



# Factors Influencing Active and Participatory Learning of Associate Degree in Nursing Students in the Classroom Setting

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Received: June 30, 2021; Published: July 31, 2021

#### **Abstract**

**Background:** A perennial complaint among teachers in Cambodia's Associate Degree in Nursing (ADN) deals with their students who do not participate actively during class discussions and activities.

**Objective:** This study investigated the factors influencing active and participatory learning of ADN students.

**Method:** This was a mixed methods cross-sectional studied. A total of 247 from a total population of 689 students taking up the Associate Degree in Nursing (ADN) from year levels 1 to 3 of University of Health Sciences, Phnom Penh, Cambodia participated. Data collection procedure was done using a survey questionnaire on effective learning developed. An agreement scale was used with 1representing strongly disagree, 2: disagree, 3: agree and 4: strongly agree was used. Classroom observations and separate focus group discussions between selected teachers and students from all year levels and different areas were also done. Scores in the scale were analyzed using means for quantitative data and qualitative data were content analyzed.

Results: Out of 247 respondents, 105 (42.5%) were males and 142 (57.5%) females. There were 99 respondents (40.1%) from the first year, 64 (25.9%) from second year, 84 (34%) from third year. The youngest was 16 years old, the oldest was 23 and the mean age was 20. Students' mean rating on processes engaged by students before daily classroom discussion was only 3.03; those they actively engaged in during classes registered an overall mean of 3.00. Teacher strategies reported as contributory to active and participatory learning were use of small group, up-to-date ICT, awards, interactive classroom environments. The groups of students who came from the city (mean = 3.01) and from provinces (mean= 3.01) were compared. The t-test and p value obtained suggested that there was no significant difference between participatory learning of students from both origins.

**Conclusion:** The ADN students were passive learners and the classroom managed by teachers who supervised all activities. Interactive teaching strategies used by their teachers such as role playing, small group discussion, up-to-date technology as teaching didactic and friendly approach were encouraging them to participate and active learning. There were no significant differences between students from Phnom Penh and the Province in their daily classroom participation.

Keywords: Active learning; Participatory learning; Factors Influencing Active and Participatory Learning

## Introduction

#### Background of the study

Health professions education (HPEd) has grown into a discipline over the second half of the century. Bandaranayke cited four criteria for identifying a discipline, namely scope of inquiry, structured subject matter, procedures for gaining and ordering new knowledge, and accepted techniques for applying knowledge to practice. Among these criteria, the last two specifically deal with the teachers and students. How teachers teach and how students learn in health professions education are both processes that have attracted many researches [1].

In most tertiary schools of learning in the Kingdom of Cambodia, classes are generally in large class sizes ranging from 40 to 100 students per session. Such setting is therefore dominated by teacher-centred activities and students remain passive learners (Master of Health Professions Education (MHPEd) Class 2011 and Associate Degree of Nursing (ADN) Class Presentations, 2011). To assist teachers and their students create a more active and participative learning environment a series of faculty development programs have been conducted by the Center for Educational Development in the Health Professions (CEDHP) at University of Health Sciences (UHS), and its second campus at the Technical School for Medical Care (TSMC) in Phnom Penh. These programs include lesson planning, teaching-learning strategies, test construction, and assessment of student achievement. After these programs, faculty members were challenged to create more active and participative classroom interactions.

And these challenges are reflected in the way faculty members make their daily instructional plans, developing a philosophy of education, and moreover, using self-directed learning and enhancing cognitive complexity and moral development during day-to-day classroom interactions. Other indicators include teaching materials based on adult learning principles, enhancing critical thinking abilities in learners, and creating learner-centered environments [2]. This investigation explored the teaching- learning processes that teachers use to engage students in creating an active learning and participatory classroom setting. Moreover, the main variable of this study are teacher's strategies, student's characteristic and habits, demographic traits like age, sex, interest, habit of learning, teaching and learning strategies, and factors influencing active and participatory learning.

