

(4) Seminars during the teacher professional internship. After the trainees or students finished the teacher professional internship as teachers for certain period of time then the teacher professional internship center would cooperate with the schools where the students got training. The supervisors would give opportunities to the trainees to share experience for improving and developing the teaching management and responsibilities of student teachers.

(5) Seminars after the teacher professional internship were settled that the students/trainees could exchange opinions from the teacher professional internship with the teachers in schools in all aspects. Then, they discussed together what they got from the experience training.

In addition, Pramote Promakan (2010) synthesized the methods to arrange the teacher professional internship for teachers as follows.

(1) Hold meeting and discuss in big groups in the orientation of the students who got the teacher professional internship as teachers before performing the teaching by the Teacher professional internship Center for teachers.

(2) Demonstrate the teaching in classroom by mentor teachers.

(3) Observe the participative teaching and study the tasks of teacher' responsibilities from the mentor teachers.

(4) Implement the teaching and other tasks of other teachers.

(5) Try new teaching and produce creative teaching media.

(6) Supervisor and mentor teachers supervise the teaching of the students/trainees who got teacher professional internship.

(7) Have small group discussion between supervisors and students or trainees who got teacher professional internship as teachers about six times during the teaching implementation.

(8) Supervisors and mentor teachers gave advice individually to the trainees who got teacher professional internship about instruction and other problems.

(9) Have the seminars after the teacher professional internship and draw conclusions as the lessons for developing oneself and for the future of teacher occupation.

The studies above showed that the steps on the teacher professional internship for teachers were different in some issues but it could be summarized into main steps which were (1) the training to prepare students before the teacher professional internship to become teachers, (2) orientation, (3) have the teacher professional internship as the teachers in schools, (4) seminars during the teacher professional internship for teachers, (5) have teacher professional internship as teachers in schools, and (6) seminars after getting the teacher professional internship as the teachers. In this research the researcher brought the monitoring and evaluation of abilities to conduct research to develop the instruction of the students/trainees who got teacher professional internship as teachers to be used in the steps for teacher professional internship as the teachers as the followings: (1) training to prepare the readiness of the trainees before experience the teacher professional internship during the school breaks or first semester by arranging the workshops that the contents would cover on the (1.1) research to develop instruction, (1.2) supervision under the model for monitoring and evaluating the abilities in conducting the research to develop the instruction of the students who got the teacher professional internship as the teachers, and (1.3) usage of the social media network to monitor the abilities to conduct research in order to develop the instruction of the students/trainees who gained teacher professional internship as teachers, (2) orientation, (3) training through the teacher professional internship of the teachers in schools under the model for monitoring and evaluating the research capabilities to develop instruction of the students who get the teacher professional internship as teachers, (4) have seminars during teacher professional internship as teachers which was the exchange of learning between supervisors and students, (5) get the teacher professional internship as teachers in the school under the model for monitoring and evaluating the abilities in conduct of research to develop instruction of students who get the teacher professional internship, (6) have seminars after the teacher professional internship as the exchange of opinion and the knowledge gained from the research for developing instruction.

2.3.5 Evaluation of Professional Teaching Practice

For the evaluation of the teacher professional internship for the teachers, the Office of the Education Council (2549) identified that there was the evaluation of teaching performance of students. The institutes would coordinate with the schools to have the evaluation team who were responsible for evaluating the teaching performance of students and allow the institutes to identify the evaluation form and conditions for making judgment on the evaluation results, duration of evaluation, and due time to submit the results. The evaluation would be set for the institutes including the proof or evidence of passing the evaluation. The evaluation had to consider the certified criteria which were identified by the Office of the Educational Council with the minimum criteria as follows.

- (1) Ability to arrange the learning in certain subjects
- (2) Ability to evaluate, improve, and develop the learning management appropriately to the learners
- (3) Ability to arrange action research to develop learners
- (4) Ability to make reports of the results of the learning management and the development of learners.

Besides, Edward (1969) and Kietsuda Srisook et al. (2007) stated consistently that the evaluation of the students who got the teacher professional internship had to be the evaluation system that had relationship with the supervision process. It was supposed to be implemented continuously from all relevant sectors that participated in evaluation together. The supervisors or the persons who evaluated the students were supposed to get the training on supervision and evaluation that the results of evaluation were reliable and represented the real situation.

2.4 Research for Developing Instruction

Conducting research to develop instruction was the important mission and necessary for teachers as well as the teaching because the results of research to develop instruction could be brought to use to improve and correct the learning methods of each of students, each group or the whole class. Adjustment on the teaching method and evaluation of

the learning of the teachers was appropriately possible to the students and the subjects. Research in instruction could also be used in arranging the classroom environment to be appropriate for instruction (Sorachai Phisayaboot: 2010). Therefore, the study of related literature on the research for developing instruction was represented as follows:

2.4.1 Research Guidelines for Developing Instruction of Student Teachers

At present, the Faculty of Education, Rajabhat University which was the organization that produced teachers adjusted the curriculum of Bachelor of Education Program to be consistent with the educational reform according to the National Education Act in B.E. 2542 Paragraph 7 Section 52 which identified the process of producing and developing teachers' instructors and educational personnel to have the quality and standards that were appropriate at professional occupation. In addition, the Teacher Educational Council identified the content on the knowledge, competence and teacher professional experience of the persons who performed teaching occupation about the research to develop the learning that the contents would cover the principles, concepts, guidelines for research, the use and production of research to develop the learning, competence on abilities to brought the results of research to use in the instructional management, ability to conduct research to develop learning and teaching, and ability to develop learners. With this reason, the teacher professional internship for teachers thus identified that the student teachers had to use the research process to develop the student learning.

Faculty of Education Rajabhat University arranged the subject on the implementation of teacher professionalism as a field implementation or practice in the subject of teacher occupation according to the curriculum of the Bachelor of Education Program (five years) with the aim to develop the graduates with proper standards on knowledge, experiences to perform occupation, and morality and ethics based on the criteria of professional standards of the Teacher Council. The Council identified that the students who got the teacher professional internship as teachers had to conduct research to develop the instruction at least one research in one semester. This research had to be accomplished under the supervision of supervisors and mentor teachers.

2.4.2 Definition and Importance of Research for Developing Instruction

The Dictionary of the Royal Institute in 1999 (2003), Best (1978), Pimpan Dachakup et al. (2001), Wanwilai Phansida (2001), Uthumporn Jamornman (2001), Kusaya Saengdet (2002), Boonchom Srisa-ard (2000), Phichit Ritjaroon (2002), Siripong Saophayon (2010), and Suwimon Wongwanit (2012) defined the definition of research to develop instruction consistently as the process to solve the problems and develop the learners systematically and reliably by the teachers. From the definition of research to develop instruction above, it was clear that the research for developing instruction was important because it was a process and important mechanism to move to the success in improving and developing the learners that they could learn effectively. Besides, it was also developing the teachers that they were able to implement teaching effectively.

Therefore, it could be said that the teachers were the center of the educational reform and development of the learning process (the Office of the National Education Commission: 1998) because the teachers and the practitioner of teaching worked directly that they had potentials more than research and external education to initiate any development on instruction based on their situation in classrooms and the learners under their responsibility. The educational reform based on the National Education Act of B.E. 2542 identified the guideline for educational management that the arrangement of learning process had to utilize the student centers. The Act required promotion that teachers arranged the environment that facilitates the learning and used the research as part of learning process. According to the guideline, teachers had more freedom in the teaching arrangement at the same level as the lecturers to be writing the textbooks or learning methods and skills for making inquiries for knowledge. This freedom was important to promote learners to get continuous development until reaching their full potential (Pongpan Traimongkolkul: 2000, Pimpan Dachakupt et al: 2001, Chatree Kerdtham: 2002, and Suwimol Wongwanit: 2012).

2.4.3 Goals of Research for Developing Instruction

The promotion of freedom of teaching and the reform or the learning methods as the guideline for the educational reform all over the world since Stenhouse (cited in Pongpan Traimongkolkul: 2000) sparked the concept on the role of teachers in the

dimension as a researcher. And, in the past two decades, there was an important movement in promoting this concept by integrating the teachers' role into two statuses which were the teacher as practitioners of teaching who played major roles and the teacher as operational researcher which was the additional role that the teachers would be the users of concepts and research methods to be part of developing the teaching.

Division of Educational Research (2002) identified that the research to develop the learning aimed that teachers could conduct research to develop the learning to analyze the learning problems, make plan to solve the learners' problem, and set data gathering and analysis systematically.

In addition, Pimpan Dechakupt et al. (2001) stated that the action research had an important target which was developing the quality of instruction to create the best results by teachers themselves. It was consistent with Suwimol Wongwanit (2012) who summarized that the workshops in the classroom aimed to find the effective methods to use with the learners and solve the problem by adjusting or changing things in the classroom to develop learners to achieve the targets based on the curriculum.

With this reason, the research conducted by teachers during the teaching was not the research in principle or theory level. It was the workshop-based research (Hopkins: 1994) who stated it with similar definition with the action research as "the operational research in the classroom which was the research of the teachers and the teaching research." Sukothai Thammatirat Open University (2011) identified the target of action research that aimed to develop the quality of instruction with the best research by the teachers themselves. With the aim of the research above, the researcher selected the term "the research to develop instruction" because it could convey the meaning better than using the research that was implemented by teachers to solve the problems or develop the learners systematically or reliably.

2.4.4 Characteristics of Research for Developing Instruction

The mission or responsibility of teachers was teaching. Therefore, this research conducted in the classroom did not have to affect the main duty of teachers (Hitcock and Hughes: 1995). Therefore, the characteristics of research to develop instruction

could be specific and different from other research as the followings (Walter R. Borg: 1989, Judith L. Green: 2006, Pongpan Traimongkolkul: 2000, Pimpan Dechakupt et al: 2001, Siripong Saophayon: 2010, Sukhothai Thammathirat Open University: 2011, and Suwimol Wongwanit: 2012).

(1) The target of action research was to create certain knowledge to be used in the classroom by the teachers who were also researchers.

(2) Teachers were responsible to teach in a classroom as researchers. The research, therefore, could be conducted by only one teacher, many teachers together, or the teachers together with external researchers.

(3) The starting point of action research was initiated from the problems or conditions in instruction found by teachers and need some improvement for solving the problems through research methods.

(4) The action research had an objective to brought the research results to solve the problems or seek for the methods to develop mainly the instruction.

(5) The areas of action research would be specific on the following issues.

(5.1) The research problem might be a small issue, but for teachers it was meaningful for the direct instruction.

(5.2) The population targeted by study about the learners might be only one student, students in one classroom or several classrooms that the teacher-researchers who conducted the research was responsible to teach. In addition, there was a study about the teachers as well as the instruction process and the classroom environment.

(5.3) Brought the result of research to use. The research aimed to bring the results to develop instruction of teachers in the environment that conducted research directly but not to be generalized in general terms.

(6) The research would be implemented together with the normal teaching or learning. It was considered a part of instruction.

(7) Studying the related literature, the teacher who studied the related literature to increase understanding about the areas under study. Literature could come from secondary data sources or might be based from the experience of the researcher or the consultation or discussion with experts on those aspects.

(8) The research methods had to be flexible. It could be implemented and interpreted well with the teaching of teachers such as the tools of data gathering might consider the quality, content validity with checks on the reliability, or trial of the tools to try out before data gathering.

(9) The action research aimed to study the data from all students in the class that the researcher or teacher conducts. It was the study of all targets among student groups. It was not studied over some students who were the representatives of the target student groups. The data analysis would use the descriptive statistics such as frequency, percentage, means, and standard deviations without using inferential statistics to test any hypothesis.

(10) Action research gave importance to the results of implementation more than reporting of the findings.

(11) Writing the report of classroom report was aiming to gathering the knowledge on the methods or the innovation which would be used to solve the problems of instruction. Therefore, the knowledge from the action research could not be used as reference or universally applicable to other cases.

(12) In bringing the results of action research to use, teacher-researcher had to consider the context and contents of the target groups consistently and the group that would brought the results to use.

