# CHAPTER 2

# LITERATURE REVIEW

1. Clinical Learning Environment

    1.1 Definition of clinical learning environment

    1.2 Concepts and theories related to the clinical learning environment

    1.3 Assessment of clinical learning environment

    1.4 Studies related to clinical learning environment

2. Clinical Learning Outcomes

    2.1 Definition of clinical learning outcomes

    2.2 Concepts and theories related to the clinical learning outcomes

    2.3 Assessment of clinical learning outcomes

    2.4 Studies related to clinical learning outcomes

3. Relationship between clinical learning environment and clinical learning outcomes

4. Situation of clinical learning environment and clinical learning outcomes in Vietnam

5. Conceptual framework


## Clinical Learning Environment

### *Definition of Clinical Learning Environment*

Learning environment has been well accepted in the educational literature. Some definitions of learning environment have found since 1960s such as Bloom (1964) described the educational environments as the conditions, forces, and external stimuli which impinge on the individual. These forces may be physical, social, as well as intellectual forces and conditions (Bloom 1964, cited in Dunn & Burnett, 1995). Learning environment may be defined by a limited number of characteristics, including physical surroundings, classroom climate, teaching method, course structure, curriculum content, and the relationship between the participants in the environment (Bloom, 1964; Keeves, 1972; Biggs, 1987).

Within the nursing profession, clinical teaching and learning has been of interest for several decades. From reviewing literature, most of the studies have attempted to describe what are characteristics of positive clinical learning and to identify variables which influence student learning; however, the definition of CLE have been limited. Some terms similar to clinical learning environment have been noted and these terms are: hospital learning environment (Chan, 2002); clinical environment; clinical learning environment (Dunn & Burnett, 1995); and ward learning climate (Orton, 1981).

Since early 1980s, Orton described CLE as a group of stable characteristics unique to a particular clinical setting and impacting on the behavior of individuals within that setting. Additionally, Hart and Rotem's (1995) was identified the

attributes that define the CLE for registered nurses as the attributes of the clinical work setting which nurses perceive to influence their professional development. The professional development was defined as the context to which staff perceive they were improving in terms of their knowledge, skills, and attitudes (Hart & Rotem, 1995). Although this study targeted registered nurses, the conceptual framework may have a broader application within nursing practice as a means of predicting professional development (Chan, 2001).

Study conducted by Dunn & Burnett (1995) had focused on context of clinical learning environment for nursing students. The authors asserted that CLE is a complex social entity where student nurses, clients, clinicians and clinical teachers co-exist, each with their own objectives. According to Dunn & Burnett (1995), CLE was defined as the interactive network of forces within the clinical setting that influence the students' clinical learning outcomes. The central concepts of CLE emphasize the importance of the physical, human, interpersonal and organizational properties, mutual respect and trust among teachers and students (Knowles, 1990). Furthermore, in the study by Saarikoski and Leino-Kilpi (2002), the authors indicated that the clinical learning environment consists of the ward culture, a context of nursing care, the basic ideas, and principles of teaching and learning in the wards.

When considering all these definitions, all of them considered total aspects of clinical setting that influence student learning. The definition given by Dunn & Burnett (1995) merge all aspects of clinical learning environment that impact students' learning outcomes. Thus, this definition was used in this study.

*Concepts and Theories Related to the Clinical Learning Environment*

Theory of clinical learning environment was derived from organizational and educational theory (Dunn & Burnett, 1995). The clinical learning environment is a very complex entity made up of many integrated sub-systems (Chan, 2002; Saarikoski, Isoaho, Leino-Kilpi, & Warne, 2005). Scholars have identified the dimensions of clinical learning environment for nursing students in different ways depending on the clinical setting. Some conceptual models of clinical learning environment have been developed in nursing literature.

*a) Dunn and Burnett's clinical learning environment concepts*

Dunn and Burnett (1995) constructed concepts of clinical learning environment based on organizational and educational theory. They synthesized the works of British researchers since early 1980s which derived from ward learning climate, role of ward sisters (Pembrey, 1980 as cited in Dunn & Burnett, 1995), ward structure and hierarchical system (Fretwell, 1980), and ward sisters' commitment to teaching (Orton, 1981). In addition, the authors considered the factors that influence on clinical leaning environment which included physical facilities and resources, variety and frequency of patient diagnoses and conditions, ward specialty, patient turnover, patient allocation, ward routine, student allocation, role clarity, structure of supervision of staff, application of research to practice, and assessment of learning outcomes. As a result, the authors developed the theory of clinical learning environment which included five dimensions: staff-student relationships, nurse manager commitment, student-patient relationships, interpersonal relationships, and

student satisfaction. This theory has been used to explore the clinical learning environment for baccalaureate nursing students. The descriptions of this theory are described as follows:

1) *Staff-student relationships* refer to the importance of the students was attached to the willingness of nursing staff to engage in a teaching relationship and to accept the student as a learner with a legitimate role on the team; The roles of clinical nurses that influence on students' learning in the wards have been reported. When staffs concern students' learning need, students have more learning opportunities (Atack, Comacu, Kenny, LaBelle, & Miller, 2000). In addition, good relationship between student and staff nurse helps students to acquire clinical skills such as decision making and critical thinking (White, 2003).

2) *Nurse manager commitment* refers to the role of the nurse manager in establishing and maintaining the clinical learning for students. Nurse manager also contributes to providing individual teaching opportunities and promoting an environment for teaching and learning (Orton, 1981; Pembrey & FitzGerald, 1987; Saarikoski & Leino-Kilpi, 2002).

3) *Patients relationships* refer to students' opportunities to approach individual patients whereby students' efforts are valued by patients while providing care. The importance of the nursing student–patient relationship in clinical learning is widely acknowledged (Suikkala & Leino-Kilpi, 2001; Suikkala, Leino-Kilpi, & Katajisto, 2008). It seems that the relationship with a patient is an important part of a meaningful learning process like teaching nursing students about the patient's individualized care and promoting their personal and professional growth, confidence

and self-esteem. Patients are willing to participate in students' learning process and they tend to benefit from therapeutic and social interaction with students. Instruction has the effect of changing students' attitudes and improving their interaction skills (Suikkala et al., 2008).

4) *Student satisfactions* refer to the importance of the students' own attitudes in relation to the clinical learning environment. When students play an assertive role in their own learning, they are more likely to achieve best learning (Dunn & Hansford, 1997). Dunn and Hansford further stated that student satisfaction is partially a result of a positive learning experience, and that the more satisfied student will be more likely to find further opportunities for a positive learning experience.