# Statement of the problem

Teachers are usually focused on day-to-day survival, getting lessons prepared, avoiding local politics, fitting into the system, incorporating the latest fad into their classes, and attempting to fulfill curriculum requirements [3,4]. Creating Active Learning and Participatory (ALP) classrooms is not easy. Teachers must be willing to create a classroom environment that is not necessarily arranged in rows and columns. In ALP students may raise their hands when they have a question and they may be working at different levels on various projects. And teachers should allow students these opportunities and let them work on their own. To maintain this kind of environment, teachers need such information on multiple intelligences, constructivism, direct instruction and cognitive learning theory. In a society with a strong history of autocratic government, patriarchal family system, and years of dictatorship under the Pol Pot regime, Cambodian students have become generally more passive than any of their Asian neighbors. This study described the factors that make them take part in the ALP classes, those influencing students to be engaged in active and participative learning in the classroom setting.

# **Research Questions**

This thesis answered the following research questions:

- 1. How do students participate in their daily classroom activities?
- 2. What teaching-learning strategies and attitude approaches of the teacher make students engage in active and participatory learning during classroom discussion?

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- 3. What factors bring about active and participatory learning in the classroom setting among Associate Degree in Nursing students?
- 4. How do students from the city and the provinces differ in their daily classroom participation?

## **Objectives of the Study**

- 1. Describe the processes by which students participate in their daily classroom activities,
- Describe teaching and learning strategies and attitudinal approaches teachers adopt to engage students in participatory and active learning during classroom discussions,
- 3. Determine the factors that bring about active and participatory in the classroom setting in their daily classroom activities,
- 4. Compare the performance of students from the city and the provinces in their participation in daily classroom activities.

## Significance of the Study

This paper can help nursing lecturers and their students to make informed decisions on what constitutes successful, active and participatory learning. The paper intends to provide lecturers and students with effective teaching techniques and activities that promote students' confidence as active learners. Hopefully, this paper will provide alternative solutions to make students engage in active and participatory learning.

In addition, the Association of Southeast Asian Nations (ASEAN) is now integrating into a regional economic zone. Most of the countries around the world's education system are changing to focus more on students and how they should be prepared for future practice of a particular profession. This requires students to be motivated to play different roles, engage in critical thinking, actively participate in class debate and be more self-directed. This is the key that Cambodia needs to move towards the expected progress in ASEAN integration.

# **Hypothesis**

- **H0:** There is no significant difference in the performance of students from the city and the provinces in terms of their participation in daily classroom activities.
- **Ha:** Participation of students in their daily classroom activities varies according to their geographic locations between the city and province.

## **Review of Related Literature**

## Processes by which students participate in their daily classroom activities

The following review of literature focuses on various teaching-learning processes that enable students to participate in their daily classroom activities as well as how teachers can create an environment conducive to active learning. The first part deals with those that are internal to the learners, their motivations and their self-worth. The second part deals with how the external factors influence the internal decisions of both teachers and students to participate actively in their daily classroom activities.

## **Emotions and human motivation in learning**

Neuroscience research in the present decade has uncovered valuable information about the development of emotional and social competence. Goleman stands out as one of the pioneers in this area. Emotional intelligence relates life to emotion. Examples include the ability to recognize and manage one's own and others' emotions, to motivate oneself, and restrain one's impulses, and to handle interpersonal

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problems that affect the self [5]. Developmental psychologists initially focused on cognitive development, which set the stage for current research on social and emotional development in children. However, the scope to study the development of children's social and emotional lives has expanded in recent years. And the result has been a new understanding of what makes a child socially adept or better able to regulate emotional distress. This new strata of scientific understanding can be of immense help in informing the practical efforts of the emotional literacy movement [6,7]. Their research in this area has resulted in a clearer understanding of a child's social adaptations, ability to monitor emotions, and ability to cope with emotional distress. This information served as a basis for teaching reading to students who find difficulty in interacting with the literature on any level due to prior emotional experiences that may have a negative impact on normal development. The brain, which controls the emotions and the impetus for social interactions, is the last organ of the body to mature anatomically, and it continues to grow and shape itself throughout childhood into adolescence. Consequently, young people become adept at making new connections and different style more than adult age. They can involve very fast with new experiences that sometime looked unbelievable.