2.4.5 Steps of Research for Developing Instruction

Johnson (2008) proposed the concept that the process of action research was composed of five important steps which were (1) identifying the problems clearly or what to study, (2) designing the data to be gathered and how to gather them, (3) gathering the data and analyzing the data, (4) explaining the findings on how to use or apply them, and (5) reporting the findings.

Freeman (cited in Suwimol Wongwanit: 2012) proposed six steps of operational research. Step 1 was establishing the curiosity about what happened. Step 2 was identifying the research problems or research questions which were more specific; it had to be questions that could be studied. Step 3 was data gathering. Step 4 was data analysis to answer the questions. Step 5 was trying to understand what happened. Step 6 was bringing the findings to report as the expansion for public to know.

Vichit Suratreungchai (2003) adjusted the steps of the research process to develop instruction to be more appropriate and consistent with the characteristics of Thai teachers into seven steps which were identifying the problems, studying the primary data, planning for implementation, implementing according to plan, observing the results, drawing conclusions, and producing feedback.

Kridsada Krudthong (2011) identified the problem to solve in the classroom with (Quality Control Circles or QCC which was composed of seven activities such as (1) thinking about the problem, (2) investigating the present conditions, (3) analyzing the causes, (4) planning for implementation, (5) implementing to solve the problems, (6) checking the results, and (7) proposing the standards for new implementation methods.

In addition, Sukhothai Thammathirat Open University (2011) identified that the operational research in the classroom had important steps which were (1) description of desirable characters of learners, (2) analysis of the causes or additional factors, (3) learning together to create innovation, (4) trial use of innovation, (5) analysis of the data, (6) summary of results of research, (7) written report and improvement in report and implementation plan, (8) the model of report of action research that would not depend on any style of research reports but focusing only on important issues which could answer the questions of who, what they do, where, when, how, purpose of doing and outcome, and how we solved the problem. Research was composed of important contents which were (1) the background, (2) causes of problems, (3) guideline to solve problems, (4) objectives of research, (5) research methodologies, (6) research findings, and (7) summary and feedback.

In addition, Suwimol Wongwanit (2012) stated that the good report of action research was supposed to show the evidence about the process and feedback that could be confirmed after summary from the research work. The typical weakness of all research was the lack of relevant theories to the research.

From the statement above, it could be summarized that the research to develop the learning was supposed to be composed of the background and the cause of problems, guidelines to solve the problems, objectives of research, research methodologies, the research results or findings, summary and feedback. In fact, the performance of

students/trainees in the school required them to write a research proposal and a research report. Therefore, the ability to conduct research to develop the reaching and learning aimed that the student teachers who got teacher professional internship could arrange the report of action research as divided into three parts. These were (1) introduction composing of cover of report, abstract, contents, (2) the contents made of five chapters which were chapters 1 (introduction), 2 (review of literature), 3 (research methodology), 4 (results of data analysis) and 5 (summary, discussion, suggestions). The third part was made of bibliography, appendix, and researcher's biography.

2.4.6 Benefits of Research for Developing Instruction

The benefits of research to develop instruction were important tools to help in developing the teacher professionalism because the findings that came from the inquiry process which was systematic and reliable allowed learners to develop their learning and teachers to have better development on instructional management (Suwimol Wongwanit: 2012). This was consistent with Prawit Erawan (1999) who stated about the positive sides of action research as follows.

(1) Conducting the action research made the teachers work systematically to see the whole picture of the work along the line and the work plan.

(2) It allowed teachers to arrange learning and teaching effectively by using effective methods that revealed the research results. It would change from the past that teachers arranged learning with previous experience and similar knowledge without attention about individuals that they did not really reach students' problems.

(3) Teachers could create and analyze various alternatives and make a decision on alternative with quality and reason and creativity because they could see the alternative broadly and widely to widen their horizon.

(4) Teachers could use the research process to develop instruction to control classes, supervise and develop their own implementation, learn the results of the concrete research, and achieve success in implementation.

(5) Brought the research findings to be used in identifying policy or major improvement for the schools.

(6) The learners had learned with quality and efficiency.

Chatree Girdtham (2002) stated that the research results to develop instruction would create many benefits as follows.

(1) Allow the teaching arrangement to achieve the objectives of the curricula because the teachers could use innovation, teaching media, methods, or new teaching techniques with quality to solve the problems or develop the instruction.

(2) Teachers developed their own work to reach the standard and could use their own academic work to propose for higher position promotion.

(3) Learners got development to their full potential.

(4) Research became the data for improving the administration or development of educational management to be more effective.

Pichit Ritcharoon (2004) stated about the benefits or the research as follows.

(1) The findings of research would improve correctness, reliability, and benefits of the data for making policies and planning at national levels in all aspects.

(2) Research would enlighten teachers about human behavior which was the data for making plan and development of the people in the organization.

(3) Research set thoughts for the researcher to the development of their own thinking and working systematically to be reasonable people and to develop their work and occupation to reach higher standards.

(4) Research provided data or new findings or field facts for solving problems, developing life, and working with human beings better.

(5) The research revealed, developed, strengthened or proved facts, rules, knowledge or science in other branches, and expansion of the knowledge.

(6) Research answered the problems or responded to human curiosity. It helped to satisfy human curiosity. Therefore, it was helpful to use research in helping people at a certain level.

(7) Research got products or new invention models and new methods which were tested for developing the work and better life quality.

Suteera Prasertsan (2006) stated that the skills of researchers which were the outcomes of conducting research were composed of skills in making inquiries, composing, recording, analyzing the data, making plans, arranging time, following disciplinary

regiment, setting technical communication and computer use, using language in both writing, presenting, editing in Thai and English, and knowing how to interact with people at several levels. Developing interaction with many people developed better conducts of research in the developing of skills of researchers.

In addition, Surawat Thongbu (2010) stated that the results of research implementation created useful knowledge for human beings. Knowledge made the implementation effective, efficient, and conducive to happy living as follows.

- (1) Achieve knowledge as theory and practices,
- (2) Prove or check the accuracy of rules, principles, and theories,
- (3) Understand the situation, phenomena, and behavior,
- (4) Predict the future results of the situation, phenomena, and behavior accurately,
- (5) Solve problems correctly and efficiently,
- (6) Help in analyzing and making a decision appropriately,
- (7) Improve the working efficiently,
- (8) Improve and develop existing conditions and better life, and
- (9) Stimulate individuals to have reasons, to think, and to seek for knowledge.

According to these statements, the conclusion appeared that the results of researcher or teacher after arranging a learning to research process were the skills of making inquiries, applying computer, making plans of implementation, arrange time and disciplinary regiment, composing, recording and analyzing data, conveying communication and publication, and explaining with the language used in both writing and verbal communication with other people.

The results that appeared to the students after they got the learning arrangement through the research to develop learning were the quality of their learning. This result was considered from the students who got development through the research process to develop learning and teaching to achieve the research objectives.

2.5 Supervision

The definition of supervision today was the educational supervision, teaching supervision and educational personal development which was one of the processes of administration. Supervision attempted to suggest and support for educational personnel to improve the instruction as well as management by knowing how to select improvement over the educational objectives, supply, contents, teaching, methods, and evaluation of teaching. Cooperation with relevant people including getting moral support might direct teachers-researchers to create prosperity in educational occupation and promote better educational quality in all aspects in terms of learning process to create the learning achievement as expected to give feedback to the quality of students. Therefore, the review of literature related to supervision was given as follows.

2.5.1 Definition and Supervision Goals

Burton and Bruckner (1955), Kimball Wiles (1967), Spears (1967), Good (1973), Harris (1975), Marks (1978), Oliva (1989), Thanet Khamkerd (2006), Manoon Aroonpairoj (2007), and Watchara Laowreandee (2013) defined the term “supervision” consistently as a process of working between supervisors and receivers of supervision. The supervisors would be responsible to help and give advice for the receiver of supervision to improve instruction in the classroom with the main aim to develop the students.

From the definition above, it was clear that supervision was a process to improve and develop the efficient instruction of the students. Therefore, it could be stated that the learning arrangement required the supervision process to improve and develop the quality of learning management to be more effective because the learning management sometimes teachers could not solve problems alone. It was necessary to let others help with suggestions. Supervision was a method to solving the problem of instructional management. Briggs and Justman (1982) summarized the objectives of supervision into four issues which were (1) promoting the prosperity in occupation, (2) promoting the prosperity of teachers, (3) improving teaching of teachers, (4) promoting the relationship between schools and communities. This was consistent with Good (1997) who stated about the objective of supervision of the teaching that aimed to create prosperity in occupation, help developing the abilities of the teachers, help selecting and

improving the educational objectives, help to use media and material supplies, and improve teaching methods.

In addition, Preeyaporn Wong-Anutrohd (2005) and Anchalee Phoothong (2001) divided the objectives of supervision into four: (1) improving teacher professionalism, (2) improving quality of learners, (3) creating moral support and related personnel to the supervision, and (4) aiming to create relationships among relevant people who work together. Therefore, the development of prosperity on teacher professionalism would influence directly the learning of learners. Learning was supposed to rely on the supervision assistance, suggestions to give knowledge and training on curriculum development, new instruction techniques, innovative media, teaching and conducting the action research that the teachers could review, and developed instructional management or professionalism continuously and efficiently with maximum use (Watchara Laowreandee: 2013).

From the definition and the objective of supervision suggested above, it could be concluded that supervision aimed to help, suggest and support the receiver of supervision to develop teachers, their work profession, and teacher professionalism which affected the learners' quality. Therefore, for supervision there was supposed to be identification of objectives, guideline for implementation, and guideline for the clear supervision. In this research, the researcher identified the objectives of the supervision which were (1) to give knowledge on research to develop instruction for students who got teacher professional internship as teachers, (2) to give advice through the supervision process, monitoring about the research to develop instruction for students who got teacher professional internship as teachers, and (3) to measure and evaluate the ability of research to development of instruction of the students who got the teacher professional internship as teachers.

2.5.2 Roles, Duties, and Responsibilities of Supervisors

The educational supervisors in Thailand brought the model from overseas to use and developed their own supervision model that was appropriate to the Thai social condition. The model had a psychological relationship through the assistance, sincerity, or help that the instructional management could be implemented in the right direction to

respond to the need of supervisors and receiver of supervision as follows. Oliva and Pawlas (1997), Zepeda (2012), Beach and Reinhartz (2000), and Watchara Laowreandee (2013) identified the roles of supervisors consistently as follows.

(1) Experts on teaching and innovation development were the person with knowledge on the teaching method techniques and could demonstrate the effective teaching methods and give advice to teachers.

(2) Experts on curriculum were those with knowledge of the curriculum and the methods to improve and develop the curriculum.

(3) Communicators who could convey the meaning and coordinator was the person who could make a linkage of data together with the teacher's opinion and create a good relationship between the workers and their colleagues.

(4) Leaders were persons who knew about the methods to work together in groups and made the groups work efficiently to reach the objectives.

(5) Organizer was person with skills of thinking about the program on what was useful for teachers.

(6) Stimulators were the persons bringing opinions and suggestions for teachers to consider.

(7) Data distributor was the person who publicizes data of the school to the community.

(8) Researcher was the person who brought the result of research for teachers to use and to set changes like helping teachers to change and improve the development. The researcher was the person who learned through the process of research to brought changes and improve the situation.

(9) Leader of changes was the person who could manage in a changing situation to create continuous creative development.

(10) The person who suggested/coached was the person who assisted around the perception, decision making, and the skill used intellectually. In addition, this person also sought for the research, resources and feedback data to make revision of instruction.

(11) Evaluator was the person who helped teachers to evaluate the teaching, test the curriculum, and evaluate self-progress.

According to the roles and responsibility of supervisors above, it was obvious that supervisors were leaders of changes and players of roles and responsibilities to give assistance or support to teachers in improving and developing instruction including becoming the coordinator between schools and communities. Therefore, for this research, the researcher identified mentor teachers as the teachers in the networks of schools to develop professional teachers and supervisors among instructors in Rajabhat University to be the supervisors who were responsible to help support, give advice and evaluate the development of instruction to the students who got teacher professional internship.

