

CHAPTER II

ESSAY

CRITICAL THINKING IN NURSING STUDENT

2.1 Introduction

Critical thinking is important and crucial topics in present education, as all educators are very much involved to teach it to their students. Many documents were written; what is critical thinking? How significant and role it would serve best to educational system and to people's work and life.

With the modern work environment requiring more thinking and problem solving than the past, educators should emphasize and implement critical thinking on their campuses, in their curricula and in their teaching practices in order to prepare students to function effectively in today's workforce. As Glaser, McPeck (1985, 1990 cited in Miller, M.A.; Babcock, D.E.1996) also wrote that the ability to think critically is essential to being a fully functioning individual in the complex society.

Critical thinking is beneficial for many reasons. It can help students do better in school by improving their ability to understand, construct, and criticize arguments. It

can help people succeed in their careers by improving their ability to solve problems, think creatively, and communicate their ideas clearly and effectively. It can also reduce the possibility of making serious mistakes in important personal decisions, promote democratic process by improving the quality of public decision making, and liberate and empower individuals by freeing them from the unexamined assumptions, dogmas, and prejudices of their upbringing, their society, and their age. (Bassham, G; Irwin, W; Nardone, H; Wallace, J.M. 2001)

The purpose of this essay is to overview the definition and concept of critical thinking, the important of critical thinking skills in nurses, and the factors related and improving critical thinking.

2.2 Critical Thinking

Thinking is making use of the mind and involves arriving at conclusions, making decisions, drawing inferences, and reflecting. Thinking includes reasoning, recalling and remembering and encompasses beliefs, opinions, and judgments. We do not know how thinking occurs, but consequences of thinking can be observed through human behavior. (Miller, M.A.; Babcock, D.E.1996)

Directed and nondirected thinking are distinct. Directed thinking is purposeful and goal oriented. Purposeful thinking involves searching for answers and reaching for meaning. For example, when you decide to take a trip to a new area, you may study a

map carefully. Nondirected thinking, however, relies on familiar though patterns. Although it engages the brain, nondirected thinking does not require much conscious thought. Its underlines routine, habitual activities such as getting out of bed, grooming, and driving to work (Halpern, 1984; Ruggiero, 1991 cited in Miller, M.A; Babcock, D.E.1996)

The word “critical” comes from the Greek word “Kritikos”, meaning “critic”. To be critical means to question, to make sense of, and to analyze. By being critical, you examine your thinking and the thinking of others (Chaffee, 1994).

Many definitions of critical thinking have been published. Broad definitions equate critical thinking with the cognitive processes and strategies involved in decision-making, problem solving, or inquiry. Even though difference exist in the definition of critical thinking, but from a variety of disciplines provides strong evidence of a powerful tool for developing the minds of students. Here will present some definitions of critical thinking defined by educators and researcher as shown in Table 1.

Even though, critical thinking has been defined many ways. They came to the same agreement that critical thinking is an intellectual process, a higher order of thinking skills, a reflective thinking, which have to utilize a lot of models or patterns for the thinking process, to evaluate result of thinking, and finding conclusion.

Table 2.1 Definitions of “critical thinking”

Definer name	Define “critical thinking” as
Watson and Glaser (1964) :	A combination of attitudes, knowledge, and skills. Attitude refers to an environment of curiosity, inquiry, freedom from judgment, and a mode of discovery to define the problem. Knowledge of the subject matter is necessary before critical inquiry can be applied.
Ennis (1985) :	It is reflective and reasonable thinking that is focused on decision what to believe or what to do.
Glock (1987) :	Offers broad definition: “critical thinking skills are (a) those diverse cognitive processes and associated attitudes, (b) critical to intelligent action, (c) in diverse situations and fields, (d) that can be improved by instruction or conscious effort.”
Kurfiss (1989):	The process of figuring out what to believe or not about a situation, phenomenon, problem or controversy for which no single definitive answer or solution exists. The term implies a diligent, open-minded search for understanding, rather than for discovery of a necessary conclusion.
Cromwell (1992):	The ability to distinguish the thought patterns in the work of others to a reflection on one’s own beliefs, thoughts, and decisions.
Paul (1992) :	Disciplined, self-directed thinking that exemplifies the perfection of thinking appropriate to a particular mode or domain of thought.