#### Self-worth

According to Covington's study, acceptance of one's self is the first human priority. People struggle around for acceptance. If teachers maintain acceptable high academic standards in the classroom, only those students demonstrating high performances will succeed and obtain a high degree of self-worth. Through instituting a system of rewards, teachers can motivate insecure students to strive for success and become high performers [8]. The concept advanced by Berliner has relevance for promoting unmotivated students. It was advocated that educators should do the following:

- 1. Create positive learning environments by accepting students' viewpoints, offering encouragement, deemphasizing competition, establishing school-wide programs and collaboration for solving problems, and involving students in developing rules and consequences. Educators should demonstrate and model these strategies and behaviors initially.
- 2. Teach engaging content by infusing the interest, ability, learning, culture, opinions, and experiences of students. Instructional strategies offered to students should be designed to develop self-expression and positive peer relationships. Teacher should narrow the tasks and guide the students to understand how to fulfill the curriculum and complete their learning requirements.
- 3. Choose instructional strategies that motivate student involvement by setting high standards and realistic expectations, systematically evaluating students' work with timely feedback, using a variety of concrete materials in teaching to develop metacognition strategies, and using strategies to promote self-worth. It is desirable that educators use flexible grouping and creative expression of students to promote academic and social skills [9].

# **Classroom implications**

According to Kulik's study, students who have used mastery learning techniques have earned higher scores than other students on tests developed to fit local curricula and have earned slightly higher scores than others on standardized tests that sample objectives from many school systems and many grade levels. Even though mastery learning students do only slightly better than other students on standardized tests, they continue to outperform other students and do better academically [10]. Many researchers have found evidence that standardized tests do not always cover what they are assumed to cover, such as the basic skills contained in many textbooks [11]. Standardized tests are better measures of the long-term effects of schooling than of the short-term effects of instruction because of their broad, stable knowledge structures, which are more indicative of skill levels and ability than of recently acquired curricular knowledge.

Contrary to the allegations of many critics, mastery learning is neutral in regard to curricular issues. Feedback and corrections are essential elements of mastery learning. Students who are having problems with a particular objective are allotted additional time to address their weakness. There are many learning styles that students need to individually look at such as their extent of achievement as well as

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focused area and characteristic of their progress [12]. The learner should not wait for others to master the material. Based on Guskey's study stated the following rebuttal against the critics who believe that mastery learning does nothing else but teach to a test. Students and teachers themselves believe in the congruence among objectives, teaching strategies and achievement through tests. Teacher identify individually learning objectives and they always carefully maintain their instructional procedures and test match with what they have taught to students and focused on important points that will be present as well in the test [13].

#### Learning is active

The innovation and creativity of the students really progress very well when they are involved in the learning process. When the students demonstrate their active and participation as well in the class discussion they will able to connect what they have learned to any matter and they are able to identify appropriate solution via experiences they have been encountered. Scardamalia's study supports the use of technology in facilitating this process. Similar views have been expressed by Hannafin [14,15]. The position taken by these authors implies that using technology, such as brainstorming and concept mapping software, may assist students in improving memory, in collecting and analyzing data, and in experimenting with solving complex social problems. Students come from different places and belief, culture diversity and mindset. The health professions require many skills and competencies that students from various ages and experiences need to master. Specifically, teaching and learning strategies, up-to-date technology, availability of resources and awards are the best motivation strategies for students and get involved with the process of active and participation during classroom discussion. These are the important concepts that lead to the development of self-directed lifelong learning in the study of Bradshaw MJ and Lowenstein AJ [16]. The instrument used in this study was adapted in this study as well.