2.5.3 Supervision Methods

Effectiveness and efficiency were necessary to be done continuously in chronological steps; supervisors and receivers of supervision played important roles in developing the supervision together in the whole system emphasizing on the supervision to develop the learning process. The process was composed of opening the hearts, a willingness to create quality, the other conditions that emphasize not only the amount of work but also quality based on the democratic principles that respected each other between the developer and the developed or among members of the group. Teachers-peers attended the development aiming to give consultation, advice, and mentorship with the aim to develop the quality of learners but with different characters of the receiver of supervision both on the knowledge, ability and levels of thinking which influenced the differences in teaching behavior.

(1) Developmental Supervision was the supervision method based on the concept of Glickman, Gordon and Ross-Gordon that considered some human development principles. The supervision was considered as human potential including the differences of human beings especially on adult human beings under the basic belief that human beings could develop themselves. Supervisors had to believe that everyone could develop oneself and own professionalism continuously with the higher efficiency to the learners whenever got help, suggestion and support correctly and appropriately to the level of each ability level (Glickman et al.: 1995, Watchara Laowreandee: 2007).

(1.1) Developmental Supervision's Objectives

The developmental supervision had two objectives: (1) help the receivers of supervision to improve and develop the work of their own profession continuously with the highest benefits to learners and (2) to create the schools with quality, create efficient learners with learning achievement that reached the expected standards (Watchara Laowreandee: 2007). Supervision to be successful had to be composed of the work on giving direct assistance to the receivers of supervision, as well as group development, professional development, curriculum development, and action research. Supervisors had to have knowledge, ability on techniques and the implementation skills based on the developmental supervision model to help the schools into success (Glickman, Gordon and Ross Gordon: 2010).

(1.2) Components and model of developmental supervision

In the developmental supervision, the supervisors had to have knowledge and ability on techniques and many operational skills. Therefore, the supervisors who brought the developmental supervision into use had to achieve the targets by knowing, understanding and having skills, having capabilities in performing in many things according to the models and components of the development supervision as follows (Glickman, Gordon and Ross-Gordon: 2010).

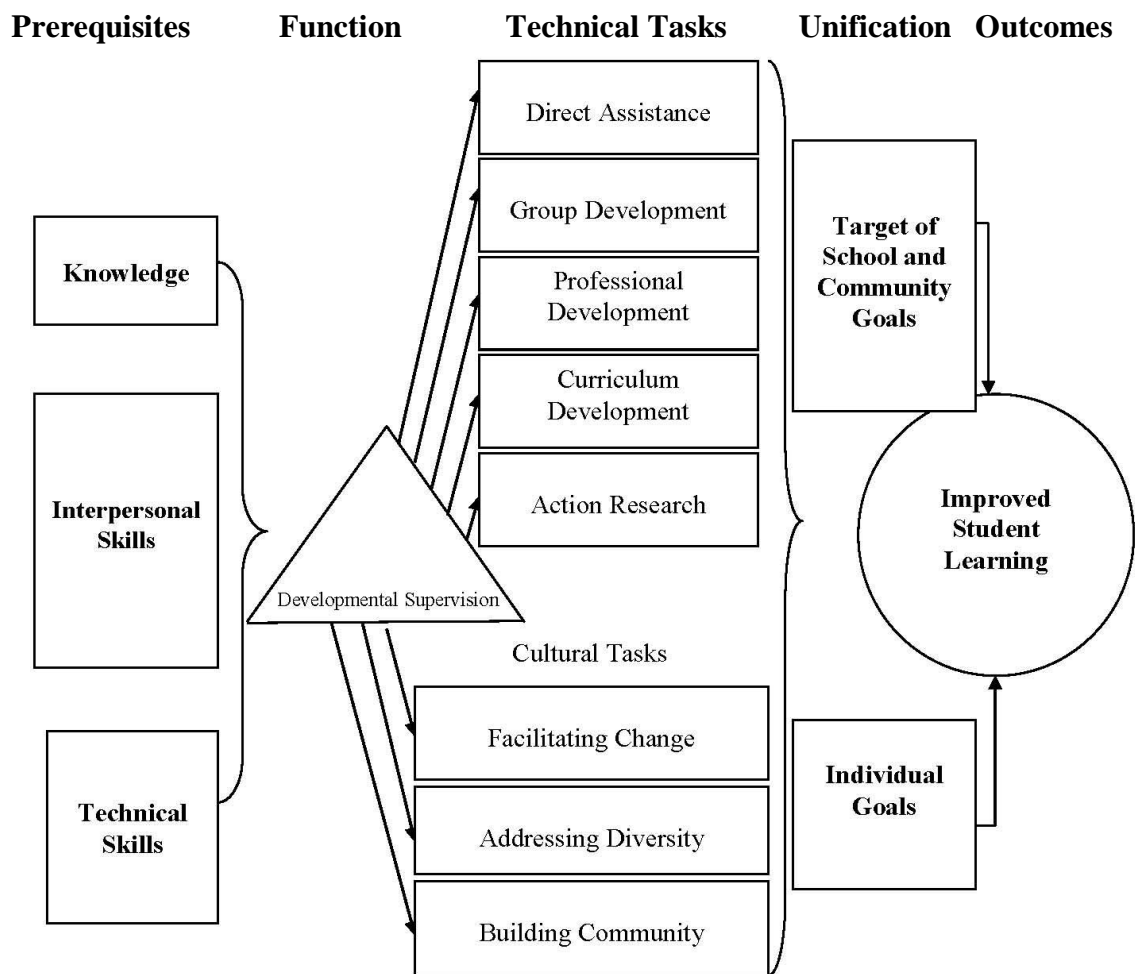


Figure 2.2 The Developmental Supervision Model

The model of Developmental Supervision was composed of five parts which were the followings.

(1) Knowledge and skills for the developmental supervision for the prerequisites as the knowledge was about the direct tasks and skills for promoting good interaction and the skill on the techniques of supervision and the conveying of the meaning of teaching observation.

(2) The function of the developmental supervision was the development.

(3) The educational supervision and the tasks of teaching supervision

(4) Unity or gathering to be one target of the schools, community and individuals.

(5) Product or desirable result was the learners who improved learning (Improved Student Learning).

According to the statement above, it could be seen that the methods or techniques that led to development of the learners according to the concept of Glickman, Gordon and Ross-Gordon was consisting of giving assistance to the receivers through direct assistance, group development, professional development, curriculum development, and action research.

With this promotion and support, the receivers of supervision were able to improve, develop, and correct the teaching that led to the development of learners who had potential. The receivers of supervision had to be able to apply action research that had the techniques, methods and important mechanisms to develop the learning of the learners. According to that importance above, the researcher aimed to develop the model for monitoring and evaluating the abilities of research to develop the instruction.

(1.3) The steps of developmental supervision

The developmental supervision had the target to increase or develop the ability to brought oneself, to send influence of the results to the quality of learners, and to support the learning methods by oneself in arranging the instruction to the receiver of supervision through giving advice and assistance to teachers to improve or develop the instructional management. It could be done to the receiver of supervision individually or in groups. Glickman et al. (1995) identified four types of supervision as follows.

1. Methods to give supervision directly on behaviors (Directive Control Approach)
2. Directive informational approach
3. Supervision method to collaborative approach
4. Indirect supervision (Non-directive Approach)

The developmental supervision was the supervision that increased the alternative and opportunities to improve instructional management of the receivers of supervision. The receivers of supervision could develop themselves more and have an attachment to their own duties willingly (Watchara Laowreandee: 2013). Some studies showed that this method of directive informational approach could be used well with receivers of supervision with few experiences in little teaching and lack of experience. It was

correlated with the research that the receivers of the evaluation were student teachers who got teacher professional internship as teachers. They lacked experience in performing the work and needed consultation and suggestion from supervisors. Through directive informational approach, the supervisors would give information and several methods that the receiver of information could select in order to encourage the receiver of supervision in making the decision more until the supervisor could think together while performing the tasks with others without relying too much on supervision to give advice all the time. The directive informational approach had the following steps.

(1) Presenting was presenting the data from observation through the teaching of supervisors that the receivers of supervision understood and then accepted the target which had to change from the problems in instructional management to solutions.

(2) With clarifying or common understanding, the supervisors asked the opinions of the receiver of supervision about the targets to change the necessity and the methods to change from presenting the data in details from the observation and note-taking.

(3) Listening: the supervisor was willing to listen to the opinions and perception of the receiver of supervision in order to check that the receivers of supervision, understand, and accept the targets or changes and then improve.

(4) Problem solving: the supervisors considered the guideline for possible problem solving in several ways that the receivers of supervision could select them and to explain the causes of troubles clearly.

(5) Directing the implementation: the supervisors proposed a guideline to solve problems to the receivers of supervision who then selected the most appropriate methods and gave reasons for that selection of methods.

(6) Listening: the supervisors asked the receivers of supervision about the guideline and methods that receivers of supervision selected to use with reasons. The supervisor gave additional information about the guideline that the receiver of supervision selected.

(7) Directing: director identified the sources of area that receivers of the supervision performed and implemented through direct speaking to the receivers of supervision who then selected the methods to use.

(8) Clarifying for the same understanding: to create the same understanding on activities that the receivers of supervision would perform, the supervisor would allow the receiver of supervision to explain repeatedly and additionally more about the methods in the activities to perform.

(9) Standardizing or identifying standard: the supervisor helped the receiver of supervision to identify the criteria to perform appropriately to the behavior to be corrected and criteria of judgment of success according to the targets and identified due date and time.

(10) Reinforcing: the supervisor summarized the meeting and reviews the target of changes, activities, the criteria for evaluation for success according to the target date and time of monitoring and observation of the teaching.

With this reason, it could be said that in the use of behavioral changing with directive informational approach the supervisor had to be aware that the receiver of supervision had to participate in the responsibilities in selecting the methods or practice of the method appropriately by themselves because the developmental supervision had the target that the target of supervision to develop oneself. It meant that all development in all aspects in both thoughts and abilities to make decision and skills in instructional management.

(2) Clinical Supervision was the supervision that aimed to develop the application methods of teachers. It aimed to improve mainly the instructional management of teachers in the classroom. Or it could say that the objective of this clinical supervision was to teach effectively (Effective Teaching) of teachers. The effective teaching of teachers had to follow the criteria which came from the results of relevant research on the instructional management (Preeyaporn Wong-Anutrohd: 2005, Watchara Laowreandee: 1998). Besides, the clinical supervision still had the work process in the system and repeated implementation until there were changes developed through flexibility according to the real situation. In the clinical supervision, the effective supervision required the supervisor to stay permanently in the school and be responsible for limited numbers of teachers (Richard: 1976). The clinical supervision was the conceptualization of the supervision (concept) and the structure of the supervision implementation.

Therefore, the clinical supervision was the appropriate supervision process to the teacher professional internship for the teachers because the trainees who got this training as teachers still lacked experience in working. The students still needed supervision and consultation closely from the people who had knowledge and ability in performing in the schools. Therefore, the coaching teachers were coming from mentor teachers and supervisors.

Besides, the important characteristics of clinical supervision were given by Goldhammer, Anderson and Krajewski (1980) as follows.

- (1) It was the technology for directly improving the instruction.
- (2) It was an important part that stood within the instructional management processes.
- (3) It was the process that had the targets, clear objectives, and clear links between the school needs and the advance or progress in the professionalism of the teachers in schools.
- (4) It was the process that created a good relationship with the profession of the teacher and the supervisors.
- (5) It was the process that required trust and reflects the understanding, support, and attachment in developing oneself.
- (6) It was a systematic process although the implementation might be flexible and needed adjustment on the methods continuously.
- (7) It was the creative process that linked between facts and ideas.
- (8) It was the process that was based on the belief that the supervisor was the person who had knowledge on the analysis of instruction, including building good relationship to each other.
- (9) It was the process that required training for the person who would work as supervisors first before they started to bring the clinical supervision to use, especially on the observation technique and the efficient and effective clinical supervision.