Table 2.1 (continue)

Definer name	Define “critical thinking” as
Paul (1995)	: A unique kind of purposeful thinking in which the thinker systematically and habitually imposes criteria and intellectual standards upon the thinking, taking charge of the construction of thinking, guiding the construction of the thinking according to the standards, (and) assessing the effectiveness of the thinking according to the purpose, the criteria, and the standards.
Chaffee (1994):	An active, purposeful, organized cognitive process we use to cautiously examine our thinking and the thinking of others, in order to clarify and improve our understanding.

Considering it as an extensive definition. To set characteristic or concept of critical thinking will be more indisputable.

Conception of critical thinking

Paul (1992) advocates a comprehensive conception of critical thinking as a necessary tool to bring about readiness to meet impending challenges. His concept of critical thinking embodies three inter-related components. These include:

- The *elements of reasoning* are the general processes inherent in comprehensive, logical thinking.
- The *intellectual standards* are criteria whereby the quality of reasoning can be assessed.

- The *intellectual virtues* are interdependent values or habits of the mind that promote development of “critical thought, moral integrity, and responsible citizenship.”

Chaffee (1994) states that thinking critically is a practical process, involves an integrated set of thinking abilities and attitudes that include the following:

- Thinking actively by using our intelligence, knowledge, and skills to question, explore, and deal effectively with ourselves, others and life situations.
- Carefully exploring situations by asking and trying to answer relevant questions.
- Thinking for ourselves by carefully examining various ideas and arriving at our own thoughtful conclusions.
- Viewing situations from different perspectives to develop an in-depth, comprehensive understanding.
- Discussing ideas in an organized way to exchange and explore ideas with others.

In this thesis the term *critical thinking and conceptual framework* will use Watson & Glaser (1964) defined as A combination of *attitudes, knowledge, and skills*. Attitude refers to an environment of curiosity, inquiry, freedom from judgment, and a mode of discovery to define the problem. Knowledge of the subject matter is necessary before critical inquiry can be applied.

2.3 Important of Critical Thinking in Nurses

Nurses are the health care providers. The four main roles of the nurse in patient care (today we often refer to this as client care) are curative of the individual, preventive of illness, promotion as teaching about health, and supportive for chronic care. Nursing takes place in the community and in the home, in hospital centers, ambulatory care environments, schools, day care centers, and rehabilitation facilities.

To work success and effective as their roles, individually has to make their relationship with their client or patient. Important characteristics nurses as individual must have as; the physical and mental health, alertness, technical competence, dependability, ability to inspire confidence, resourcefulness, consideration for others, cooperation, social and professional responsibility, and also critical thinking skills. (Pratyachutha, N.; et al 1993)

In the presenting situation, there are a lot of change from the past; health situation, health reform and technological advances have significantly affected to the definition and the role of nurses. Since nurses have to work with people's life, knowledge and technical skills will not enough, the abilities on critical thinking are also very important in order to help nurses to analyze, assess people's problems, collecting data, choosing data, and build up of appropriateness on decision making. Urgent decision-making can always occur which will mean the difference between life and death. The higher order of thinking abilities, critical thinking, are necessary to make reasonable and reliable conclusion to provide better practices and more effective care to

clients. The impact of the abilities to think critically will also affect to nurse self-confidence.

To work in today's rapidly changing health care world, nurses must develop critical thinking skills to deal with new situations, make competent decisions, and teach themselves new knowledge.

2.4 Situation of Critical Thinking Skills in Nursing Students

Critical thinking in nursing students that were studied from worldwide educators, as Berger (1984); Frederickson (1979 in Miller, 1992) found that the abilities on critical thinking of nursing students were higher by following year when they become higher class. Agreed with the study of Gross, Takazawa, & Rose (1987) found that the 2nd year technical nurse have higher abilities on critical thinking skills when they graduated than the first time they came for study in nursing.