5) *Interpersonal relationships* contain elements relating to aspects of relationship between various participants in the ward setting as well as elements of organizational culture. The interaction among participants within the organization forms the structure and hierarchy of the organization (Argyris, 1972 cited in Dunn & Hansford, 1997). When structures of organization are strict hierarchical system, it is unlikely to meet the students' learning needs (Fretwell, 1980). According to Dunn & Hansford (1997), the elements under this dimension include: (1) organizational policies related to nursing students, (2) the clinical venue's awareness of the students' learning needs, (3) the skills of the registered nurse staff including both their patient care and teaching abilities, and (4) the manner in which student's patient assignments were arranged.

This model of clinical learning environment was further intensified by Dunn & Hansford (1997). The authors used both quantitative and qualitative methodologies to explore the perceptions of clinical learning environment from 229 undergraduate nursing students. The results confirmed that clinical learning environment for baccalaureate nursing students encompassed five components which included staff-student relationships, nurse manager commitment, student-patient relationships, student satisfaction, and interpersonal relationships.

*b) Saarikoski's clinical learning environment concepts*

Similar to Dunn and Burnett, Saarikoski and her colleagues developed the model of clinical learning environment based on research studies on ward learning climate since early 1980s. The Saarikoski framework consisted of five sub-dimensions: ward atmosphere, leadership style of the ward manager, premises of nursing care on the ward, premises of learning on the ward, and supervisory relationship. After that, the instrument was extended with one new sub-dimension of nurse teacher's role in clinical practice (Saarikoski, Isoaho, Warne, & Leino-Kilpi, 2008). The conceptual framework that had guided to Saarikoski's work was derived from literature of clinical teaching undertaken in the 1980s and 1990s. *The ward atmosphere* originated from works of Fretwell (1983), Orton (1983), Levec and Jones (1996), and Wilson-Barnett et al (1995) that emphasized non-hierarchical structure, team work, good communications, and staff motivation. Also, *leadership style of the ward manager*, that is good learning environments were characterized by a management style of ward manager who was aware of physical and emotional needs of nursing staff and students (Fretwell, 1980, 1983; Neville & French, 1991; Orton,

1981). *The premise of nursing* is that high quality nursing care was the best context for successful learning experiences. Smith (1991) stated that if nursing care occurred in a spirit of caring, then the student could learn the core of nursing care through their caring experiences and Kosowski (1995) asserted that through caring experiences with patients the students' self-confidence and self-esteem in their own nursing care was enhanced. *The premise of learning* on the ward offers an opportunity for professional development. The last is *supervisory relationship.* The aim of supervisory system is to enable a close relationship between supervisor and student which will facilitate the students learning and provide individual support and guidance through clinical study. Although this framework has been used in many European countries, its dimension does not cover student involvement in clinical learning.

*c) Chan's clinical learning environment concepts*

Chan (2001) developed the Six-Dimension Scale of Clinical Learning Environment based on the conceptual framework of classroom learning environment research. Chan's conceptual framework is derived from the work of Fraser and Fisher (1983) who asserted that the strongest tradition in past learning environment research has involved investigation into the predictability of students' cognitive and attitudinal outcomes, based on student perceptions of the classroom learning environment. Student learning is found positively related to the levels of cohesiveness, satisfaction, and task orientation in the classroom, and is negatively related to the levels of friction and disorganization (Fraser & Fisher, 1983). This suggests that student outcomes

might be improved by adjusting learning environments. The six dimensions of Chan's framework included:

(1) *Individualization:* extent to which students are allowed to make decisions and are treated differentially according to ability or interest;

(2) *Innovation:* extent to which clinical teacher/clinician plans new, interesting and productive ward experiences, teaching techniques, learning activities and patients' allocation;

(3) *Involvement:* extents to which students participate actively and attentively in hospital ward activities;

(4) *Personalisation:* emphasis on opportunities for individual student to interact with clinical teacher/clinician and on concern for student's personal welfare;

(5) *Satisfaction:* extent of enjoyment of clinical placement;

(6) *Task orientation:* extent to which ward activities are clear and well organized.

In summary, all of the above concepts have described clinical learning environment for nursing students that consist of physical, social, as well as intellectual forces and conditions. The Dunn & Burnett's clinical learning environment concepts contain its components which sustainably reflect the context of clinical learning environment in Vietnam. Therefore, concepts of clinical learning environment developed by Dunn & Burnett (1995) were selected for this study.


*Assessment of clinical learning environment*

Clinical learning environment can be measured by using different instruments. Among them some famous instruments such as Clinical Learning Environment Scale (CLES) by Dunn & Burnett (1995); Clinical Learning Environment Inventory (CLEI) by Chan (2001); Clinical Learning Environment Diagnostic Inventory (CLEDI) by Hosoda (2006); and Clinical Learning Environment Supervision and Nurse Teacher scale (CLES+T) developed by Saarikoski, Isoaho, Warne, and Leino-Kilpi (2008) will be discussed.

*Clinical Learning Environment Scale (CLES)*

Clinical Learning Environment Scale was developed by Dunn & Burnett (1995) to assess the perceptions of nursing students about their learning environment in hospital wards. The instrument was based on Orton's (1981) ward learning climate survey which consisted of 124 items. After analyzing and testing by both exploratory and confirmatory factor analytic techniques, the researchers developed clinical learning environment scale which encompasses 23 items rated on a 5-point Likert scale, from 1=Strongly Disagree to 5=Strongly Agree. CLES contained five subscales representing staff–student relationships, nurse manager commitment, student-patient relationships, interpersonal relationships, and student satisfaction.

The instrument was developed by using both exploratory and confirmatory factor analytic techniques. The factors have strong substantive face validity and

construct validity, as determined by confirmatory factor analysis Reliability coefficients range from high (0.85) to marginal (0.63) (Dunn & Burnett, 1995). This instrument was further tested by Dunn & Hansford (1997) using mixed qualitative and quantitative research methodology. The CLES instrument appears to be directed toward a learning environment that is quite similar to clinical learning situation in Vietnam. The instrument has addressed primarily issues related to the work setting and the roles of staff and ward managers and acknowledges the impact of nursing faculty on the student learning environment.

*Clinical Learning Environment Supervision and Nurse Teacher scale*

Another instrument, the Clinical Learning Environment and Supervision (CLE+T) inventory, was developed by Saarikoski to measure Finnish nursing students' perceptions of their clinical environments (Saarikoski & Leino-Kilpi, 2002). The CLE&S contains 27 items within five factors-ward atmosphere, leadership style of ward manager, nursing care on the ward, learning on the ward, and supervisory relationship-with reported scale reliabilities of .73 to .94 respectively and factor loadings supporting the predetermined framework. Saarikoski (2003) repeated the initial study with a different population of Finnish nursing students finding differences in three of the five subscale scores among students experiencing different learning environments.