Therefore, the clinical supervision was the model for the observing process on the instruction to improve the quality of instruction. Thus, the studies of the supervision process of clinical supervision from Mosher and Purpel (1972), Cogan (1973), Boyan and Copeland (1978), Goldhammer, Anderson and Krajewski (1980), Bellon and Bellon

(1982), Hoy and Forsyth (1986), Acheson and Gall (2003), Sangud Uttranan (1987), and Watchara Laowreandee (2007) could show the supervision process in Table 2.1.



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Table 2.1 The Clinical Supervision Process

Glickman	Mosher and Purpel	Cogan	Boyan and Copeland	Goldhammer, Anderson and Krajewski	Bellon and Bellon	Hoy and Forsyth	Acheson and Gall	Sangad Utranan	Watchara Laowreandee
<ol style="list-style-type: none"> 1. Hold meeting first, then observe the teaching. 2. Observe the teaching in the classroom. 3. Analyze the result of observation and identify the meeting strategy. 4. Hold the meeting for the supervision. 5. Hold a meeting to present the result of analysis on teaching observation. 	<ol style="list-style-type: none"> 1. Plan to observe the teaching. 2. Observe the teaching. 3. Evaluate or analyze the teaching observation. 	<ol style="list-style-type: none"> 1. Build the relationship between teacher and supervisor. 2. Make plans with teachers 3. Identify the guideline for teaching observation 4. Teaching observation 5. Analyze the instructional process 6. Identify the method for consultation meeting 7. Consultation meeting 8. Continuous planning 	<ol style="list-style-type: none"> 1. Pre-Observation Conference 2. Teaching Observation 3. Instruction analysis 4. Post-observation conference 	<ol style="list-style-type: none"> 1. Pre-observation conference between supervisor and teacher 2. Observation of instruction 3. Data analysis of the instruction and making plan for the supervision conference (Analysis and Strategies) 4. Supervision Conference) 5. The conference to analyze the supervision behavior (Post-Observation Conference) 	<ol style="list-style-type: none"> 1. Meeting to make plans before observing the teaching 2. Observe the teaching in the classroom. 3. Meeting to give feedback data 	<ol style="list-style-type: none"> 1. Pre-observation was composed of 3 steps. <ol style="list-style-type: none"> 1.1 Building relationship between teacher and supervisor. 1.2 Planning together 1.3 Planning the observation. 2. An observation period. 3. Post-observation was composed of 3 steps. <ol style="list-style-type: none"> 3.1 Analyze the instructional process. 3.2 Make a strategic plan for the consultation conference. 3.3 Adjust the plan. 	<ol style="list-style-type: none"> 1. (Planning Conference) 2 (Classroom Observation) 3. (Feedback Conference) 	<ol style="list-style-type: none"> 1. Meeting for consultation. 2. Observation of teaching 3. Data analysis 4. Supervision meeting 5. Instructional development 	<ol style="list-style-type: none"> 1. Pre conference with teacher before the observation 2. Observation of classroom teaching 3. Analyze and interpret observation of teaching and consider the identification of methods. 4. Post conference with teacher 5. Analysis of supervision behavior to giving the comment/criticize the 4 implementation steps.

Table 2.2 Synthesis of Supervision Steps

Supervision steps	Glickman	Mosher and Purpel	Cogan	Boyan and Copeland	Goldhammer Anderson and Krajewski	Bellon and Bellon	Hoy and Forsyth	Acheson and Gall	Sangad Utranan	Watchara Laowreandee
1. Supervisors and receivers of supervision together planned and observed the instruction.		✓	✓	✓	✓	✓	✓	✓	✓	✓
2. Supervisor observed the instruction and presented derived data from the observation that receivers of supervision understood and accepted targets to change the problems in instructional management of receivers of supervision.	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
3. The supervisor asked opinions of receiver of supervision about targets to change.	✓		✓	✓	✓					
4. Supervisor listened to opinion and perspective of receivers of supervision to understand that they saw and accepted targets that were required to change including knowing the methods of improvement.	✓		✓	✓	✓					
5. Supervisor considered guidelines for possible solutions in several ways that receivers of supervision could select and allow them to explain the causes of the problem clearly.	✓		✓	✓	✓					✓

Table 2.2 (continued)

Supervision steps	Glickman	Mosher and Purpel	Cogan	Boyan and Copeland	Goldhammer Anderson and Krajewski	Bellon and Bellon	Hoy and Forsyth	Acheson and Gall	Sangad Utranan	Watchara Laowreandee
6. Supervisor proposed guidelines to solve problems and receivers of supervision selected most appropriate methods and gives reasons for selection.	✓		✓	✓	✓					
7. The supervisor asked the receiver of supervision about guideline and methods which were selected by the receiver of supervision to use with reasons; supervisor gave additional information on guideline which was selected by the receiver of supervision	✓		✓	✓	✓					✓
8. Supervisor identified areas or frames for the receiver of supervision to implement by giving suggestions to the receiver of supervision about methods which were selected by the receiver of supervision	✓		✓	✓	✓				✓	
9. The supervisor and the receiver of supervision created mutual understanding about methods and activities to perform.	✓		✓	✓	✓				✓	

Table 2.2 (continued)

Supervision steps	Glickman	Mosher and Purpel	Cogan	Boyan and Copeland	Goldhammer Anderson and Krajewski	Bellon and Bellon	Hoy and Forsyth	Acheson and Gall	Sangad Utranan	Watchara Laowreandee
10. Supervisor helped the receiver of supervision to identify criteria for appropriate implementation on behavior which required solution and criteria to judge success according to targets and identified due dates and time.	✓		✓						✓	✓
11. Evaluation of supervision		✓			✓	✓				
12. The supervisor gave reinforcement and feedback information.	✓		✓	✓	✓	✓	✓	✓	✓	✓

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Remarks: Supervision steps selected to use in this research had to have the users more than 50 percent in each step.

According to Table 2.2, it could be summarized that the supervision step had seven steps as follows.

(1) Supervisors and receivers of supervision together planned the instructional observation.

(2) Supervisor observes the instruction and presents the data derived from observation to the receiver of supervision to understand and accept the targets to change from the problems in instructional management of the receiver of supervision.

(3) Supervisor judges the guideline for possible solution in several ways that receiver of supervision selected and allow receiver of supervision explain the causes of problem clearly.

(4) Supervisor asks receiver of supervision about the guideline and methods that receiver of supervision selected to use along with giving reasons; supervisor gives additional data about guidelines selected by receiver of supervision.

(5) Supervisor identifies areas or frame where receiver of supervision had to perform and implement through giving suggestions to receiver of supervision about methods which were selected by receiver of supervision.

(6) Supervisor and receiver of supervision discuss mutual understanding about methods and activities to perform.

(7) Supervisor gives reinforcement and feedback information.

With this reason, the researcher considers to select and make decision to bring the steps to apply in the development of the model for monitoring and evaluating the research capabilities to develop the instruction of student teachers. It was composed of seven steps which were (1) the supervisor, mentor teachers and student teachers together make a plan for monitoring and evaluating research capabilities to develop instruction, (2) the supervisor, mentor teachers observe the instruction and present the data from observation to the students trainees who get the teacher professional internship as teachers and together analyze the problems of research, (3) the student teachers who get teacher professional internship as teachers explain the causes of problems clearly whether such problems were worthy as research problems or not. After selecting the problem which was important and influential to the learner then trying to solve problem through the research process on one issue and study the secondary data and review of

literature to seek for guideline to solve problems, (4) supervisors and mentor teachers ask the student teachers who get teacher professional internship as teachers about the guideline and methods which were selected to use along with reason. The supervisors and mentor teachers give additional data on the implementation guideline which the students trainees with teacher professional internship as teachers select if it was appropriate and possible for implementation or not (and how), (5) supervisors and mentor teachers together identify the areas of framework that student teachers had to implement based on suggestions to student teachers about the methods that trainees select, (6) supervisors, mentor teachers and student teachers create mutual understanding about the methods and activities to implement in research to develop instruction, and (7) supervisors and mentor teachers give reinforcement and feedback data to student teachers who pass the supervision.

2.5.4 Supervision Activities

The activities which were used for supervision were the important tools to support and develop the implementation of teachers. There were many supervision activities; therefore, the supervisors had to have knowledge on supervision activities in order to select to use and integrate the supervision activities appropriately. Each activity provides benefits to receivers of supervision differently (Harris: 1985 and Watchara Laowreandee: 2013) with the following details.

(1) Lecturing was the activity that emphasizes transfer of knowledge, understanding of supervisor to the receivers of supervision through speaking and listening only.

(2) Visualized Lecturing was the lecturing through some media like slides, diagram, figures, etc. which helped the listeners to be more interested.

(3) Panel Presenting was the set of activities to give information in groups with emphasis on giving data according to opinions or exchanging opinions to each other.

(4) Viewing Film or Television was the use of tools which were using visual media such as films, TV program, video tapes that conveyed knowledge and became more interested.

(5) Listening to tape, radio recordings. These activities were using recording machines to present opinions of individuals to other listeners.

(6) Exhibiting Materials was the arranged exhibition with materials and tools as activities to help in training or activities for developing other media.

(7) Observing in Classroom was the activities to observe the implementation in real situation of personnel to analyze the implementation of the personnel in order to know strength and weakness of personnel and to use them in the evaluation of implementation and use in personnel development.

(8) Demonstrating was the set of activities to give knowledge that aim to others to see the process and implementation methods.

(9) Structured Interviewing was the interview activities that identify clear objectives in order to get the required information or data.

(10) Focused Interviewing was the semi-structured interview activity with certain respondents from the chosen schools or respondents who were able to answer the interview.

(11) Non-directive interview was the speaking, discussing or showing opinions of the people have conversation with the types of interview would be focused on the problem and interests of the key informants.

(12) Discussing was the activities that supervisor and receiver of supervision perform together. It was appropriate to small groups and normally was done with other activities.

(13) Reading was the activities with many people such as reading texts from magazines that was used with other activities.

(14) Analyzing and calculating the data was the activity that was used to monitor and evaluate the action research and control the competence of teaching.

(15) Brainstorming was the set of activities which were related to presenting the opinion for methods to solve problems or using suggestions by allowing each member to show opinions freely without analysis or critical comments.

(16) Videotaping and photographing was the tools to show details for both pictures and visuals. Photos were good and be useful for exhibition. This activity was useful for evaluating the resulting works and publication.

(17) Instrumenting and testing. This set of activity was related to the use of the test form and evaluation form.

(18) Buzz session was the activity of group meeting to discuss certain topics that emphasize internal interaction the most.

(19) Field trip requires travel to other places to study and to have a study tour that was related to work under performance.

(20) Inter-visiting was the activity where one person visits and observes the work of other individuals.

(21) Role playing was the activity to reflect opinion and feeling of persons identifying the situation and then the performer of activities responds or performs oneself naturally as it should be.

(22) Writing was the activity that were used with media for supervision in all types of supervision such as writing up the supervision project, data record, report production, etc.

(23) Guided practice was the activity that emphasizes the implementation while performing with the supervision which was used individually or in small groups.

According to the study on the supervision activity above, it was shown that the activities have strengths and weaknesses and different characteristics. The selection to use in supervision activities was very important; therefore, before any supervision activity to begin, it was to consider the objective of supervision, i.e., the group size of receiver of supervision and experience or direct benefits which the receiver of supervision would receive. In addition, the persons responsible for supervision were supposed to select the supervision activities appropriately to the conditions and problems of the schools including the experience levels of the receivers of supervision (Harris: 1985).