In Thailand, nursing educators have been studied on the abilities of critical thinking in nursing student in many areas. Chaiprasit, S (1999) studied the critical thinking abilities in nursing students at Boromarajonani college of Nursing, Uttaradit by using the concept of Watson-Glaser Critical Thinking Appraisal found that critical thinking abilities in nursing students were increasing from the first year, second year, third year, and the fourth year students. However, the score of critical thinking abilities were still in the moderate level. Agreed with the studied of Khampak, K (1996),

Jitthaputh,S (1996), Ratanakomol, P (1999) studied on critical thinking skills of nursing students at government nursing college all around Thailand, nursing students of three private nursing schools in Bangkok, and in Boromarajonani college of nursing, Chainat province, found that the critical thinking abilities of nursing students, are also in the moderate level. From all these studied, I believe that nursing students around Thailand would have the abilities on critical thinking in a moderate level.

2.5 Measuring Critical Thinking Skills

Educators have been studied and created the instruments to measure the critical thinking abilities as following present:

1) The Watson – Glaser Critical Thinking Appraisal (WGCTA)

The instrument created by Watson & Glaser (1964) which could be used to measure critical thinking abilities of students in the level of high school to college students. The critical thinking abilities concept compose of attitude, knowledge, and skills: first is the attitude to investigations, to problems perception, and to looking evidences for supporting, second is the using of the reliable knowledge to assess, and third the skill of conclusion. To measure the attitude & knowledge related to critical thinking skills are cover the ability of identify problems, the ability to choosing relevant information, the ability on recognition of assumption, the ability to choose the assumption related to problems and the ability on the conclusion. The measurement on 5 aspects composes of 1) The inference 2) The recognition of assumption, 3) The deduction, 4) The interpretation, and 5) Evaluation of argument.

2) California Critical Thinking Skill Test (CCTST)

This instrument were created by Facione, (1992). Use to evaluate the critical thinking skills in the university level, which that university has the critical thinking as the one subject in the curriculum. This concept, critical thinking is the process of purposive judgement and examine that judge by themselves. The CCTST instrument use to assess the critical thinking skills in the aspects of analysis, evaluation and inference.

3) Ennis-Weir Critical Thinking Essay Test (EWCTET)

This instrument was created by Ennis (1985) use to measure the critical thinking abilities on 1) the introduction to contents or issue, 2) the seeing on the reasoning and assumption, 3) the confine of issue 4) the presentation 5) the seeing of the possibility and the appropriate response of arguing.

4) Cornell Critical Thinking Test (CCTT)

Created by Ennis, Millman, & Tomko, (1985). The CCTT use for measuring the critical thinking skills by using Ennis's concept of critical thinking. (Ennis, 1985). It is to evaluate the reasoning, and the ability of planning by refining considering to judging what to believe or do. The instruments use to measure the critical thinking abilities in seven aspects; 1) giving reasoning of induction, 2) giving reasoning of deduction, 3) giving value of judgement 4) observation 5) giving consideration / respective 6) Assumption setting, and 7) give meaning.

In this study will be using Watson-Glaser Critical Thinking Appraisal because it is an appropriate to use in means using critical thinking abilities in education. The concepts of the test go with the objective of education to develop knowledge, attitude, and skill.

2.6 Developing Critical Thinking Skills

As Schafferman (1991) noted that children are not born with the power to think critically, nor develop this ability naturally. Critical thinking is a learned ability that must be taught. And cannot be taught reliably by peers/parents.

Critical thinking also cannot be taught by lecturing. It is an active process. The intellectual skills of critical thinking analysis, synthesis, reflection, etc. must be learned by actually performing them. Trained and knowledgeable instructors are necessary to impart the proper information and skills.

Vallentyne, P; Accordino, J (1998), Schafferman, S.D (1991), Chaffee, J (1992) Nekamanurak, P (1993) have suggested two approaches of teaching critical thinking and including analyze on the strength and the weakness of each task.