*Clinical Learning Environment Inventory (CLEI)*

Chan modified a classroom learning environment inventory to address nursing student perceptions of the clinical learning environment (Chan, 2001). The

Clinical Learning Environment Inventory (CLEI) contains six dimensions which encompass personalization, student involvement, task orientation, innovation, individualization, and satisfaction with each dimension is equally seven items. Student responses to items based on a 4-point Likert scale. Both actual and student preferred versions of the tool are used, with comparison of student responses on each. Reported scale reliabilities ranged from .68 to .84 based on use with a group of Australian nursing students (n = 108), with significant differences identified between student perceptions of actual versus ideal learning environments (Chan, 2001). Ip and Chan (2005) also used the instrument with a population of Hong Kong nursing students (n = 243), again reporting differences between student's actual and preferred environments (Ip & Chan, 2005). Scale reliability scores were reported to be similar to Chan's 2002 data, although the student involvement scale reliability was somewhat lower at .50 to .51. Student involvement, personalization and task orientation were found to explain only 36% of the variance in student perceptions of the social climate of their clinical placement. Recently, Henderson, Heel, Twentyman, and Lloyd (2006) used Chan's CLEI to compare Australian nursing student perceptions of three models of student clinical supervision, finding differences in student perceptions between the three models, with scale reliability scores similar to that reported by Chan for a sample of 289 paired sets of data.

In summary, through reviewing these instruments, the Clinical Learning Environment Scale developed by Dunn & Burnett (1995) appears to be congruent with the features of current clinical learning activities of baccalaureate nursing students in Vietnam. Therefore, this instrument was chosen to examine clinical learning environment for the fourth-year baccalaureate nursing students.

*Studies related to clinical learning environment*

From the literature, numerous studies were conducted regarding CLE measurement through various instruments. However, there are few studies using CLES developed by Dunn & Burnett (1995). In this section, the researcher presents some research studies that had used Dunn & Burnett's model and other researches that have the dimensions similar to Dunn & Burnett's model.

A mixed methodology research by Dunn & Hansford (1997) explored students' perceptions of their clinical learning environment in Australia. The researchers used CLES consisting of 23 items with five subscales, including staff-student relationship, nurse manager commitment, patients relationship, student satisfaction, and interpersonal relationships to assess 229 undergraduate nursing students. The findings showed that interpersonal relationship between the participants in the CLE was crucial to the development of a positive learning environment. Student satisfaction with the CLE was both a result of, and influential in creating, a positive learning environment. Nurse educators, clinical venues, and all others participating in the undergraduate nursing students' clinical education, must collaborate in order to create a CLE which promotes the development of well-educated registered nurses capable of providing safe, cost-effective patient care.

Another study by Saarikoski and Leino-Kilpi (2002) examined perceptions of clinical learning environment of 416 nursing students in Finland. The study used Clinical Learning Environment and Supervision scale that consisted of 27 items

divided into five dimensions: ward atmosphere, leadership style of the ward manager, premises of nursing care on the ward, premises of learning on the ward and supervisory relationship. This instrument has three sub-dimensions similar to Dunn & Burnett's model of CLE (Saarikoski et al., 2005). The findings showed that the two most important factors constituting a good clinical learning environment are the management style of the ward manager and the premises of nursing in the ward. The results also suggested that ward managers can create the conditions of a positive ward culture and a positive attitude towards students and their learning needs.

A cross-section study by Papastavrou, Lambrinou, Tsangari, Saarikoski, & Leino-Kilpi (2010) explored perceptions of clinical learning environment of 645 nursing students in Cyprus. The findings indicated that students highly acknowledge the quality of nursing care and student-patient relationships in the ward as the most crucial factors contributing to positive clinical learning environment.

In Vietnam, Huy and Thuy (2010) conducted a study regarding student and patient relationship. The study included interviewing 15 generic baccalaureate nursing students and 15 patients in ten wards at Uong Bi provincial hospital. The result showed that students appreciated patients as individuals that support personal and professional growth. Close and positive relationship with patients was very important to their learning. However, students encountered lack of competence which caused lack of confidence in interpersonal skills and providing care.

In summary, the results mentioned about CLE can be concluded that positive, facilitative and supportive learning environment in clinical setting for nursing students can be created by all participants in the ward. The nurse managers

play as important role in creating learning culture in the ward. The interaction among students, staffs, patients, and clinical teachers are crucial to establish positive clinical learning environment.


## Clinical Learning Outcomes

*Definition of Clinical Learning Outcomes.*

Learning outcomes has been well defined in literature. Learning outcomes are concerned with the achievements of the learner rather than the intentions of the teachers (Oermann & Gaberson, 2009). In general, learning outcomes was defined as the statements of what a learner is expected to know, understand and/or be able to demonstrate after a completion of a process of learning or a period of learning (Reilly & Obermann, 1999). Student learning outcomes are properly defined in terms of the knowledge, skills and abilities that a student has attained at the end (or as a result) of his or her engagement in a particular set of educational experiences (Alkaissi, 2008). A learning outcome is what results from a learning process and intended learning outcomes are statements that predict what learners would have gained as a result of learning. Moreover, learning outcomes are the actual results of learning or rather the aspects of a student's learning that tutors choose to assess and reward (Jackson, Wisdom, & Shaw, 2003).

Clinical education is an integral part of any baccalaureate nursing program (Oermann & Gaberson, 2009). Clinical education includes various clinical courses where nursing students experience the real situation across numerous clinical placements. The learning outcomes must be assessed as the results of clinical

education (Reilly & Obermann, 1999). Therefore, clinical learning outcomes was defined as the statements of what a student is expected to know, understand, and be able to demonstrate at the end of their clinical placement (Al-Kandari et al., 2009). According to Al-Kandari et al, the clinical learning outcomes of baccalaureate nursing students include the cognitive, affective, and psychomotor domain of learning that students have attained at the end their engagement in a clinical placement.

In this study, the definition of CLO that would be considered is by Al-Kandari, Vidal, and Thomas (2009) due to its precision and appropriateness with the clinical objectives of this study.

*Concepts and Theories Related to Clinical Learning Outcomes*

*a) Concepts of learning outcomes based on Revised Bloom's taxonomy*

According to Oermann & Gaberson (2009), instructional objectives play an important role in teaching students in varied settings in nursing. They provide guidelines for student learning and instruction and the basis for evaluating learning. The objectives represent the outcomes of learning; these outcomes may include the acquisition of knowledge, development of values, and performance of psychomotor and technological skills. In nursing profession, the learning outcomes need to adequately measure to obtain information for making judgments about the quality of students learning or achievement, clinical performance, and educational programs (Oermann & Gaberson, 2009). Learning outcomes may be written to reflect three domains of learning, it with its own classification or taxonomic system: cognitive, affective, and psychomotor.