Table 2.3 Supervision Activities Influencing the Experience Levels of Those Supervised

Activities	Levels of experience gained
1. Lecturing	Low
2. Visualized lecturing	Low
3. Panel presenting	Low
4. Viewing film or television	Low
5. Listening to tape, radio recordings	Low
6. Exhibiting materials	Moderate-Quite Low
7. Observing in classroom	Moderate-Quite Low
8. Demonstrating	Moderate
9. Structured interviewing	Moderate
10. Focused interviewing	Moderate
11. Non-directive interview	Moderate-Quite High
12. Discussing	Moderate
13. Reading	Moderate
14. Analyzing and calculating	Moderate
15. Brainstorming	Moderate
16. Videotaping and photographing	Moderate
17. Instrumenting and testing	Moderate
18. Buzz session	Moderate
19. Field trip	Moderate-Quite High
20. Inter-visiting	Moderate-Quite High
21. Role playing	Moderate-Quite High
22. Writing	Moderate-Quite High
23. Guided practice	Moderate-Quite High

Besides, the supervision activities use the principle of Mentoring. It defined the relationship of correlation of the development of people. The people with high experience or having knowledge more would help giving mentoring or suggesting to those with less experience or little knowledge. The persons who give advice would be the persons who have higher expertise although their ages could be higher or lower. Mentoring was giving consultation or advice by the knowledgeable people with more

ability who were accepted in their abilities to give consultation, offer suggestion, offer help, and play roles, and take important responsibilities which was transferring the knowledge and experience. This included giving mentoring, suggestion, and guideline for implementation to adjust to the organizational culture and monitoring and evaluation on the knowledge. Ibarra (2007) stated about mentoring as a consultation from those who know and could be trusted who could help other people to have experience for the learning and prosperity while mentoring was giving consultation; supervision was about performing occupation, giving consultation, data or guideline from the people who have experience, skills or competence for the benefit of others to develop occupation and individual matters. The benefit of giving mentoring or consultation were three things which were developing human resources of organization, transferring the wisdom-based knowledge or knowledge from a person to another, and preserving individuals to have values to organization. Human resource was important part of organization that was valuable and demanding devotion and time for consultation although it was necessary to consider benefit and limitation at the same time.

The character of effective mentor was that the persons should be ones with high standards, willingness to invest in time and abilities for mentoring supervising, and showing experience to develop people under their consultation. The persons who give mentoring would take care or supervise the effectiveness and reveal good characteristics which were successful, gain acceptance by people in the organization, and skillful in self-development. They could be good listeners, understanding others, have personality that was willing to give mentoring or consultation with satisfactory results, understanding of methods that receiver of consultation would learn well, have the gaps or way to seek information and the people could help others in their work, and should be open-minded persons.

The methods of giving consultation or supervision in effective ways were the giver of supervision or consultation was perceived to be the model of behavior that leads to success. Therefore, the behavior of the implementation of the giver of consultation had to create the impression beyond more than just speaking and clear consistency between worded suggestions and the real deeds (otherwise receiver of consultation get confuse and lose faith). Giving suggestions and feedback data should work well as long as it

takes place under the areas of interests of the receiver of consultation. It should not be too abstract in terms of too many theories or framework that goes beyond control. The giver of consultation had to be patient and willing to solve the problems for the receiver of consultation that the receiver of consultation could learn the methods on helping oneself and reflect the reality from the behavior and alternative more than just critical comments on personal matters. The consultation or advice given should be challenging and leading to creation of plan of success by building the support base securely which was knowledge, objectives and support from others both in and outside the organization and the stakeholders of the organization. This support included assistance from the persons who could take care of oneself securely, and most importantly being the giver of consultation of supervision in the best way was starting from being good and friendly with receiver of consultation supervision. Consultants could take care of all the people by getting to know new acquaintances, make good relationship among people, understand expectation of each other and identify the communal targets, and at last know the appropriate time to stop giving supervision or consultation naturally and correctly. The receiver of supervision would gain highest benefits from consultation by observing different behaviors, trying innovative behavior, and evaluating the results of experiment.

At present it was the era where information has no boundary; the era where social media perform more important roles in human life. The activities to develop occupations become modern, fast, and up-to-date such as through Video Link, Internet, E-mail, Facebook, YouTube and Websites. It was wide open and accessible quickly. Supervision activities or the cooperation to develop the professional development becomes more various especially around the new knowledge. There were continuous research reports that could be received and sent among people to develop oneself for quick development. The activities to develop the educational quality were other forms or models but there were good management methods which have quality which would help develop educational quality well. This development was another method at present.

With this reason there were many ways on development of the model for monitoring and evaluating abilities to do research to develop instruction of the student teachers to

select the supervision activities through consultation and supervision from supervisor and coach teacher. Besides, the wiring up and implementation according to the suggestion were possible through social network because it was the methods that influence the experience of the receiver of supervision in rather impressive ways. The internet also allows consultation very quickly everywhere and at any time.

2.6 Social Media Networks

To date the social media network was creating changes to society significantly. In the past, the relationship of human beings was limited to occasional meetings. The social media networks gave opportunity to human beings to perceive possibilities with one another although they never met in real person to share pictures, send texts and other events through connection without necessity to meet (Wasan Limlompaisal and Sarinee Achavanuntakul: 2013). For such reasons, the research explored the related literature on social media networks as follows.

2.6.1 Definition and Importance of Social Media Network

Jeremy Boissevain (1974), The SAGE Dictionary of Sociology (2006), Suthanyarat Chaikhan (2011) and Tippawan Khantama (2013) defined the term social media networks consistently that it was the linkage to gather the groups of individuals who did activities through the internet.

According to the definition of social media networks it could be seen that the social media network was important to build networks to respond to social needs that emphasize on building and affecting the network or social relationship of people groups with common interests or activities. The service of social media networks would serve through the websites, and members could interact or exchange among themselves through the internet in the virtual communication. They could show opinions and exchange data.

Therefore, people as the users had to know the duty and know the social media network that they could share the knowledge and create good relationship with the groups to help the occupational development. Besides, the use of the social network for education would build the relationship among the society members in the classroom, stimulate the

study or facilitate inquiry, promote education according to the interests, and promote recording and reading.

2.6.2 Types of Social Media Network

Social media networks were the service on the websites which could be divided along the areas of purpose. This division was considered from the main objective of accessing to use the website and the characters of website. This was through the objective of accessing the website that was set by the users in the same direction. The division of the types of social media networks based on the users' objective of using it were known into seven types as follows (Nuthachai Siritanathanee and Sirikan Sib-khey: 2013, Pisek Chainirun and Settapong Malisuwan cited in Tippawan Khantama: 2013).

(1) Building and Announcing Selves (Identity Network)

This type of social media networks was used for those who prioritized the construction of their own identities on the websites, and they could publish stories of oneself through the internet. The characters of publication of this nature would be taking form in pictures, videos, written texts, and blogs, and in the websites to make new friends or look for old friends, people built biographies of themselves by adding pictures and graphic that showed identities for friends or acquaintances in the network to see. The other characteristics of this type were exchanging in story-telling experience. This type of social could build an unlimited size of groups of friends. The typical forms of this service were Facebook, Google, Friendster, Myspace, and Hi5.

(2) Creative Network

This type of social media networks was for the society whose members wanted to express and present their own tasks or works. They could present the results of works from all over the world. This type contained websites that provided the area which was similar to the gallery or exhibition of people's creative works or performance in form of videos, pictures, songs, etc. In addition, this type also contained objectives to share the contents among the users of website who were depositing or sharing their works through the same methods on the websites such as YouTube, Flickr, Multiply, Photobucket, and Slide share.

(3) Passion Network

This type of social media networks was the social media network which was responsible to save the things that somebody liked such as in the network and to build online book marking. It was a concept that allowed the users to keep the bookmarking webpages in the machine. The same persons could try to reserve on the website that they could be share with others who liked the similar things. This data inventory could be used as reference source to get access to the data. Besides, this inventory could help to vote to get scores for bookmarking. More users thought this network was useful and popular; the users of this type of social media networks liked to use Digg, Zikr, Ning, Catchy, and Reddit.

(4) Collaboration Network

This type of social media networks was the social network that required thought, knowledge, and extension from the users who had knowledge that once came out then could be revised or improved continuously. There was a kind of development in the end. With the motivation of people who got into this network, they were proud to broadcast what they knew and made use of the society. They gathered information, knowledge, or story in terms of technical or academic, geographical interests, or other free or paid merchandise or service. Most of the users were academicians or experts who served the social media networks through collaboration network such as Wikipedia, Google Earth, and Google Maps.

(5) Virtual Reality

This kind of social media networks was the online game which was very popular. The network contained collections of many games. It was video games that the users could play on internet network. These online games websites contained three dimensional games where the users could present their roles in the games. The players could interact with other players. Similar to the real world, it created the feeling of joy, fun, and the same as being in a society where the players liked the same kind of things. Besides, there were beautiful graphics to attract interests and activities to entertain players such as Second Life, Audition, Ragnar, Pangya, and World of Warcraft.

(6) Professional Network

This type of social media networks was the network for working or professions. It was to bring the benefits from social network to use for publication or broadcasting biography or the curriculum vitae of oneself and create working network with others. Besides, many companies also wanted to recruit people to work with them that they looked for Curriculum Vitae of users in social media networks. The examples for the popular program among users of this online network were Linked and others.

(7) Peer to Peer or P2P

This type of social network was the network that linked among users together directly that there was a communication or sharing data quickly and directly to users. The samples for this type of network for the users were Skype, Bit Torrent, and others.

Thitima Thongtab (cited in Piya Meeanunt: 2011) stated that this kind of network could be categorized into seven types as follows.

(1) Publishing was the blogs and websites where blogs were categorized for contents in sections or units based on the authors' or readers' interests.

(2) Community was creating a network of old friends who looked for new friends to send message and exchange interests to one another.

(3) Media were not limited to only TV, radio, but also included videos, movies, and songs.

(4) Games were the online games which could create the representatives in the world similar to spending the life in the online world and to communicate, contact, and do activities together with others.

(5) Photo Management was the webs to post photos online to help people manage photos from digital camera without wasting their hard disk area in the personal computers.

(6) Business/Commerce was the social media network of buying or selling business or auction online.

(7) Data/Knowledge was the knowledge or information sources.

In addition, Isriya Paireepairit (cited in Suthanyarat Chaikhan: 2011) classified all the types of social media networks in the roles of social media networks in the internet in the 2.0 Era by judging from the target of entering to be members which could be grouped into five groups.

- (1) Identity Network was to express people's selves and their identities.
- (2) Interested Network was gathering together based on the users' similar interests.
- (3) Collaboration Network was groups of people who worked together.
- (4) Gaming/Virtual Reality was social media networks whose members played the role as players in real life with the characters in the game.
- (5) Professional Network was the social media network which was used as profession.

According to the aforementioned, it could be summarized that the types of social network could be categorized from the use and the roles of the social networks. The model of monitoring and evaluating the research capabilities to develop instruction of the student teachers has important component to change into a more dynamic one. Studies on the social media networks revealed the values of the educational online networks that the Office of Basic Education Commission with Information and Communication Technology Center and the Center for Developing Science Instruction start to expand the learning result in the school in 2013. These institutions set the tool for online learning management which was called Edmodo that has important target to use the efficiency of social media networks for the students to manage their learning in developing of students' learning potential. Therefore, the researcher used Edmodo as the social media network for monitoring and evaluating research capabilities to develop instruction of the student teachers.

2.6.3 Pros and Cons of Social Media Network

The social media networks showed the social relationship among members of networks. It contained strengths and weaknesses as follows (Nutthachai Siritanathanee and Sirikan Sib-khey: 2013).

The Strengths of Social Media Networks:

- (1) Create relationship among members through the construction of good interaction with target groups.
- (2) Save the costs of expenditure for traveling and communication.
- (3) Be the medium for exchanges of opinions among members to brought thoughts to improve and develop their profession.

The Weaknesses of Social Media Networks.

- (1) If users were careless about their own words or action, they created negative impact because of its open nature.
- (2) The network could accommodate violation the copyrights.

From the above statement, the users were supposed to bring the strengths of social media networks to be used in developing the potential of each individual carefully and avoid the weaknesses of social online networks. Therefore, the researcher brought the social media network to be part of the model for monitoring and evaluating the research capabilities to develop instruction of student teachers. Developing their research capabilities to develop instruction, student teachers could reach effectively and efficiently their full potential.