- 1) A course devoted exclusively to the topic (a specific program): this formal method will be more difficult, time-consuming, and expensive, the critical thinking exercises, programs, and material have been prepared by

specialists. However, this method will more a systemic introduction provides student with the relevant basic skills, concepts, and principles.

2) The coverage of the topic in a wide range of courses across the curriculum.

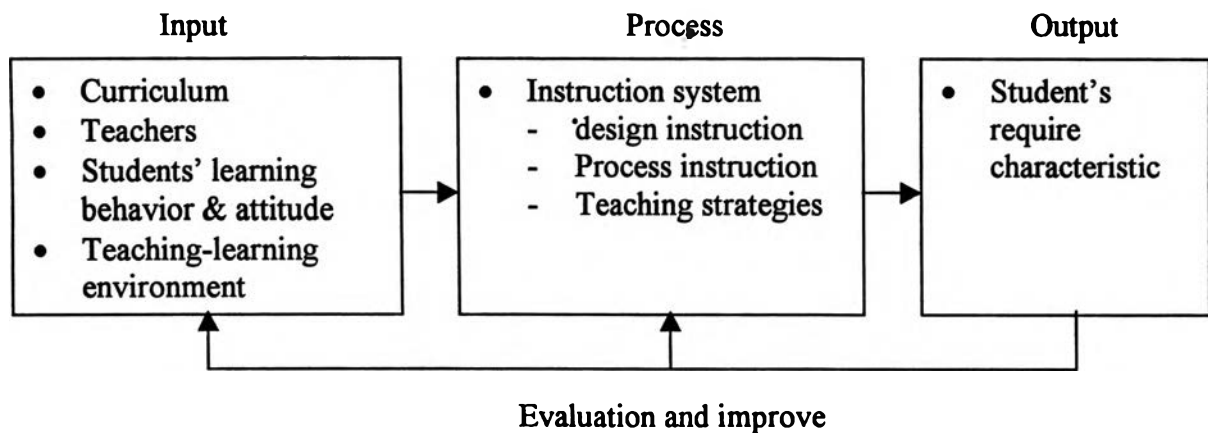
This method the easiest, least time- consuming, and the least expensive is to simply modify one's teaching and testing methods slightly to enhance critical thinking among one's students, this method can be teach during lectures, laboratories, homework, quantitative exercises, term papers, and exam. However, the most effective way of teaching critical thinking require both a course (or courses) devoted to the topic and coverage of the topic across the curriculum.

Table 2.2 The strength and the weakness of each approach.

Approaches	The strength	The weakness
1. A courses devoted Exclusively to the topic	<ul style="list-style-type: none"> • Effective designed by Specialist; formal exercises, Program, materials. • A systemic introduction Provide students with the relevant basic skills, concepts and principles. 	<ul style="list-style-type: none"> • More expensive • Time-consuming • More difficult
2. The coverage the topic in a wide range of courses across the curriculum	<ul style="list-style-type: none"> • Students learn how to apply Skills in a variety of contexts and in way that meaningful and important for the disciplines in which they major • Easiest • Least time-consuming • Least expensive 	<ul style="list-style-type: none"> • Teachers or members maylack expertise both in theory and in the curricular design and classroom technique appropriate for critical thinking. • Teachers may not agree to teach critical thinking though their courses

However, to apply the above two approaches in developing critical thinking. There are also have others factors in the teaching-learning system relevant to using both task; curriculum, teachers, teaching environment, teaching strategies & instruction, and most important is student learning behavior and their attitude as shown in Figure 2.1

Figure 2.1 The teaching-learning system



Source: Srisaaj, Boonchom. (1997)

To ensure competent performance by students, critical thinking, the effective planning, developing, evaluation, and managing all the above instruction factors through teaching-learning systems must need.

Loeboontawatchai, O.; Miller & Malcolm (1995, 1990) noted that to develop critical thinking, the important components such as; learners, teachers, teaching environment, and teaching method & strategies should be considered.