(1) *The cognitive domain* deals with knowledge and intellectual skills. Learning within this domain includes the acquisition of facts and specific information underlying the practice of nursing; concepts, theories, and principles about nursing; and cognitive skills such as decision-making, problem-solving, clinical judgment, and critical thinking. The cognitive taxonomy was developed by Bloom, Englehart, Furst, Hill, and Krathwohl in 1956. It provides six levels of cognitive learning, increasing in complexity: knowledge, comprehension, application, analysis, synthesis, and evaluation. The follows are descriptions for each of the six levels of learning in the cognitive taxonomy (Bloom et al., 1956):

a). Knowledge: Recall of facts and specific information. Memorization of specifics.

b). Comprehension: Understanding. Ability to describe and explain the material.

c). Application: Use of information in a new situation. Ability to use knowledge in a new situation.

d). Analysis: Ability to break down material into component parts and indentify the relationship among them.

e). Synthesis: Ability to develop a new product. Combining elements to form a new product.

f). Evaluation: Judgments about value based on internal and external criteria. Extent to which materials and objects meet criteria.

(2) *The affective domain* relates to development of values, attitudes, and beliefs consistent with professional nursing practice. The taxonomy of the affective domain was developed by Krathwohl, Bloom, and Masia in 1964, it includes five

levels organized hierarchically and based on the principle of increasing involvement of the learner and internalization of a value. According to Krathwohl et al., (1964), there are two important dimensions in evaluating affective outcomes. The first relates to the student's knowledge of the values, attitudes, and beliefs which are important in guiding decisions in nursing. The second dimension of affective evaluation focuses on whether or not students have accepted these values, attitudes, and beliefs and are internalizing them to form a system for their own decision making and behavior. Descriptions of the five levels of learning in the affective taxonomy are following:

a). Receiving: Awareness of values, attitudes, and beliefs important in nursing practice. Sensitivity to client, clinical situation, or problem.

b). Responding: Reacting to a situation. Responding voluntarily to a given phenomenon reflecting a choice made by the learner.

c). Valuing: Internalization of a value. Acceptance of a value and commitment to using it as a basis of behavior.

d). Organization: Development of a complex system of values. Organization of a value system.

e). Characterization by a value: Internalization of a value system providing a philosophy for practice.

(3) *Psychomotor domain* of learning involves the development of skills and competency in use of technology. This domain includes activities that are movement-oriented, requiring some degree of physical coordination. Motor skills have a cognitive base, the principles underlying the performance of the skill, and an affective dimension, reflecting the values and attitudes of the nurse while carrying out the skill, for instance, concern and respect for the client during performance of the skill.

The taxonomy was developed by Dave (1970) is a useful taxonomy for nursing. It includes five levels in progression of psychomotor competence: imitation, manipulation, precision, articulation, and naturalization. Details of each of these levels are described as follows:

a). Imitation: Performance of skill following demonstration by teacher, staff, or through multimedia. Imitative learning.

b). Manipulation: Ability to follow instructions rather than needing to observe the procedure or skill.

c). Precision: Ability to perform skill accurately, independently, and without using a model or set of directions.

d). Articulation: Coordinated performance of skill within a reasonable time frame.

e). Naturalization: High degree of proficiency. Integration of skill within care.

Above are descriptions of all three domain of learning, the Revised Bloom's taxonomy has been used widely in general education as well as nursing education to develop the learning objectives and expected learning outcomes for nursing students at all levels.

*b) Al-Kandari's clinical learning outcome concepts*

Clinical learning outcomes are the statements of what students are expected to know, understand, and be able to demonstrate at the end of their clinical practice (Al-Kandari et al., 2009). According to Connolly and DeYoung (2004), clinical learning outcomes can asses by comparing student's achievement with stated

expectations of the course. The authors further indicated that clinical learning outcomes are easily identified when the clinical learning objectives are clear. Hence, dimensions or concepts of clinical learning outcomes would depend on the learning objectives of the course outlines, the belief and philosophy of the institution and whether it is embedded in a theory or not.

Al-Kandari and colleagues developed the theory of clinical learning outcomes by integrated the Revised Bloom's taxonomy and clinical objectives. It includes nine dimensions which are comprehensive and covering the cognitive, affective and psychomotor domain of learning. Details of these dimensions are described as the follows:

*1) Knowledge* refers to the application of the selected concepts from the biological sciences, social sciences, and nursing. This dimension includes students apply the knowledge they have learnt to assigned patient, use the knowledge to understand the actual, potential elements might effect the patient, as well as transfer nursing knowledge from classroom to patient and identify the patient's developmental stage.

*2) Nursing process* refers to the application of the nursing process; use selected assessment skills to collect subjective and objective data, write nursing diagnosis and nursing care plan based on the patient's health assessment, practice with guidance of nursing staff and teacher, and evaluate one's nursing action in relation to the patient's goals.

*3) Communication* refers to the effective interpersonal communication skills among students and others; use selected therapeutic techniques, such as

focusing, restating, and clarifying when interacting with the patients and health team members;

*4) Student role* refers to students' participation as a member of the health team; seek opportunities to assist health team members; respond positively to constructive feedback from the teacher, nurse manager, and other health team members; demonstrate a positive relationship with patient, teacher, health team members, and peer group.

*5) Accountability* refers to the accountable and responsible behavior of the students; follow the policies of the nursing program and of specific health agencies; prepare for assigned learning experiences; discuss situation when nursing intervention are not according to the textbook standards; identify errors/omissions and report them immediately to the appropriate team member.

*6) Patient teaching* refers to the students' attainment of the objective in providing learning needs of the clients; state the learning needs of patient; identify the resources that will assist the patient to meet learning needs; and conduct a teaching section with patient.

*7) Organizing plan* refers to the student's awareness of selected principles of organization; prioritize one's nursing actions by following a time sequence plan; identify the stressors that have the potential to change the plan of care; perform nursing activities in a reasonable amount of time; and demonstrate the ability group together related nursing actions.

*8) Caring* refers to demonstrate caring behaviors; respect the cultural and religious belief of the patient, family, and heath team members; demonstrate empathy when interacting with the patient and family; and act as the patient's advocate.

*9) Psychomotor skills* refer to the students' performance of selected nursing skills safely according to established levels. These include preparing the patient and equipment for procedures, observing asepsis as needed, performing with speed and accuracy, demonstrating organization in the skill's performance, and considering the safety of the patient and the equipment.

*Assessment of Clinical Learning Outcomes*

Nursing, as a practice discipline, requires development of cognitive, affective and psychomotor skills for the care of patients. Acquisition of knowledge alone in not sufficient; professional education includes a practice dimension, where students develop competencies for care of clients and learn to think and act like professionals (Oermann & Gaberson, 2009). Thus, evaluation of learning outcomes on clinical settings is one of the most important components in nursing education. According to Oermann & Gaberson, there are several clinical evaluation methods such as observation, simulations, games, media clips, written assignments, portfolio assessment, clinical examination, and self-evaluation.