2.7 Evaluation

Evaluation was the process to create a society whose value was consistent to the democracy. The target is to develop and create benefits or happiness to society. The evaluation was about identifying the values of interests under social context which was studied. To access the values of things under certain contexts, it was relying on the belief system, the experience of evaluator, and other relevant measurement tools to be used to judge the value (Sirichai Kanjanawasi: 2007). Therefore, there was the review of literature about evaluation as follows.

2.7.1 Definition and Evaluation Importance

Alkin (1969), Stufflebeam (1971), Sor Wasna Pravalpruk (2001), Siridej Sujiva (2003), Suwimon Wongwanich (2003), Rattana Buosonte (2005), Tay Chiengchee (2006), Sirichai Kanjanawasi (2007), Somwang Pitiyanuwat (2010), and Pichit Ritcharoon

(2013) defined the term evaluation consistently that it was judging the values of the things to evaluate whether they were good, bad, qualified, disqualified, worthy of implementation or could be stopped based on the data which was the facts that were compared to certain criteria.

According to the aforementioned definition of evaluation, it was clear that the evaluation was important to help making judgment of certain things that were aimed to be evaluated. The answer that came out would be used beneficially on many aspects. In order to evaluate the progress to brought the results to improve or develop the implementation more efficiently and evaluate the summary, evaluation results showed the effectiveness of the implementation of the past and made judgment on future implementation (Somboon Tanya: 2002 and Tay Chiengchee: 2006).

2.7.2 Evaluation Objectives

Samran Meejaeng (2001), Yongyut Kessakorn (2002), and Chuchai Smithikrai (2006) stated about the objectives of evaluation as follows.

- (1) To judge if the project achieved its objectives or not.
- (2) To identify strengths and weaknesses in a development process.
- (3) To judge the worthiness of the project. This type of evaluation compared the expenditures of project with the benefits of the values of the project.
- (4) To judge who to be selected to participate in the project in the future.
- (5) To test the clarity and the validity of the questionnaire, exercise, and the validity of the tools used in the training. It was very important to use to measure knowledge, skills, and the ability of individuals to get from the project. Only the good evaluation would provide the mechanisms for the check for monitoring the validity of the measurement tools.
- (6) To identify the participants if they got the benefits more or less from the evaluation project. It would help identify the trainees or participants who could brought knowledge and skills to use better or worse. This was done through the evaluation to monitor after the end of the project. This type of evaluation would give information of individuals more than the overall effectiveness of the project.

(7) To promote the important points for the participants of the training. The evaluation to monitor would give information about the project through measurement of the achievement of the participants of the training. This promotion helped reminding the participants of what they wanted to do to achieve.

(8) To gather the data to be used in the marketing of the project in the future. The evaluation would give information on construction marketing strategy for the project in the future.

(9) To identify or judge the appropriate conditions for the training. Sometimes the evaluation could reveal if the problem was solved through training or not. When the problem was solved through training, the evaluation would provide a deep understanding whether the training was necessary or not.

(10) To build a database that would help managers or administrators to make decisions about the future of the projects. This information would be used by relevant people who were trainers, administrators, or managers. This deep and broad evaluation system could build a database that helped decision making.

According to the aforementioned objectives of evaluation, it could be summarized that evaluation contained three main objectives which were (1) to give feedback data for improving the process, (2) to judge if the process was implemented or not, improved or not, and (3) to propose the implementation that would have potential in the future.

2.7.3 Evaluation Types

Evaluation could be divided by the cycle of project into three types as the followings (Tay Chiengchee: 2006).

(1) Pre-Evaluation or Ex-Ante Evaluation was the evaluation to check the appropriateness of the project in terms of the context or environment that was necessary to understand and the needs of the project, the feasibility, budget and financial support, analysis of compensation, analysis of the expenditures and profits, analysis on the costs and effectiveness, and evaluation of input factors by considering the quantity and quality of the input factors.

(2) Implementation Evaluation was the evaluation in term of the process and the implementation or activities whether they followed the plan or not, and what

problems or obstacles the processes contained during implementation. This was the implementation during the implementation which had an important target to improve the plan for implementation in order to implement efficiently later. The implementation would be done from time to time in a method which was called small- or sub-evaluation.

(3) Post-Evaluation or End of Project Evaluation was the evaluation to check whether the product achieved targets or not and if it contained the impact of social and economic politics, belief, values, and life quality of people or not.

From the statements above, it could be summarized that the types of evaluation were known as three types which were (1) evaluation before implementation, (2) evaluation during implementation, and (3) evaluation after the completion of projects. In this research, the researcher evaluated the research capability to develop instruction for the student teachers in three phases which were (1) evaluation before implementation through evaluation of ability to design a research considered from research proposals, (2) evaluation during the implementation evaluated from the implementation of the research according to the research plan, and (3) evaluation after the completion done from the results of research implementation. The interpretation of the meaning and transfer of results brought the research process to use in developing instruction which was considered from the research reports.

2.8 Models and Model Development

The model was the abstract guideline according to reality which was transferred into a relationship system from the theories or concepts into the implementation plan. Therefore, the model was coming from the base of philosophy, theoretical forms, or concepts which were different. The researcher had to understand the base of each model in order to use the model efficiently and brought to get effectiveness or the research had to develop a new model to be used appropriately (Sirichai Kanjanawasi: 2007). Therefore, the researcher studied the related literature on the model and the development of the model as follows.

2.8.1 Definition and Model Importance

Carter V. Good (1973), Hauser (1980), Nadler (1980), Stoner and Wankel (1986), Keeves (1988), Hopkins (1989), Yaowadee Rangchaikul Wibulsri (2001), Tay Chiengchee (2006), Rattana Buosonte (2005), Sirichai Kanjanawasi (2007) and Tisana Khammani (2013) defined “model” consistently as the mimic of reality which was used for the implementation. It showed a systematic relationship between data, symbols, and the systematic principles.

From the definition given above, it was clear that the model was important to have to create the changes of knowledge, skills, or desirable attitude through the mimic of the phenomenon. Model helped to understand the complex relationship of phenomena to be seen clearly and convey the meanings correctly (Woulter: 1967, Bardo and Hartman: 1982).

Therefore, in this research the researcher aimed to develop a model that was the mimic of the implementation which showed the relationship of components and important contents that would be used for monitoring and evaluating the research capabilities to develop the instruction of student teachers.

2.8.2 Model Development

The construction or development of the model relied on the criteria for judging the appropriateness of the model selected. This might be considered from the analysis of consistency between philosophy or concepts of the model and the problems or issues (Sirichai Kanjanawasi: 2007). Therefore, the development of the model might be done continuously. If the model used was out of date and could not respond to the set objective, it was necessary to develop the model to be complete and more efficient.

Keeves (1988) stated that the principles to supervise the construction and development of the model were accomplished through four steps.

(1) The model was supposed to consist of the structure relationship or with the structural relationship.

(2) The model was supposed to use the guideline of predicted results from the use of the model. This usage could be checked through the observation and looking for supporting data in using empirical data.

(3) The model was supposed to identify or point to logical mechanisms of things to study.

(4) The model was supposed to be the tools for creating new conceptualization and relationship of variables in new forms which was expanding the knowledge of the things studied.

Boonchom Srisa-ard (1992) stated that the development of models that the research about the development of model could be conducted in two steps.

Step 1 was construction the developing the model. The researcher built the model first. It was the model made from some assumptions. It came from theories or studies, concepts. The model which was developed by others on the same phenomenon included the results of studies or research findings and the analysis of the situation to help identify components or variables inside the model. It also included the relationship among components or variables in chronological order of the components in the model. The development of the model had to use the logical principles as the base and then the study to test it. This step would be beneficial for the development of the model. The researcher might build the structure of the model first and make revision later by using information from the study of theories, concepts of the model or results of findings of relevant research or studying sub-components of each variable. Then, the study selected the sub-component or important variables to be the structure of the model. The key importance of this step was selecting the components in the model in order to get appropriate model. Therefore, the researcher was supposed to identify the principles for developing the model clearly. For example, it was supposed to be the model that was not complicated and could be implemented easily. There were not many variables in the model although the simple structure could still explain the results well. In some research, it was necessary for experts' consideration or judge the accuracy and appropriateness of variables.

Step 2 was testing the validity of the model. After developing the model in Step 1, it was necessary to test the validity of such model because the developed model, although

developed from the theoretical base, concepts or models, and the past research finding or synthesis, it was just the model built from assumptions. It was necessary to gather data in real situation or launch a trial use in reality to test appropriateness. This step sometimes was called efficiency test of the model.

Rattana Buosonte (2009) stated about research and development of educational innovation through five steps as follows.

Step 1 analysis, synthesis, survey, problems, or needs assessment of the recent situation. In this step it was the survey research implementation or synthesis of secondary data to find answers about the needs of innovation including the type of innovation needed for development. The results of the research in this step would enable development of innovation which was responsive to the needs of target groups to be used.

Step 2 design, build and evaluate innovation as a way of bringing knowledge or results of research to develop the innovation that it had characteristics or model responsive to the need of target groups, i.e., what type of character of innovation, or what components of innovation. In constructing the innovation, the researcher might use experts who were specialized in creating innovation in each type. When innovation was done, it needed checks on the appropriateness and efficiency of innovation further. If the results of checking of appropriateness and efficiency were not satisfactory, innovation needed revisions until it became more appropriate and passing the criteria of efficiency. In checking appropriateness and efficiency, there were many methods to use such as seminars, questionnaires, or trial use with small target groups.

Step 3 was to bring the innovation for trial use. When innovation has identified certain levels of efficiency, the innovation would be tried in use with bigger target groups which were selected to be a trial group (or a pilot group). The implementation in this step was done with an experimental research. It was related to the design of an experiment or test on which plan was appropriate and that research has internal validity at the best.

Step 4 was the evaluation and improvement of innovation as the evaluation of the use of innovation as the whole picture. The evaluation of the whole innovation covered the

process of using innovation and the results of using innovation, the obstacles, and the implementation in the steps was in term of evaluation research. The results of the evaluation would lead to decision making to revise innovation or to solve problems or obstacles in using innovation including stopping the use of innovation if found that continuation brought risks.

Step 5 was publication of innovation was the result of the evaluation of innovation developed. If it could be used well and lead to registration of copyrights, the publication would be followed for wider circulation.

In addition, Tisana Khammani (2012) stated that content was the key of the model which was composed of theories or principles, objectives, processes, and results of using the model. It was consistent with Watchara Laowreandee (2013) who stated that the developed supervision model was supposed to be composed of principles, objectives, supporting system, the condition for practices, and social system which had a relationship with the following implementation or the supervision step.

The concept of the development of model above was influential to the supervision model and monitoring and evaluating the research capabilities to develop instruction among student teachers. This time the supervision model was composed of two steps. Step 1 was developing a model for supervision, monitoring, and evaluation of research capabilities to develop learning and teaching among student teachers and Step 2 was studying the results of using the model, supervision, monitoring, and evaluating the research capabilities to develop instruction of student teachers. It was composed of three components which were the followings: (1) direction for developing ability and research, (2) the process to develop research capabilities through two steps (sub-step 1 preparation for student teachers, supervisor, mentor teachers and sub-step 2 implementation of the teacher professional internship as teachers, gave consultation, supervision and exchanged learning), and (3) evaluation of the results of developing the research capabilities.

2.8.3 Evaluation Standards

The evaluation implementation had to have the standard implementation process. The evaluator had to design the evaluation to reach the standardized quality standards based on the evaluation standard of The Joint Committee on Standards for Educational Evaluation (1994) as follows.

(1) Utility Standard was identifying to guarantee that the evaluation would give useful information that was up-to-date and useful for the persons who would brought the information for evaluation in the future.

(2) Feasibility Standard was identifying to guarantee that the implementation of evaluation activities had to be based on reality, wisdom, artful in communication, time-saving and effective resource use.

(3) Propriety Standard was emphasizing on ethics, code of conduct on evaluation to guarantee that evaluation activities which resulted in individuals or groups of people in several sectors would not damage individuals' or groups' name. The standard had to be aware of the privacy, freedom to get information, evaluation, and the rights to protect individuals or groups of people.