Teachers

Teacher must be the good model of critical thinker. Their have important duties on arrange and design effective instruction, teaching environment, teaching strategies, and learning experience to promote critical thinking skills, for example; in the classroom teaching technique such as: open discussion, give a chance to participation to ask questions, to inquiry, accept learners ideas, change role from giving information to

assist, helping, and facilitate student to experience, and learn more by themselves. As agreed with Nekamanurak. P, (1993), Mc.Donald, (1993 in Loebuntawatchai, 1995) noted that teacher must take the role of support, assist, facilitate of all comfortable to learner, to encourage learning actively by them. Using open questions and give them enough time to think, and tell students where to find information.

Chalupa.; Lee.; Thomas.; (1992,1989,1992 in Kerka, S. 1992): suggested the teachers behaviors to promote critical thinking:

- Requiring justification for ideas and probing for reasoning strategies
- Confronting students with alternatives and thought-provoking questions
- Asking open-ended questions
- Requiring students to be accountable for class discussion
- Serving as a master of apprentices rather than a teacher of students
- Using Socratic discussion techniques

Learners

Learners are the most important component of teaching-learning system. To develop The critical thinking skills, students should have the good attitude on actively learn for example; the curiosity, inquiry, openness, self-confidence, honesty, and security. These attitudes can influence students in developing decision-making & critical thinking.

Teaching environment and supporting facilities.

Teaching environment: for example in the classroom teacher should arrange to good active learning, more interesting, using exciting media and facilities to encourage and assist student to practice their thinking. Howe, R.W; Warren, C.R. (1989) suggested to shift class, from a teacher-centered classroom to a student-centered classroom in which student can be involved in collecting and analyzing information, paired problem solving, cooperative learning setting, simulations, debates, and critical reporting sessions.

Keefe; Walberg (1992 in Potts, B. 1994) noted critical thinking in the classroom is facilitated by a physical and intellectual environment that encourages a spirit of discovery.

Classroom environments to promote higher order of thinking should have the following characteristics (Stasz et al. 1990; Thomas, 1992 in Kerka, S 1992):

- Reflections of real-life situations and contexts
- Collaboration among teachers, disciplines, students
- Encouragement of curiosity, exploration, and investigation
- Responsibility for learning vested in the learner
- Failure viewed as a learning opportunity
- Acknowledgement of effort, not just performance

Teaching method and strategies to promote critical thinking skills

Much of college instruction is delivered through lectures. The instructor stands in front of a classroom and recites facts and information, while students sit passively and soak up (or ignore) what the instructor is presenting. The goal of teaching, in this mode, is to facilitate students' rote memorization of facts from lectures and textbooks. According to Paul (1992), this type of lower-order learning, "undisciplined, associative, and inert" hinders rather than facilitates the educational process. Instead, students must be encouraged to go beyond the memorization of a fact, and adjust that fact to a particular domain of thought. For students to gain critical thinking skills, teachers will have to change the way they present materials and change who does the presenting in their classrooms. They must learn to ask more open-ended questions—why, how, and what if—and coach students through the process of learning how to answer them. Rather than having students absorb knowledge, teachers must encourage students to think problems through, analyze, conceptualize, ask questioned, and reflect on how their beliefs might affect and compare to others. In addition to memorizing facts and figures for a final examination, students must be challenged to apply what they have learned on the real world.

As Schafferman (1991) wrote critical thinking is an active process, its cannot be taught by lecturing. The intellectual skills of critical thinking—analysis, synthesis, reflection, etc.—must be learned by actually performing them. Classroom instruction, homework, term papers, and exams, therefore, should emphasize active intellectual participation by the student.

In view of the ability to think critically is essential and important, many of educational researchers and program developers in difference areas have tended to develop and search methods of teaching strategies to increase the ability of critical thinking in their students, for example: asking question, discovery, inquiry, discussion, group work, brainstorming, seminar, case study, case analysis, computer assisting instruction, writing, audio-visual media, and problem-based learning. Here will present some of teaching techniques and the strength & the weakness of each strategy as shown in table 2.3.