Although there are several methods to measure clinical learning outcomes, the self-evaluation is suitable method for this descriptive study because of limitation of time and resources. Therefore, the researcher tends to review some instruments that measure clinical learning outcomes by students' perceptions. These instruments will be discussed as follows:

The Clinical Learning Outcomes for Nursing Students Tool (CLONS) was initially developed by a team of nurse academics in Kuwait from 1991-1992 and was

headed by Al-Kandari (Al-Kandari et al., 2009). However, for the present study the researchers rephrased some sentences and added some open ended questions. This was done so that the participants will understand the questionnaire thus facilitating the completion of the questionnaire and make allowances for the participants to write their comments respectively. The modified tool was evaluated by two senior nurse educators for content validity and the reliability co-efficient were noted to be within normal ranges (0.75-0.77). The KCLONS has nine dimensions which represent the program's clinical objectives. The nine dimensions included knowledge, nursing process, communication, student role, accountability, teaching/learning, organization, caring and psychomotor skills. Each dimension has five items with a response ranging from 1 "not applicable" to 5 "strongly agree". A score of 5 indicates the highest score and a higher mean score indicates stronger achievement of the expected clinical learning outcomes. The researchers in this study recommended that the items be interspersed to minimize the response set and the mean score be obtained by calculating the average score of the nine dimensions.

An international comparison study of Korean and Chinese nursing students conducted by Lee, et al (2011) used validated self-report questionnaires. The dimensions measured to determine the nursing educational outcomes were critical thinking, professionalism, leadership, communication, and nursing practice skills. As aforementioned, these dimensions were from the framework endorsed by the Korean Accreditation Board of Nursing for nursing curricula outcomes. Critical thinking skills was measured using the Critical Thinking Scale developed by Yoon (2004); Professionalism was examined using the Korean version of the Professionalism Scale developed by Dagenais and Meleis (1982) and translated by Kim et al. (1999);

Leadership was investigated using the Korean version of the Self-assessment Leadership Instrument (SALI) created by Smola (1988) as translated by Oh et al., (2007); Communication Skills was measured using the Korean version of the Communication Evaluation Scale (Whetten & Cameron, 1998); and the Nursing Practice Skills were assessed with a total of 61 nursing practice performance questions developed by Oh et al., (2007).

Rassool and Rawaf (2008) in their study to identify the learning styles preference of undergraduate nursing students and examining its influence on educational outcomes utilized a pre-post-test design to evaluate the educational outcomes. The instruments used were the demographic profile questionnaire, and the learning style questionnaire (Honey & Mumford, 2000). Additionally, for the measurement of educational intervention, the pre-post-test instruments included: knowledge questionnaire, attitude questionnaire, and intervention confidence skills scale.

Earlier, in 1994 a study was conducted by Krichbaum to investigate the relationship between critical care staff nurses preceptors' effective use of specific teaching behaviors and the achievement of clinical learning outcomes by their students, in order to describe effective clinical teaching. The variable student learning outcomes was assessed by *clinical performance* which represents behavior, and *cognitive performance* which represented learning outcomes. Clinical performance was rated using the Clinical Evaluation Tool (CET) developed by the faculty whose students were under study. The contents or dimensions in this tool were derived from the course objectives and it served as the foundation for the clinical learning descriptors of performance. There were 10 clinical learning descriptors that were

assessed by the students and the preceptors separately using the CET at the beginning and at the end of a 5 week practicum with 8-hour clinical days per week on a critical care unit. The scores on the CET ranged from 1 "dependent performance" to 5 "independent performance". Cognitive learning was assessed using the Basic Knowledge Assessment Tool (BKAT) which was developed by Toth and Ritchie (1984 as cited in Krichbaum, 1994). The BKAT has being proven to provide a reliable estimate of learning for baccalaureate students as well (Toth, 1986 as cited in Krichbaum, 1994). The BKAT measured a standardized estimate of knowledge on prior and post critical care placements. The highest possible score for this tool is 96. Each students point score would be calculated and the gain scores will be based on the differences between pre-post-testing. Furthermore, BKAT's correlation with the CET scores to determine the relationship between the two measures of learning followed by comparison with the preceptor assessment to determine learning outcomes would be done.

Among above instruments, the Kuwait Clinical Learning Outcomes for Nursing Students Tool (Al-Kandari, et al., 2009) is a standardized, valid and reliable instrument to measure clinical learning outcomes as perceived by nursing students. Thus, the KCLONS will be used to measure the clinical learning outcomes of 4th year BNSs in the Socialist Republic of Vietnam.



*Studies related to clinical learning outcomes*

From the literatures some studies have examined clinical learning environment from students' perceptions as follows. Al-Kandari et al., (2009) conducted a study which explores the perceptions of 202 nursing students in the

achievement of nursing students' clinical learning outcomes during their different clinical placements. The findings shown that the perception of achievement of the clinical learning outcomes was 72%, the highest achievement was 73% for the psychomotor skill dimension, and the lowest achievement was 70% for the knowledge dimension. Furthermore, the results indicated that the perceptions of achievement of clinical learning outcomes were different among four main areas of clinical placements. The perceived achievement of the CLOs for each area was: medical-surgical (68%), maternal and child (75%), psychiatric-specialties (76%), and ICU-emergency (74%). The findings confirmed that the quality and type of clinical learning environment have a significant impact on the achievement of clinical learning outcomes.

Study conducted by Krichbaum (1994) examined the perceived achievement of clinical learning outcomes of 36 nursing students in the relation with clinical teaching behavior of clinical preceptors. The variable of clinical learning outcomes was assessed by clinical performance which represents behavior, and cognitive performance which represents knowledge outcomes. The findings have showed that perceptions of achievement of CLOs have a significant association with combined ratings of preceptors' teaching effectiveness. Students' learning outcomes demonstrated by the BKAT gain is significantly related to certain teaching behavior by preceptors: use of objectives, providing the opportunities to practice, asking effective questions, providing effective specific and timely feedback, providing students with evidence as a basis for feedback, and displaying enthusiasm for teaching and concern for the learners' progress. Simultaneously, students' learning outcomes demonstrated by the CET was related to preceptors' use of objectives to clarify and

provide flexibility in structuring students' experience, as well as to the provision of opportunities to observe nurses in practice.