(4) Accuracy Standard. This standard intended to create certainty on the evaluation implementation that the information derived was complete and reliable. It had to evaluate to cover generally and gather data on certain things to be evaluated and information gathered from evaluation had to be technically sufficient. The implementation method and decision making done had to be consistent logically with the data under evaluation.

According to the aforementioned evaluation standard, it could be seen that the designing of evaluation to reach a quality standard based on the evaluation standard was composed of four standards which were utility standard, feasibility standard, propriety standard, and accuracy standard.

Therefore, the judgment on the values of the model for monitoring and evaluating the research capabilities to develop the instruction of the student teachers would be evaluated with these four standards.

2.9 Relevant Research

According to the domestic study of related literature on the supervision, monitoring, and evaluation of research capabilities to develop the instruction of student teachers, it could be summarized as follows:

Supaporn Kittiratchadanon (2008) developed the supervision model for the instructional management in the basic education schools which was composed of seven main aspects and 23 sub-issues as follows: (1) the objective of supervision with one issue which was to promote or support/assist with teachers to be able to develop oneself, develop their own profession, and develop the instruction leading to quality of learners, (2) on the contents of supervision with five issues which were developing curricula based on the standards, designing the learning, learning activities arrangement, measuring and evaluating the learning achievement, and managing classroom, (3) on the supervision process with six issues which were building awareness on quality, planning, supervising, creating the tools or media for supervision, supervising on instruction, and evaluating the monitoring, extension, creation of the quality culture through the use of knowledge management process, (4) on the methods of supervision with four issues which were checking supervision, supervising production, overseeing the clinical supervision, and supervising for development, (5) on the supervisory with three issues which were the supervisor from office of Educational Service Areas, administrators of schools, the academic teachers of schools, (6) on the time of supervision with one issue which was the supervision inside and outside of the classroom hours, (7) on facilitating factors/limitation of supervision with three issues which were making the reporting system of the results of internal supervision in the school which was easy to understand/accurate and concrete for the monitoring of the parents organization, development of knowledge on supervision to school administrators and administration teams, and the identification of the clear roles of supervision of school administrators and team work. The trial use of the model in real situation revealed that school administrators and teachers could implement following the identified model concretely. The results of the developed model had appropriateness, feasibility, utility, and accuracy at high levels.

Kriengsak Sangchai (2009) developed the supervision model for teaching by the science teachers to develop student potential who had talent in science which was called the APFIE Model. It was composed of implementation process with five steps which were (1) study the present condition and needs, (2) manage and organize knowledge before supervision, (3) plan for supervision, (4) implement the supervision composed of four steps of supervision process which were the step before the teaching and supervision on the step of observing the classroom teaching, the step of meeting for feedback data after observation of teaching, and evaluate the results of observation and monitoring, and (5) evaluate the results of supervision throughout semester, check the results of efficiency in term of empirical terms of the model for supervision for teaching science teachers to develop students potential. The findings showed that the science teachers who were responsible for supervision had a higher efficiency to supervise the learning management after using the supervision model of the teaching than that before their using of supervision model. After using the model, science teachers who were responsible for supervision teaching arrangement were able to arrange the learning to develop student potential in higher capability than that before using the model. The students who had talents in science had higher knowledge and social skills after they learned with the model than before the learning with statistical significance of $P < 0.05$. The science teachers who were responsible for supervision and responsible for arranging the learning were satisfied with the model for supervision the teaching at the highest level. And, the students who were talented agreed that learning arrangement to develop student potential by science teachers was at a high level.

Kietsuda Srisook (2009) studied the conditions, problems, and guidelines to solve problems for doing action research for students in the Faculty of Education Chiang Mai University. It showed that the student teachers needed help on conducting research. It could be summarized into two issues: (1) on issues of additional knowledge (knowledge on data analysis and interpretation of results), the second highest needs were building the tools and quality analysis, writing up research reports and writing proposals, respectively, (2) other issues were needed to know about the time management technique for conducting research was the highest. The second highest was a need for personnel's giving advice during the research. On the aspect of the needs of assistance to students, three issues appeared: (1) issues on the needs of assistance from the Faculty

of Education which needed the documents, new textbooks and insufficient and updated books updated, and personnel to give consultation in conducting research and write research work, (2) issues with the needs of help from the Office of the Teacher Teacher professional internship to arrange training of the use of formula and use of SPSS or EXCEL was the highest. The second highest was expansion of time to conduct research, (3) issues about the need for assistance from supervisors and mentor teachers which were supposed to allow students to try to conduct real research in the first semester stand as the highest need. The second highest was the university's informing time to conduct research for the schools to know.

Wachira Kruakham-ai (2009) developed the supervision model for student teachers to develop competence in the instructional management which promotes the thinking of primary students. It was called the PPIE Supervision Model that was developed through a research process and developed together with a concept of designing the systematic instruction which was composed of four steps. These steps were step of preparation of knowledge/techniques and methods for learning management, step for supervision planning, step for implementation of supervision, and step for evaluating the supervision. This developed model was efficient to check or supervision by five experts, and the result of using this supervision model was used to check the empirical efficiency of competence. It showed that teachers were able to supervise the teaching that promoted the thinking after using the supervision model higher than before using the supervision model. The student teachers were capable of arranging the learning that promotes thinking after using the supervision model higher than before using the model. The students were able to think after the learning higher than before the learning with statistical significance at $P < 0.05$.

Warapak Maitri-phan (2009) studied the roles of teachers and educational personnel who were assigned to be the supervisors in the Faculty of Education, Prince of Songkhla University, Pattani Campus who were responsible in the area of three provinces in the Southern Region. The study showed that in their role of giving consultation to students who performed teaching, some supervisors were not confident to give advice on action research including giving suggestions that they were supposed to develop the potential of teachers who were assigned as supervisors at action research. The implementation

and performance according to the roles of giving advice and the evaluating the results of action research should be done more efficiently. Besides, the supervisors were supposed to promote the use of the clinical supervision technique in the supervision of the teacher professional internship.

Kanitha Chaowatthanakun (2010) developed a model for giving consultation to promote the ability or competence in teaching and conducting action research of student teachers with profession experience training in the major in mathematics. The process was made of four phases: Phase 1 was preparation phase (Preparing Phase or P), Phase 2 was Planning Phase (or P), Phase 3 (Mentoring Phase or M) was composed of implementation through (1) Pre-conference, (2) Observation and Data Gathering, (3) Collaborative Reflection and Analysis, (4) Post-conference, Phase 4 Evaluation Phase or E. The results of using the model revealed that the competence of supervisors in giving supervision was at a high level. The competence in teaching in the teaching on student trainee with teacher professional internship was at a very high level. The ability on conducting action research was at a very high level. In addition, the satisfaction level of supervisors of the model was at the highest level. The opinion of the student teachers toward the model was at the highest level. Consideration on the learning achievement of student showed that the learning achievement of the students trained by student teachers in experimental group had the score after the learning higher than scores before learning with statistical significance at the level of $P < 0.05$.

Prateep Nankongnab (2010) developed the integrated supervision model for the Industrial Students of Schools under Office of the Vocational Education Commission that was composed by the steps as the followings: planning, registration, orientation, arrangement for student teachers, consultation, control, evaluation, report, and disbursement of feedback data. The developed model was composed of sub-components of supervision for the trainees for normal regular trainees (45 percent) and the sub-components for the supervision for the trainees in online system (54 percent). Supervision system for online training was the online information system which was developed according to the integrated training supervision model. The efficiency of the supervision of online training was at the highest level. The results of evaluating the trial

use of the model as the whole showed the propriety at a high level and the persons who used the model were satisfied with the model as the whole picture at a high level.

Pramote Promkhan (2010) developed a friendly supervision network model by using a technology called Web 2.0 through the measurement and evaluation in authentic situation to promote competence on the profession of the student teachers. The model was made of three components which were (1) friendly supervision network members, (2) measurement and evaluation in authentic conditions, and (3) the tools of technology (Web 2.0). This model was composed of six steps such as (1) making network, (2) construction relationship determined to the objectives, (3) accepting friends and practicing mind to be teachers, (4) solving or focusing of minds for improvement, (5) evaluating to prove oneself to be authentic, and (6) expanding the network. The results of using this model showed that the experimental group had the higher evaluation scores for behavior in the learning management, research skills for developing the learning, and the characters of being teachers than those of the control groups with statistical significance at the level of $P < 0.05$.

Yupin Yuenyong (2010) built the model for various methods of supervision to enhance the competence in action research of teachers in Educational Service Areas 5 Bangkok. It was composed of the principles that emphasized the supervision process which was the relationship system and consider the differences among individuals. The objective to develop competence of supervision and conduct of action research by the supervision process has four steps: (1) Classifying (or C) according to the knowledge levels, ability, important skill for the instructional management and the action research in order to categorize teacher groups and appropriate supervision methods for the teachers in each group, (2) Informing (or I) was giving knowledge before the supervision, (3) Proceeding (or P) was the implementation which were having meeting before teaching observation, teaching observation, and the post-meeting after the teaching observation, (4) Evaluation (or E) was evaluation through supervision that could be done through continuous supervision in all steps. The results of using the model showed that the supervisors were competent in supervising with various methods in a high level, and they had knowledge and understanding about the research after using the model higher than before using the model (statistical significance at $P < 0.05$). The teachers who

received the supervision had higher knowledge and understanding about the research after using the model than that before using the model with a statistical significance level at $P < 0.05$. The competence in action research was at a very high level. The satisfaction toward the supervision model was at the highest level and the students had the learning results after the use of the model higher than those before using the model with statistical significance at $P < 0.05$.

The study of foreign literature revealed the followings.

Judy Lombardi (2001) studied the growing trend toward cooperative models and new approaches to student teaching supervision in the United States. Although 78 percent of US teachers trained in traditional 4-year programs, new models were emerging to replace the traditional triad supervision format. The research explored these models through a study of some US university approaches to supervision, ways of enhancing partnerships between schools and universities, and ways of improving teacher supervision with an ancillary benefit of increasing recruitment. Teacher supervision and preparation approaches in the USA were growing toward more cooperative models between school districts and universities. School districts offered their own in-house training and coaching models based on professional development schools. The research findings identified that teacher preparation methods were changing slowly because schools and universities realized that successful alternatives to traditional teacher preparation existed, especially in the light of the need for two-million teachers in the United States over the next decade. Longitudinal studies and closer examinations of alternative teacher preparation would be required to assess practices and suggest improvements. While most teacher education programs remained wedded to the traditional triad preparation and supervisory model, increasing numbers investigate ways to turn out quality teachers in record numbers. Cooperation, coaching and collaborating, along with sharing of resources, strategies and best practices represented the changing face of teacher supervision and training in the United States.

Carmel M. Diezmann (2005) studied the development of high-level research capability in some students in their undergraduate Bachelor of Education course. The rationale for this viewpoint was presented in relation to three questions. (1) “What is educational research?” (2) “Why should universities develop high-level research capability in some

teacher education graduates?” And, (3) “What type of curriculum can support the development of high-level research capability in some preservice teacher education students?” The first two questions were addressed broadly, while the latter question was addressed with reference to an existing Research Pathway within a Bachelor of Education course. The researcher found that the curriculum that could support the development on research capabilities at a high level for student teachers would be designed to achieve three targets: (1) to help students to develop guidelines of learning together by emphasizing the importance of conducting research, (2) to increase opportunities in working by developing the skills for conducting research to students, and (3) to prepare the students who were successful and ready for pursuing study directly in higher degrees in the future at Queensland University of Technology. The curriculum helped develop abilities to compete to get the scholarship to study at doctoral degrees when considered from learning achievement and success on merit-based scholarships and extra-curriculum activities. The findings could be summarized into identifying the prioritized issues that the process of repetition according to the guideline of this research and change of roles of researcher from teachers, instructors, to “the teacher who could teach and research.” The implementation of research influenced the ability on research of student teachers directly.