## Learning is social

Teachers always think about the important skills that all learners need for their social communication. These skills can provide them enough ability to analyze a given situation and improve their problem solving. This evidence was found in the article of Wenger [17]. In addition, curriculum can really provide support for students to demonstrate their social skills via communication and connection methods with their classmates in their daily classroom activities. According to Scardamalia and Bereiter, a Computer Supported Intentional Learning Environment (CSILE) fosters collaborative learning activities among students and between schools. Further, since community involvement is essential in providing quality education for children, CSILEs can even apply across larger communities. Research findings by Taylor, Epstein and Henderson have all alluded to the values of collaboration [18-20]. It is incumbent upon the schools to develop, direct, supervise, and support efforts to collaborate with efforts in their surrounding communities.

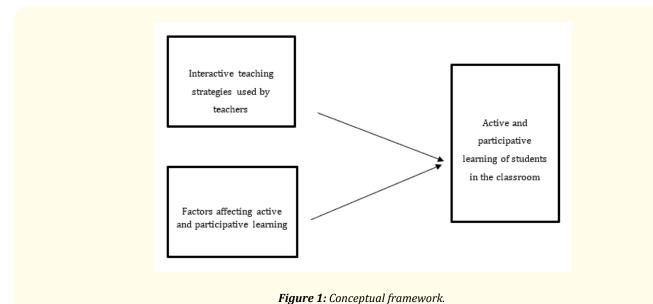
#### Factors that bring about active and participatory in the classroom setting in daily classroom activities

Classroom instructional strategies should include opportunities for students to reflect on their learning. One promising technique is for the teacher to provide feedback about students' thinking. Students should then be required to make revisions and reflect their thinking in the critical thinking areas. Technology can also be infused to strengthen critical thinking in the areas of analysis, synthesis, and evaluation. Students may demonstrate through technology how their thinking will reflect high levels of solving problems [21]. Technologies can be integrated into classrooms to improve communication, feedback, and reflection to facilitate revisions. Predicts that by the year 2025, technology will help teachers to more effectively instruct classes of students with widely different levels of abilities. As active learners in the classroom, students must engage actively by playing the roles of information seekers. The acts of asking questions, give opinions or ideas and simply answering questions posed by the teachers or classmates are examples of active type of classroom participation. And there are several factors influencing the student's participation in the process of learning such as the personality of the students. Generally, students with high self-efficacy showed an excellent academic achievement and participating much more in the classroom discussion [22]. They will show higher interest to learn more and know more with asking questions, giving opinions and discussing the topics in the classroom. But Students can become passive in classroom discussion due to self-limitations.

The other important factor that affects the students to participate actively in the classroom are the teacher's teaching strategies and activities. Traits that have been shown by teachers, such as being supportive, understanding, approachable, and friendly. Environmental factors also influence class participation such as the class size and composition of students [1]. Smaller classes with homogeneous students are able to generally involve students more actively in their daily classroom discussions. Then, a classroom equipped with proper lights, fan, and air conditioning as well as basic didactic facilities will make students more engaged and feel comfortable for them to participate in the classroom activities.

#### Research framework

When students are motivated to learn, they choose to attend class regularly, participate in class activities constructively, persist even when learning is difficult, make the effort to prepare for class and to study effectively, solicit help when they need it, and who translate all this into academic success [23]. This study will explore what teaching activities, and strategies will make students engage in active participatory learning during their typical classroom setting. They will be observed in terms of demonstration of basic classroom behaviors like studying the learning materials. They study through reading, writing, talking, listening, and reflecting. Then factors promoting them to engage in these behaviors consistently will be explored to ensure active and participatory learning. The interaction of these concepts are captured in figure 1 below as research schema.



## Operational definition of terms

- 1. **Active learning:** Refers to the approaches used by student in their daily classroom activities. Specific acts of active learning include reviewing lesson at least one time before a new lecture starts, being challenged with difficult discussion, and showing awareness of their study time table. These acts are called active learning as they serve as voluntary acts taken by students on their own to promote effective learning. In this study these acts refer to students' reported activities in preparation for their daily class discussions and quantified through their mean scores.
- Participatory learning: Refers to the teaching and learning strategies and attitude approaches of teachers that enable to
  engage students with their typical classroom discussion. These acts included asking questions, logically making conclusions, sharing opinion or ideas, giving feedback and reflections during classroom discussions and activities. This variable

is also measured using the mean scores of students in the questionnaire asking for teacher activities that encouraged them to participate in classroom discussions.