Table 2.3 The strength and the weakness of teaching strategies

Teaching Techniques	Strength	Weakness
Lecture	<ul style="list-style-type: none"> - Economical - Teacher can integrated from many source of paper - Can better explain in difficult content faster - learner get opinion from professional 	<p>Can be ineffective if;</p> <ul style="list-style-type: none"> - Not well plan - Often use without considering content - If use too much time, listener will get bored - Not promote the analysis, synthesis - Not develop attitude and skill
<p>Discussion</p> <p>Whole-class discussion, debates, panels, buzz group, forums</p>	<ul style="list-style-type: none"> - Promote analysis thinking, criticize, integrated knowledge, give opinion can develop high cognitive and speaking skill - Develop attitude - Develop skill of asking / inquiry - Alertness - Develop self concept positively - Listening to others 	<ul style="list-style-type: none"> - Time consuming - Some may talk too much - Teacher may be frustration if can not conclusion
Buzz group	<ul style="list-style-type: none"> - Everybody have a chance to share opinion - Environmental better - Unity in the group 	<p>May be not enough time to share opinion</p>

Table 2.3 (continue)

Teaching Techniques	Strength	Weakness
Seminar	<ul style="list-style-type: none"> - Promote critical thinking - Serious learning activities - Learn from many resource 	<ul style="list-style-type: none"> - Appropriate for small group (<20) - Presentation may not interest to others - Subject of seminar if too broad will not get contents, if too narrow will not broad discuss
Brainstorming	<ul style="list-style-type: none"> - Good for encourage creative thinking in one issue - Board concept, New concept - Free talk - Good decision making/problem solving 	Time-consuming, some idea cannot use
Discovery	<ul style="list-style-type: none"> - Discovery by themselves can be long memorizing, proud , motivate to study - Can continue interesting that issue - Develop skill and attitude necessary to learn by themselves - Develop higher-order thinking - Reasoning inference both deductive and inductive 	<ul style="list-style-type: none"> - Time-consuming - Discovering others that not expect - Some cannot finding
Problem solving	<ul style="list-style-type: none"> - Serious / active learning - Long remember - Develop responsibility of learner - Increasing interest to study - Learn from many resource - Learn to accept others opinion - Develop problem solving 	Time consuming

Source: Srisaaj, B. (1997)

White; et al, (1990) Suggested of four methods that can develop critical thinking in nursing students as: using nursing process in clinical situation, techniques of discussion & argument, technique of inference from qualitative data, and promote decision-making skills in ethical issue.

Teaching critical thinking, the concept is to emphasizing students or learners to learn by them, as educators said 'student-centered'. There are many teaching techniques & strategies that can be used to teach critical thinking. Each of strategies & techniques has the strength and the weakness, teachers have to design what technique or strategy should appropriate to their subject. However, the concept of teaching as a student-centered means of students will be give information or content to classroom activities by using experience and knowledge of each student, there are 3 level. (Praboromarajnok Institute, 1999)

1). Student-Centered Class: Teacher take the role of preparing contents, equipment, all media, students will do all learning activities while teacher will be taking care, regulation, this activity mostly are using group and pair students.

2). Learner- Based Teaching: Teacher will take role of encourages, students will be the one who searching or looking for information of the contents, or students have to prepare the media by using their knowledge and experience.

3). Learner Independence or Self – Directed Learning: The learners will learn from media, learning resource center that has been arranged from college or others resources by them. Students will choose their owns subject to work or to practice as they need, interesting, or their ability.

There are many studies of teaching critical thinking around the world, McEwen, B.C. (1994) found that the most effective teaching methods in business education were case studies or problem-solving techniques, simulations, group and individual projects, and group discussion. The teaching strategies could encourage critical thinking skills were open discussion, allow time for thinking, encouraging improvement and promoting interactive learning. The most effective teaching methods for encouraging critical thinking were found to be practical task completion, case studies, and argumentative essays.