## Relationship between Clinical Learning Environment and Clinical Learning Outcomes

The relationship between academic environment and students' achievement of learning outcomes was widely acknowledged in general education (Fraser & Fisher, 1983; Lizzio, Wilson, & Simons, 2002; McRobbie & Fraser, 1993). Within nursing education, scholars were concerned that the learning environment in clinical settings for nursing students has been found since early 1980s. These studies described factors and characteristics of clinical learning environment which contributed to positive learning outcomes (Fretwell, 1983; Orton, 1981, 1983; Pembrey & FitzGerald, 1987). Recently, numerous research studies on clinical education have been found in nursing literature. However, scholars found that the relationship between clinical learning environment and clinical learning outcomes for nursing students are limited. The following studies described some aspects of clinical learning environment which have found in association with students' clinical learning outcomes.

Henderson, Happell, and Martin (2007) explored the self-reported knowledge, skills, and attitudes in relation to mental health from 125 second-year undergraduate nursing students in Australia. The questionnaires were administered prior to undertaking a clinical placement in either a community or inpatient mental health nursing, and again after the clinical placement. The results of this quasi-

experimental study showed that the mean scores on 20 of the 22 items on the Nurse Self Report questionnaire after the clinical placement were higher than prior to the clinical placement for students who had attended a clinical placement in an inpatient mental health services. The findings indicated that a positive clinical learning environment had the greatest influence on nursing students' self-reported knowledge, skills, and attitudes.

Chan (2002) investigated the relationship between student learning outcomes from their clinical placement and clinical learning environment of 108 second-year baccalaureate nursing students undertaking clinical course in 14 hospitals in South Australia. The study used Clinical Learning Environment Inventory (Chan, 2001) as a mean to measure CLE and students' satisfaction with their clinical learning environment as the outcomes measurement. The results of this study showed that students' perceptions of the outcomes of their clinical environment were strongly associated with all five dimension of CLE.

Tanda, Sharon and Denham (2009) conducted an integrated literature review to explore the factors that influence students' clinical learning outcomes and examine ways currently clinical nursing education best supports student learning outcomes. Findings from the search revealed that supportive clinical learning environment in which close student-staff relationship exist, consistent clinical placement, and effective coaching by clinical educators positively affect students' learning outcomes.

Another study by Al-Kandari et al., (2009) compared the clinical learning outcomes of baccalaureate nursing students among four clinical areas which are

medical-surgical, maternal and child, psychiatric-specialties, and ICU-emergency. The findings showed that the achievement of baccalaureate nursing students' clinical learning outcomes were significantly different among their clinical areas. This finding supposed that the learning environment of baccalaureate nursing students in clinical settings do have an impact upon the achievement of clinical learning outcomes.

Hart and Rotem's (1995) study explored the impact of the clinical learning environment on the nurses' perceptions of professional. The study included 516 nurses working in 5 metropolitan teaching hospitals in Australia. The findings showed that six components of clinical learning environment which includes autonomy and recognition, role clarity, job satisfaction, quality of supervision, peer support and opportunities for learning had a significant and positive correlation with professional development in terms of improving nurses' knowledge, skills, and attitudes. Although this study targeted registered nurses, the conceptual framework have broad applications within nursing practice as a means of predicting professional development (Chan, 2001).

In summary, clinical learning environment is presage element that impacts the achievement of learning outcomes in clinical settings. However, there is no study that investigates the relationship between clinical learning environment and clinical learning outcomes based on the perceptions of baccalaureate nursing student. Therefore, the researcher is interested in examining the links between two variables by using CLES and CLONS instruments. The findings of this study would be benefit for baccalaureate nursing students in achieving high quality of clinical learning outcomes.

## Situation of clinical CLE and CLO in Vietnam

### *Healthcare system in the Socialist Republic of Vietnam*

Vietnam now is a developing country located in the South East of Asia. Health care has always been high on the agenda for Vietnamese Government as well as the international community after its independence (Ministry of Health [MOH], 2006). Nurses take a major role in providing care to the patients as they are the main workforce in every healthcare setting. However, nursing profession in Vietnam is still a new occupation in which its image was diffused in this nation at the end of 1980s by the Swedish nursing professors. After Vietnam Nurses Association (VNA) was established in 1990, nursing profession today has received more considerations and investment in improving both facilities and human resources.

There are about 61,158 nurses (21.8%) and 20,920 midwives (7.4%) accounted for nearly 30 per cent of total healthcare personnel working in healthcare settings in Vietnam (MOH, 2007). The number of nurse per 10,000 populations is about 7.2; a midwife per 10,000 populations is about 2.5; nurses-midwives per 10,000 populations is about 9.7. There are currently five levels of credential nurses which are elementary, secondary, college, bachelor, and master levels. Among nursing workforce, most of them are at secondary level: 50,031 nurses (82%), elementary level accounts 6,515 nurses (10.5%), college level: 2,198 nurses (3.5%), bachelor and master level: 2,411 nurses (4%) (MOH, 2007). Additionally, there has been in existence of assistant physicians who mostly work as nurses with or without being nurse certificated (MOH, 2007; VNA, 2003, 2009). As a result, the shortage of

nursing and midwifery workforce as shown in quantity is insufficient in quality and imbalanced in man-power structure (VNA, 2002).

*Nursing education in the Socialist Republic of Vietnam*

Nursing education in Vietnam has begun since the 1930s. Since then, there have been several evolutions which took place all along the period that showed the progress of nursing education from military camps based to currently in university based. The baccalaureate nursing curriculum was approved by the Ministry of Education (MOE) in 2001 and then, it has been gradually implemented to nursing institutions until now (MOE, 2001; VNA, 2009). The latest statistics indicated that the number of baccalaureate nursing programs increased from 2 in 1995 to 15 in 2010 within nursing faculties or schools (Huy et al., 2010). Currently, Vietnam has 15 universities which are offering the baccalaureate nursing programs where fourteen nursing faculties exist in the medical universities and one being a university of nursing. These institutions also provide a lower level nursing programs which are the diploma and the certificate levels together with other several nursing colleges that provide the similar nursing programs too (VNA, 2009).

Baccalaureate nursing programs in Vietnam are four years in length with two major parts which include a first two year full-time classroom teaching in a Faculty and a clinical practicum in the last two year in the practicum hospitals (MOE, 2001; MOH, 2007). Nursing curricula includes the following courses: general education, basic medical courses, nursing courses and elective courses. General education courses refer to the category of course offerings which form a common foundation for baccalaureate graduates regardless of academic majors. They are the

shared core in a university curriculum such as Marxist philosophy, English, Advanced mathematics, Biology, Chemistry and Basic computer. Basic medical courses are the category of courses that serve as the foundation for professional nursing studies such as Anatomy, Biochemistry, Physiology, Pharmacology, Bio-statistics, and Epidemiology. Nursing courses include professional studies that address basic nursing courses, special clinical nursing courses, public health nursing courses, nursing administration, nursing research, communication and patient psychology. Elective courses refer to a group of courses that are intended to enlarge and/or supplement the existing instructional offerings. Besides, practicum is an integral part of professional nursing studies. It is defined as part-time clinical experience under the supervision and facilitation of a clinical instructor (MOH, 2006, 2007; VNA, 2009).