3. **Factors influencing active and participatory learning:** Refers to the effectiveness of any factors either intrinsic or extrinsic that lead student to actively participate in their daily classroom activities. They referred to the combination of teacher, environmental, and curricular factors quantified through the mean scores of students in the questionnaire that asked for factors influencing ALP.

#### Methodology

#### Research design

This was a mixed methods survey design. Data were collected from the survey of students at one given period of time through the self-administered questionnaires for quantitative. Then, focus group discussions and direct observation has conducted in a separated period of times for qualitative. Data were analyzed to describe "where we are now" and were used to describe the active learning and participation in the classroom experiences of Associate Degree in nursing students. Scores in the scale were analyzed using means for quantitative data and qualitative data were content analyzed.

#### Population and samples of the study

All Associate Degree in Nursing (ADN) students from first to third years, studying in the Technical School for Medical Care (TSMC) of the University of Health Sciences Cambodia (UHSC) composed the population of this study. As of the January 2014 records, there were 689 students registered in the program from first to third years. The internet-based Creative Research System was used to determine the sample size of 247 (Creative Research Systems, Top Ten Reviews selected The Survey System as the Best Survey Software of 2014 at http://www.surveysystem.com/sscalc.html). The samples were drawn using the stratified random sampling using area of residence in Phnom Penh (PP) and province (Pro) and year level as strata.

Table 1 below presents the distribution of respondents according to these two strata. In terms of selecting teachers who participated in the focus group discussions (FGDs), four teachers from all year levels one to three with a total of 12 teachers were selected. There were two teachers per year level chosen according their background as being trained and completed the basic course in health professions education program (BHPEd-P). Then the other two teachers were not yet not-trained with BHPEd-P. Students in the FGDs were chosen using the same selection criteria as their teachers. This meant four students from all year levels were selected according to their residency such as two from Phnom Penh and two from Provinces.

	ADN Year 1		ADN Year 2		ADN Year 3		Total	
Population	271 (40%)		185 (26%)		233 (34%)		689	
Sample size	99 (4	0%)	64 (26%)		84 (34%)		247 (100%)	
Sampling	PP	Pro	PP	Pro	PP	Pro	PP	Pro
	50	49	32	32	42	42	124	123

Table 1: Target population and samples of the study.

# **Setting**

The study was conducted at the Technical School for Medical Care (TSMC). This school is a government institution under the chain of command of the University of Health Sciences Cambodia (UHSC) together with three other faculties namely medicine, pharmacy, and dentistry. The TSMC/UHSC offers five degree programs namely Nursing, Medical Technology, Midwifery, Physiotherapy, and Radio Technology.

nology. In running this ADN program, faculty resources are from various institutions under the umbrella of the Ministry of Health as well as from relevant institutions within the country such as Calmette Hospital, Khmer-Soviet Friendship Hospital, National Pediatric Hospital, Center of Hope and the National Institute of Communicable Diseases etc. These characteristics explain that TSMC is a representative institution of schools offering degree programs in the health sciences in Cambodia.

## Data collection procedure

# Survey questionnaire on active and participatory learning

Survey questionnaires on active and participatory learning during daily classroom discussions was adopted from the study of Bradshaw MJ and Lowenstein AJ in 2007 [24]. The questionnaires were composed of demographic variables such as age, sex, and year levels. Factors influencing active and participatory learning in the classroom setting, teaching methodologies, learning needs, commitment to change, and motivation components were asked. The questions were revised according to Cambodian context and was validated for back-to-back translation by the authorized personnel from the Ministry of Health. Appendix 1 presents the questionnaire.