In Thailand, Dangdomyouth, P (1996); Phadungyam, M, (1996) teaching critical thinking by using situations through individual work, group discussion and VDO Tape as the strategies to encourage students thinking. Found that students have higher ability on the using of nursing process, which is very close to critical thinking skills because the nursing process is the process of scientific method. (Hanucharoenkul, S.1986)

Nekamanurak, P (1993) develop model of teaching critical thinking 3 steps.

- 1) the step of offering project: the objective is to encourage students to see the value of knowledge that they must study including using problem situations, issue of inquiry or principle to encourage student identify problem or understand the given problems.
- 2) The step of practice thinking : divide to 3 activities to think individually, the activity to think in small group, and the activity of present the thinking result.

- 3) the step of evaluation thinking process: to assess the result of learner about the method or the process of thinking. And is it reach the activities objective.

The result of using these activities to teach critical thinking skills in students found that the students who were taught by the above method have higher critical thinking skills than students who were taught by conventional technique.

As critical thinking is the skills could develop through teaching and learning system. The educational should be consider and prepare appropriate learning experience to their students to develop critical thinking skills which will help students to live better in these complex societies. Also, they are important to job performance and career mobility. If it is true that education is preparation students for life, then educators have a responsibility to teach critical thinking skills.

2.7 The Strategies to Improving the Situation of Critical Thinking in Nursing Students

To improving the situation, I proposed 3 themes. There are covering all factors related to teaching critical thinking.

1. Curriculum and instructional development
2. Human Resource Development
3. Management and regulation

- **The curriculum and instructional development**

The development of curriculum and instructional mean to improve them better or more appropriate for teaching critical thinking because the curriculum is the heart to arrange of education. It is the goal of the school, the instructional will be design to appropriate and serve the curriculum. To develop curriculum is often considered the starting point for instructional planning (Wongyai, V 1994; Handerson & Hawthorne, 1995).

- **Human Resource Development**

Human Resource, teachers in this project, take an important role to teaching critical thinking. They have to understand the concept, and the ability to design appropriate instruction to teach critical thinking, to get them involve and teaching critical thinking to their students. If teachers are not agree, how can critical thinking be teach.

The Human resource development has 4 important models: the first is education, the second is training, the third is development (organization development), and the fourth is environmental development (Learning organization) (Juyto, 2001).

- **The Management and regulation**

This theme will take the role of arranging all supporting teaching & learning environments to serve for encourage teaching critical thinking such as: materials, resource center, library, etc. Well management and regulation of all instructional in the college will bring students reach the goal or the objective of curriculum.

The strength and weakness of each strategy as shown in table 2.4

Table 2.4 The strength and the weakness of the strategies to improving situation

Strategies of Improving	The Strength	The weakness
1) Curriculum and Instructional development	<ul style="list-style-type: none"> • Unity • Highly ensure that students will reach goal (critical skills) • All staff can see the same goal 	<ul style="list-style-type: none"> • Time-consuming • Highly involving from all members • Expensive • Dealing with members who did not agree (Resistance)
2) Human Resource Development	<ul style="list-style-type: none"> • Easier to arrange program • Less time-consuming • Teachers/member will have more knowledge, attitude, and skills of teaching critical thinking. 	<ul style="list-style-type: none"> • Will not ensure that students can reach goal (if teachers alone not do it) • Some members may did not agree.
3) Management and Regulation	<ul style="list-style-type: none"> • Bring effective project • Can empower members • The project or the work can go easier. • Support the both above strategies. • Can bring the project reach the goal • Can influence member • Can solving problem than can happen all time. 	<ul style="list-style-type: none"> • Some member may resistance. • Work hard. • May be can not support for all.

2.8 Conclusion

As I have described the important of critical thinking that could affect to people and to nurses. The situation of critical thinking in nursing students, the way of developing critical thinking, and the strategies to improving critical thinking skills.

My business as a nursing educator is to prepare nursing students to think and to work as a nurse. The critical thinking skills have much important in nursing practice where wise judgments and correct clinical decision can often mean the difference between life and death. To increase the skills of critical thinking in nursing students, The three strategies approach: firstly curriculum & instructional development, secondly human resource development, and finally the management and regulation, must be need.