Today, baccalaureate nursing program has received more considerations and investment from Ministry of Health and Ministry of Education in improving both facilities and human resources (VNA, 2010). Although there are a few of graduate programs currently in operation, baccalaureate nursing education is, to a large extent, perceived as the pinnacle of the system. According to the report by VNA (2010), nursing education reform has brought some effective changes such as baccalaureate nursing graduates were perceived by employer agencies as flexibility, adaptability, independence, reflectivity, curiousness, imaginativeness, and have well developed problem-solving abilities. Though the improvement in nursing education has acknowledged by healthcare agencies, nursing schools are faced with more demands from nursing employer agencies, as well as lack of facilities and human resources, especially in quality of clinical teaching and learning (VNA, 2010).

In Vietnam, most of the baccalaureate nursing programs were incorporated in medical universities. Hence, the clinical learning environment for nurses have been established for a long period under the medical fraternity and nursing students shared clinical teachers and clinical placements with medical students (MOH, 2008; VNA, 2010). In establishing clinical learning environment for baccalaureate nursing student, mutual agreement have made between nursing faculties and hospital wards. Nurse managers and experienced nurses are seconded by universities, so their professional roles are included teaching and supervising baccalaureate nursing students. Recently, this agreement has been enforced by the memorandum which guides healthcare institutions and practicum hospitals nationwide on collaborating to establish positive and facilitative clinical learning environment for nursing students (MOH, 2008). Since implementing this memorandum, a firm relationship has been maintained between healthcare institutions and practicum hospitals (VNA, 2010).

Baccalaureate nursing program starts clinical practice from the third-year on clinical placements until the last semester of the fourth-year. Clinical rotations take place in various clinical courses such as medical, surgical, pediatrics, obstetrics, and other special courses. Each course has its own clinical objectives, so student can follow these objectives to achieve learning outcomes. Clinical duration for each discipline is approximately 4-6 weeks and then, students will be on rotation basis to posting on other wards based on the curriculum, exception the last clinical course prior to graduation is namely "end-of-program course" for duration of 8 weeks. Additionally, the curricular requires nursing institutions following the time frame; for examples, when students take medical-nursing course, its theoretical lessons are often given prior to clinical practice in medical-ward. In other words, it is followed

continuously after the theoretical components to the clinical components and this process provides optimal learning opportunities to the student where process of transferring theoretical knowledge to the practice before students transfer to clinical fields (MOE, 2001; Thuan, 2007).

According to the report by VNA (2010), there are seven healthcare institutions where have the 4th year BNSs studying. These include Nam Dinh University of Nursing, Hanoi Medical University, Thai Nguyen Medical University, Hai Phong Medical University, Thai Binh Medical University, Hai Duong Medical Technology University, and Thang Long University. In addition, the report further emphasized that clinical learning activities and nursing courses in the fourth-year of baccalaureate curriculum were the key period to successful training. Baccalaureate nursing program require students to participate in an end-of-program course for 8 weeks before graduation. Typically, this course is full time clinical immersion experience. The learning outcomes that baccalaureate nursing students achieved at the last year curriculum has become increasingly important in facilitating student transition into practice, as well as socializing into new nursing professional role (VNA, 2010).

Although clinical learning environment at the fourth-year curriculum has been valued in enforcing competence of new graduates, faculty and anecdotal reports showed that the learning environment in clinical setting was not conducive to teaching and learning (Huy et al., 2010; Phu, Xuan, & Tuan, 2007; VNA, 2010). A report from faculty of nursing at Hanoi Medical University stated that, nursing students interacted with nursing staffs for most of their time in clinical settings. The faculty members almost were busy with bureau works so their roles in clinical setting played as liaison

between faculty and ward setting. The report further asserted that students acknowledge the efforts of clinical nurses contributed to their learning. Students built relationship with clinical nurses and considered them as a role model for their learning (Hanoi Medical University [HMU], 2009). Similarly, Huy and Thuy (2010) studied 374 4th year BNSs who practiced at Uong Bi general hospital, a teaching hospital offering the end-of-program course for 8 weeks, stated that nursing faculty responsible for students in the clinical area appeared to act primarily as facilitators, resource persons, and evaluators rather than role models. Students exposed to clinical area worked with staff nurses; thus, students reported that building firm relationship with staffs was the most effective strategy to enhance positive learning environment. However, some students stated that the nurses lacked teaching methods, some nurses did not consider students' learning needs, and the nurses were busy with patients and documentations. These authors also stated that work overload and high acute patient condition decreased time the nurses spend with students (Huy & Thuy, 2010).

In addition, nurse managers were reported as the key person to create and maintain facilitative learning environment in wards (HMU, 2009). They organized working environment for staffs and learning environment for nursing students. The memorandum (MOH, 2008) has brought the nurse managers to work closer with faculty and nursing students. Their roles were both providing individual teaching and assigning experienced nurses to supervise students. They also worked with nursing faculty in evaluating students' learning outcomes on their wards. However, Thanh (2007) stated that most of nurse managers (75%) hold secondary nursing level, 57% did not attend clinical teaching/supervising course, and more than a half (52%) of nurse managers have not been trained in nursing management. These conditions

caused some limitations to nurse managers involvement in student learning (HMU, 2009).

According to VNA (2010), one component which contributes to learning environment for nursing students in clinical area was patients and relatives. Students were exposed to real situations with variety of patient conditions. The more opportunities students interact with patients, the easier for them to develop communicative, problem-solving, and decision-making skills and other clinical skills. Phu et al, (2007) also stated that patients mostly satisfied with student relationship. They were willing to receive care from nursing students if students were supervised and supported by nursing staffs. The authors further asserted that patient admission in provincial and tertiary hospitals where baccalaureate nursing students practising were overloaded. Some hospitals had to add extra beds and some ward encountered two patients sharing one bed (MOH, 2006). This condition caused difficulty in approaching the patients, especially in communication with and provision individual care for patients (Phu et al., 2007).

Moreover, the study by Huy and Thuy (2010) showed that not only the 4$^{th}$ year BNSs exposed on clinical areas but also third year nursing students and some medical students practiced there. The faculty members and nursing staffs were busier to guiding and supervising these students. Therefore, some fourth-year student felt that they were not treated as individuals. In order to overcome these conditions, the fourth-year students were actively participated in and identified learning opportunities by taking the night shifts. The authors noted that the fourth-year students valued clinical skills obtained at their practicum period. Students were interested in acquiring these clinical skills and applying theoretical knowledge into practice.