## **Classroom observations**

To support the data from questionnaire, classroom observations were conducted to see the actual progress of teaching and learning. Classroom observations were conducted by a field researcher in each selected classroom for one-hour period from first to third years of the ADN program. And to ensure that the students would not be influenced by the researcher's presence, another field researcher was trained to observe the classes. To be guided during the actual class observation, the observer referred to Classroom Observation Checklist (Appendix 2). The classroom observations were conducted from the second to third weeks of May 2015.

# Teachers' focus group discussions

A total of 12 selected teachers from year levels one to three attended the teachers' focus group discussions (TFGDs). The first TFGD was attended by a total of four selected teachers in the first year. The two succeeding TFGDs were conducted with those who teach the second and third years.

# Students' FGDs

Finally, there were also students' FGDs conducted three times per year level. These were conducted on the second to third weeks of June 2015. The questions used in both FGDs are presented in appendix 3.

# Instrumentation

Upon getting the approval of the National Ethics Committee for Health Research in Cambodia, Rector of UHSC and clearance to proceed from the UP Manila Research Ethics Board, a set of the questionnaire translated in Khmer language was printed and attached with informed consent document and the approval letter. The questionnaire was pilot tested among selected ADN students of TSMC/UHSC in the main campus. This exercise was done to ensure the validity, clarity, and reliability of the instrument. Appropriate revisions on the questionnaire were done based on the pilot test. To ensure that the survey questionnaire is able to generate the correct information required by the study, the questions are constructed based on the following blueprint.

Research Questions	Items in the Questionnaire	Total number of items
How do students participate in their daily classroom activities?	Demographics: sex, age, and year levels of students Self-reports and perceptions towards active and par-	3
	ticipatory learning	13
What teaching-learning strategies and attitude approaches of teachers make students engage in active and participatory learning during classroom discussion?	Strategies and approaches used by teachers to make effective active and participatory learning in the class-room as perceived by students	9
What factors bring about active and participatory learning in the classroom setting among ADN students?	Factors contributing to APL according to how students report and reflect on their experiences with their teachers	7
Total		29 items

Table 2: Blueprint of the questionnaire.

The survey was complimented by a series of classroom observations and focus group discussions with teachers and students. The following procedures were observed during the FGDs:

- 1. As part of standard operating procedures, the following were discussed by the research assistants with the respondents:
  - a. Questionnaire in Khmer language.
  - Letter of approval by TSMC/UHS and the letter of approval by National Ethics Committee for Health Research of Cambodia.
  - c. The letter of approval by UP Manila Research Ethics Board
  - d. Informed consent
    - i. Greetings.
    - ii. Introduce the purpose of the requested meeting.
    - iii. Explanation of the objectives of the study, risks, benefits, confidentiality, results of the study, participation, withdrawal and the utilization of the outcome from the study.
    - iv. Request for voluntarily participation.
    - v. Open for questions and clarification.
    - vi. Offer time of choice for participation.

The discussions were led by the researcher, research assistant, and audio-recorded.

# Analysis of data

All quantitative data were summarized using measures of central tendency, frequencies, proportions, means, and standard deviations to describe group characteristics. The four constructs used included the first is daily classroom activities indicating active and second is participatory learning, third is descriptions of teaching-learning environment and factors that engage students in active and participatory learning, and four is teaching-learning strategies ensuring active and participatory learning. An agreement scale was used ranging from 4: strongly agree, 3: agree, 2: disagree, and 1: strongly disagree. The favored mean score should be those that are close to 4.0. The quality of participation during actual classroom discussions, class structure or format, teaching-learning methodologies used, and overall descriptions of classroom discussion were analyzed through using classroom observation checklist accomplished by the research assistant as a direct observer in the classroom. The answers from both selected teachers and students in the recorded during TFGD and SFGD, transcribed, and analyzed using content analysis. Recurring themes and comments were organized.