Carrie Ann Stephens and Randol Waters (2009) studied the research in the supervision process of students who got teacher professional internship that the students selected by themselves. The qualitative research had an objective to allow three student teachers of a teacher professional internship to have freedom to select a supervision model by themselves and could explain the experience as teachers who already implemented the model. The student teachers with teacher professionalism in the major of the Faculty of Education in Agriculture from University of Tennessee had to select the different supervision models. The first student selected the clinical supervision while the second one selected the contextual supervision. The last student selected the differentiated cooperative professional development which was the guideline of many of the supervisory models (Differentiated Supervision Model). The adjustment of the supervision had to be done by supervisors during the semester where the student teachers still got the teacher professional internship in order to manage the supervision appropriately to the supervision model that the student teachers selected by themselves.

Research findings showed that the students were confident and they were able to teach. It was consistent with the guideline of supervision which they selected and it also showed that these students had a clear understanding about the supervision model and the schedule of the supervision process for what they selected. Nevertheless, the researcher concluded further that whatever supervision model in use, the supervisors still played important roles and still were components continuously whatever the supervision model or the student preferences.

Eucabeth Odhiambo (2010) conducted an action research on two usages in preparing student teachers with professional training as teachers to be able to use the Process of Critical Thinking (or Reflective Process Practitioner). The researcher showed that gathering of regulation of action research methodology to use for teaching at bachelor degree level was not the implementation guideline which was generally found but to enable student teachers to conduct action research, it was necessary that the students have to be related to the preparation of the plan of the model in certain model during the teacher professional internship as teachers. The results of study showed that gathering of the action research in a course of bachelor degree level allowed achievement to the objectives as follows: (1) analyze the relationship of student teachers with professional training in conducting action research from the field training for two days, (2) evaluate the field training if it influenced the opinion of students in using action research as a tool for developing the reflection process to make decision in a classroom, and (3) evaluate the methods which could develop the project that promoted experience and skills to be used in action research as the tool to teach and evaluate students. After the training, the students had to select the items or topics that they observed to show relationship in instruction in classroom, analyze, and develop following the model that they selected to use. The results of this study indicated that most of the students who participated feel at ease more in conducting action research as a tool for developing the reflective process, and they brought it to use, derive, and correct problems in classrooms.

Matt Bower (2010) conducted the research on developing research capabilities of student teachers with professional training as teachers by using the Learning Activity Management System or LAMS. The researcher studied the designing of learning

activity management system to develop the potential of thinking through a research as the base for student teachers. The students came from the Faculty of Education who had to design the research questions related to education of their own interest. Then, they brought questions to design a model kit for the learning activity management system which could be used for answering the previously set research questions. Using this guideline for the students, although it was a small group, it influenced the students to change a lot in perception on the importance of research in the instructional process as well as the development of their own understanding towards the issues of conducting research, designing the research based on technology which was built by students. It showed that problems that students found including the construction of questions that could be measured, adjusting the research methodology to those questions and selecting efficiently, and using technology to design the research. Some 84 percent of students receiving the survey indicated that they were successful in construction, creating the learning through educational research by using technology. Some students in the same ratio also identified that because of the learning as the guideline they could integrate inquiry through research and integrated with the learning implementation in their profession.

Christine Hamel (2012) studied the supervision of student teachers with a teacher professional internship by using the tools called collaborative tools to help students to go back and get the professional training in their original places. The profession experience training as teachers was considered a part of the bachelor degree curriculum majoring in Secondary High School studying at Laval University. The students could select and go back to field training in their hometowns. The structure of the field training was required to improve or revise to be consistent with the needs in the field and in order to be consistent with the needs of isolated communities when students went back to their hometowns after completion of study. The objective of this study was to check several sets of process during the Experimental Design. For the supervision during the field implementation in the first period, the implementation would be based on the information technology for communication such as using the Video-Conferencing or Electronic Forum Meeting. The results of study showed that Video Conferencing could copy the steps of the field training of the implementation training but the electronic forum increased the communication between students and trainees

who got teacher professional internship. The implementation methods of the supervisor also changed from focusing on more cooperation inside between participants in the implementation training into three main groups which were supervisors, mentor teachers, and student teachers who got teacher professional internship as teachers.

Robert Maphosa and Gamuchirai Tsitsi Ndamba (2012) studied supervision and evaluation of student teachers with a teacher professional internship in order to find the results of the study in Zimbabwe. The researchers were aware of the importance of supervision and mentor teachers who participated in the training of student teachers with a teacher professional internship in the country. The mentor teachers who understood the role of themselves would be the most appropriate persons to give direction, guidelines, and help student teachers with professional training in the development of the profession. The objective of the study was to study the attitude of mentor teachers who played their roles in making supervision and evaluating student teachers during the training at a primary school in Bulawayo City. This study was a descriptive research with the sample group of 94 mentor teachers who supervised student teachers from three teaching colleges. The tools used for data gathering were questionnaires and interviews. The data that they collected were analyzed by using descriptive statistics and inferential statistics. The findings revealed that most mentor teachers had positive attitude towards the supervision model, and the evaluation of student teachers was done using instinct and consciousness because this group of mentor teachers never had any training about being mentor teachers. Therefore, this group of mentor teachers expected to be able to mingle well with the student teachers with a teacher professional internship as teachers that they had to take care of and shown criteria as supervisors. Whatever they were willing or not, they were selected to be the mentor teachers and had to do the assigned job continuously from the School Principal. The researcher summarized the results and gave advice to this study that the teaching college was supposed to be an organization that gave training for mentor teachers on the skills of supervision and support for the student teachers. They were supposed to use the reflective process as the mentor teachers. It was supposed to be registered as a subject in the study under student training.

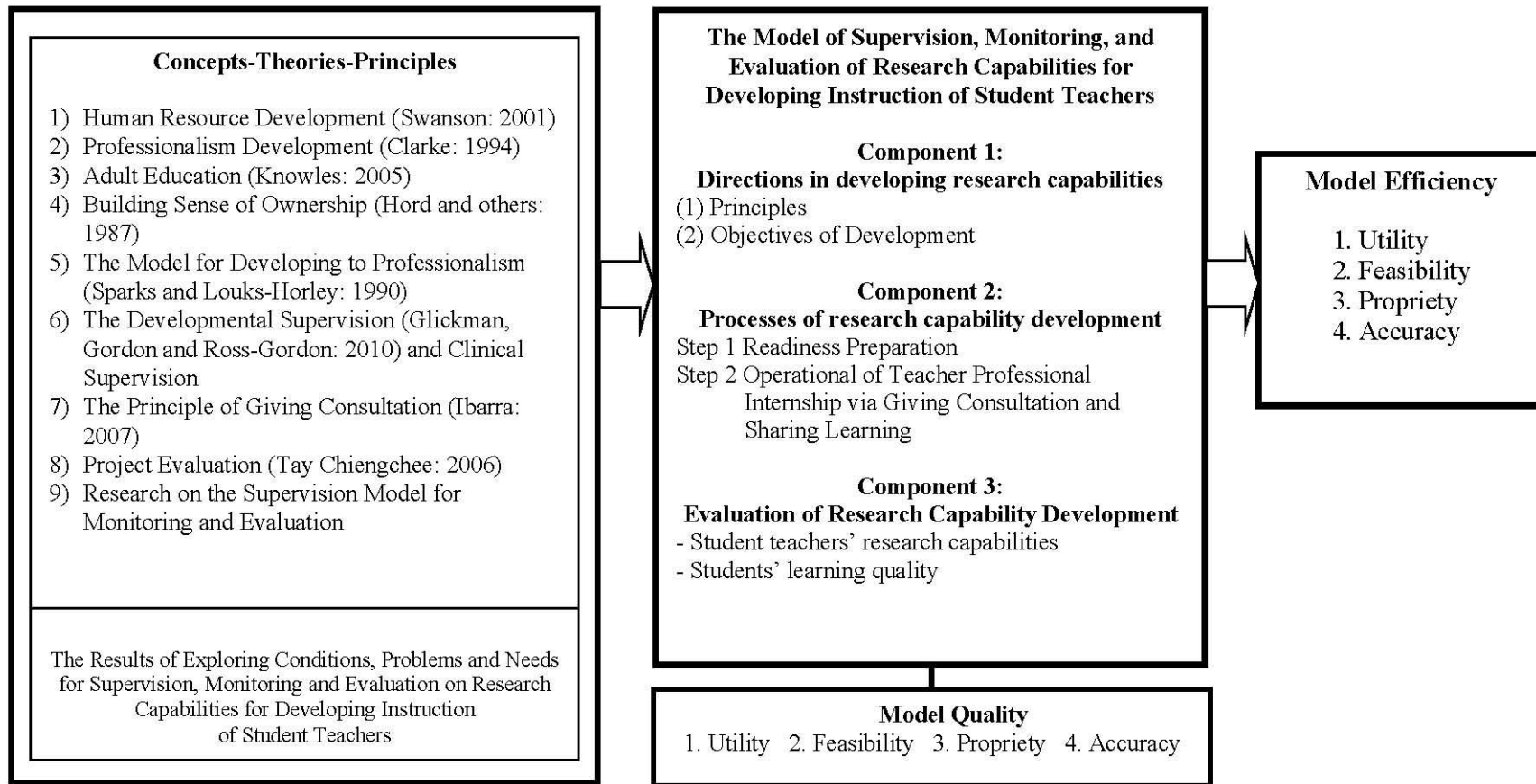
Jeanne M. Allen et al (2013) set a comparative study on how the schools were supposed to supervise their own personnel to understand the implementation training for student teachers. The researcher and team conducted a research at two faculties in an Australian Universities which were University in Tasmania City and in Queensland to evaluate if there were any factors that influenced the teacher professional internship as teachers of the students during their implementation training. This study emphasized on the belief and experience of the schools in the supervision of personnel on the efficiency of the training and to train the students to integrate their knowledge and skills they learned in universities and kept them consistent with the field implementation practices. The research findings from the analysis from a comparative analysis by using integrated methods of two universities showed that there were some differences but some similarities in terms of perception towards the implementation field practice of the two universities also appeared. The people who performed teaching occupation and the personnel at universities throughout this study could be summarized by the research findings into three types: (1) personnel at schools agreed that there was a link between subjects and training implementation which was the important way to integrate theories into implementation section together, (2) the relevant people in both universities agreed that the effective cooperation between the schools was very important for success of implementation training of students and, (3) the open and regular communication among relevant people was important.

Lew Moi Mooi and Munira Mohsin (2013) conducted a study on student teachers whether they could develop understanding in learning of learners through action research using a question of “How the students could develop their understanding the learning of learners through action research?” or not. The researcher selected six student teachers, used a purposive sampling procedures, and collected the data through an open-ended questionnaire and interpreted the answers. It implicated that the student teachers had development of understanding of the learning and the factors that influenced the learning or the learners. The researchers summarized that instructional activities and teaching methods were necessary to be designed by considering the needs of learning, interest of learning, ability to learn, and the model of learning of learners. But whatever the results of research, they still showed that student teachers also understood about limitation an understanding of learning or learners. Therefore, it was

necessary to reinforce the understanding of these aspects more to help student teachers to be able to train in schools with confidence. Besides, the results of this research showed that the action research played parts and supported educational curriculum in preparing the development of their professions to excellence for student teachers. Thus, student teachers could manage the challenges in the earlier years of their teaching practice. The action research was a source of information and activities which could help them access it when they needed it. The students who got teacher professional internship as teachers participating in research showed a positive attitude toward the action research in developing their understanding on learning of learners through theoretical principles. In addition, students who participated in this study confirmed that the action research brought them knowledge on the factors influencing to the learning as the learners more.

According to the aforementioned study of related literature, the influences of the conditions, problems, needs, and assistance from relevant people in the research through development of the instruction and the effectiveness of supervision appeared in promoting research capabilities. It influenced the researcher's interest to develop the abilities in action research through the use of models for monitoring and evaluating research capabilities to develop instruction of student teachers. According to the results of the studies, analysis, concepts, theories of secondary data, and related literature, this research synthesized and built the conceptual framework of the research as follows.

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Figure 2.3 Research Framework