Furthermore, study by Hoi and Xuan (2010) stated that ward structure and hospital police influence nursing students learning in clinical settings. There is a high hierarchical learning structure for nursing students because nursing students are not only under the management of nurse managers but also under the management of ward administrators who are physicians. The author indicated that students are easy to approach healthcare members and deeply participate in nursing team when all participants accept them as a learner and value their efforts. However, the results of this study stated that not all the wards maintain those conditions. Additionally, study by Phu et al, (2007) which explored staff nurses' perceptions of understanding the contents of collaboration between hospital ward and nursing faculty in teaching and supervising baccalaureate students. The results showed that there were only 46.6% of nurses knew those collaborative agreements. Therefore, some nursing students encountered that they were put into unplanned, disorganized, and chaotic clinical settings with healthcare members and clients.

In summary, the condition in Vietnam showed that numerous components impact the learning environment for baccalaureate nursing student in clinical area. The nurse educators and nurse administrators should explore all these components based on the perceptions of baccalaureate nursing students to establish the clinical environment conducive to student learning that could maximize clinical learning outcomes.

In order to improve and promote nursing profession, Vietnam Nurses Association had realized the reform of nursing education system must be carried out. Thus, the baccalaureate nursing curriculum was developed and implemented since 2001. The purpose was provided nursing personnel at bachelor degree who can enter

the changing health system in 21st century. The curriculum objectives were established in terms of acquired knowledge, skills, and attitude to meet health care demand and the curriculum was applied to nursing institutions. Besides that, the curriculum requires nursing institutions which offer this program must have a congruence of contents, learning objectives, and learning outcomes for baccalaureate nursing programs. The learning objectives of baccalaureate nursing program cover all three domains of learning which include cognitive, affective, and psychomotor. The baccalaureate nursing curriculum has served as a mean to establish standard for the baccalaureate nursing students' learning outcomes among nursing institutions. The expected learning outcomes when students complete the baccalaureate nursing program were described in the curriculum as the follows.

On completion of the baccalaureate nursing program the graduate is able to:

1) Synthesize knowledge from nursing, the physical and behavioral sciences, mathematics, and the humanities to provide rationale for professional nursing practice.

2) Demonstrate ethical responsibility, professional accountability, and patient advocacy in the practice of nursing.

3) Integrate professional core values into a personal philosophy of nursing.

4) Assume responsibility for life-long learning.

5) Evaluate care delivery using both process and outcome criteria based on published standards of nursing care.

6) Engage in self-reflection and collegial dialogue about professional practice.

7) Communicate effectively with patients, family members, and members of the health care team in individual and group formats.

8) Integrate knowledge of normal and abnormal patient findings with understanding of scientific principles in order to plan interventions and teaching.

9) Perform nursing technical skills to multiple patients proficiently and with increasing independence.

10) Prioritize, plan, and delegate patient care with increasing independence.

11) Implement appropriate teaching and learning strategies to assist people to achieve optimal health.

12) Work with individuals and groups in prioritizing health care needs and strategies to improve health.

13) Formulate nursing diagnoses for patients and families with complex health issues that address physical, psychological, social, and spiritual needs.

14) Deliver care for patients with complex health problems in acute and chronic health care facilities, as well as, in their own homes.

15) Work in an interdisciplinary team to make ethical decisions regarding the application of technologies and the acquisition of data.

16) Integrate technologies into nursing practice in order to enhance patient outcomes.

17) Identify global health issues and explore how they relate to nursing and health care.

18) Evaluate the effect of health care delivery systems on people's health.

19) Collaborate with consumers and health professionals to effect needed changes in health care.

20) Provide holistic care to patients across the lifespan utilizing knowledge of interdisciplinary models of care delivery and case management.

21) Organize, manage, and evaluate the development of strategies to promote healthy communities.

22) Utilize available health care technologies and resources to maximize optimal patient outcomes.

23) Incorporate quality management into the care plan and use outcome measures to evaluate quality of care.

24) Develop comprehensive plan of care in collaboration with patient and interdisciplinary health care team.

25) Assist individuals, families, groups and communities throughout the lifecycle to promote, maintain, and restore optimal health.

26) Participate as an active member of a multidisciplinary health care team (MOE, 2001).

Although the expected learning outcomes of curriculum were clearly established, the learning outcomes that students acquired are varied from school to school (VNA, 2010). The knowledge, skills and ability to perform nursing activities of new graduates were different among nursing institutions (Hoi & Xuan, 2010; VNA, 2010). The quality of nursing students is, therefore, the main concern of nursing education in Vietnam. The process of upgrading nursing schools over 10 years has brought significantly the internal changes; however, ability to perform professional nursing career of newly graduate nurses are rather limited (VNA, 2009). Study by Hoi & Xuan (2010) reported that newly graduated nurses can perform well only 50% given nursing procedures when they undertook recruitment examinations. They also

have limitation in communication and patient counseling. This result was due to the inadequate number of nursing supervisors, too many types of students from different programs practicing in the wards that led to the overlap in practicing in patient care. In addition to that, the work overload and too many patients occurs in most of the provincial and tertiary hospitals so staffs have to spend more time on caring for the patients; therefore, they do not have much time for guiding the students in nursing practice (Hoi & Xuan, 2010). Another report by VNA (2009) showed that new graduate nurses having difficulty in the transition to clinical settings and hospitals often spend greater amounts of time and money for job training of new workforce after recruitment.

Surprisingly, Vietnam has not yet established the Nursing Licensure, so the quality of new graduate nurses may have differences among nursing institutions. Therefore, nursing education system lacks consistency in evaluating the learning outcomes of new graduate nurses.

Moreover, Huy et al., (2010) reviewed 170 studies conducted from 2004-2009 published in national nursing journal, the results have shown that there were only 5 studies (3%) in nursing education. Thus, considering clinical learning environment for nursing students are mission of nurse educators and health care members to facilitate students acquire their clinical learning outcomes. Therefore, it is very crucial for the researcher as a nurse educator to explore what is truly perceived by the 4$^{th}$ year BNSs about their clinical component and the achieved learning outcomes.

## Conceptual Framework

This study aimed to examine the level of clinical learning environment (CLE) in five dimensions based on Dunn and Burnett (1995), namely staff-student relationships, nurse manager commitment, student-patient relationships, interpersonal relationships, and student satisfactions. The study also aimed to examine the level of clinical learning outcomes (CLO) in nine dimensions based on Al-Kandari, Vidal, & Thomas (2009), namely knowledge; nursing process; communication; student role; accountability; patient teaching; organizing plan; caring; and psychomotor skills. The relationship between CLE and CLO as perceived by the research participants were tested.