## Scope and delimitations of the study

Not all nursing students at TSMC-UHSC and those from private health sciences schools in Cambodia were engaged in this study. Those who did not meet the inclusion criteria were not included. The study also did not include stakeholders other than students. In the research design, data were derived from ADN students at TSMC/UHSC and these data were entered and analyzed by the principal investigator only. The results were presented to the thesis adviser, critics and panelists in a final thesis defense session for the ultimate goal of completing the written thesis paper and obtaining the MHPEd degree. The data will therefore not be used for any other purpose other than as a requirement for graduation.

The summary of methodology is presented in the table 3 below.

Objectives	Data to be collected	Data collection procedure	Analysis of data
1. To describe the processes by which students partici- pate in their daily classroom activities	1. Actual frequency and quality of active and participatory learning in the classroom     2. Student perceptions on how they perform during classroom discussions and engage in APL	<ol> <li>Classroom Observation</li> <li>Questionnaire</li> </ol>	Descriptive analysis of the respondents' an- swers; measures of cen- tral tendency
2. To describe teaching-learning strategies and attitude approaches of teachers that make students engage in active and participatory learning during classroom discussion	Strategies and approaches used by teachers to ensure effective active and participatory learning in the classroom	<ol> <li>Classroom Observation</li> <li>Questionnaire</li> </ol>	Descriptive analysis of the respondents' an- swers, measures of cen- tral tendency
3. To describe factors that bring about active and participatory learning in the classroom setting among ADN students.	Factors that bring APL	<ol> <li>Classroom</li> <li>Observation</li> <li>Questionnaire</li> <li>Group Interview of teachers and students</li> </ol>	Descriptive analysis of the respondents' an- swers
4. Compare the performance of students from the city and the provinces in their participation in daily classroom activities	Frequency of their participated in the daily classroom activities includ- ing answer to the question, contribu- tion of ideas and active participated in the discussion	<ol> <li>Classroom observation</li> <li>Questionnaire</li> <li>Group Interview of teachers</li> </ol>	Descriptive analysis of the respondents' an- swers, t test comparing means

Table 3: Methodology matrix.

# Ethical consideration

The trained research assistant met the respondents for an orientation. The study's informed consent form was discussed. The basic features of the thesis were likewise discussed and respondents were encouraged to ask questions or clarify anything. The following basic components related to the study were also discussed:

- 1. Objectives of the study.
- 2. Possible risks and discomforts; in case respondents find some personal or confidential information that are unwarranted, they may not answer the questions they are not comfortable with.
- 3. Benefits of the study. Both faculty and students will indirectly benefit from the study. Results from this investigation will direct the TSMC and ADN program coordinators, and coach the faculty on how to actively engage students in class participation. No payment was given but instead, a token of appreciation for their participation.

- 4. Confidentiality. The identity of all participants was kept confidential. Their responses were coded and analysis of data was blinded to the researcher. All the data collected were likewise secured and will not be used for any other purposes outside this research. They will also not be used to determine performance ratings of any of the respondents.
- 5. Voluntary participation. Participation in this research was entirely voluntary. Responses will have no bearing on the students' grades, faculty, or on any work-related evaluations or reports. Respondents may change their mind later and stop participating even if they agreed earlier. Fortunately, all respondents completed the survey.
- 6. Who to contact. For any questions regarding the study, participants were requested to get in touch with the researcher.
- 7. All collected data were kept confidential as all tools and coded as well were blinded during data analysis. All data were kept in the safe custody of the researcher alone.

## Results

# Demographic profile

A total of 247 respondents voluntarily participated in the study. The demographic data are summarized (See table 4). There were 105 (42.5%) males and 142 (57.5%) females. There were 99 respondents (40.1%) from the first year, 64 (25.9%) from second year, and 84 (34%) from third year. With respect to age, the youngest respondent was 16 years old, the oldest was 23, and the mean age was 20. There were 124 students from Phnom Penh and 123 from the provinces.

Variables	Categories	Frequency	Percentage
Sex	Male	105	42.5%
	Female	142	57.5%
Total		247	100%
	Year 1	99	40.1%
Year Level	Year 2	64	25.9%
rear Level	Year 3	84	34%

**Table 4:** Demographic profile of respondents (n = 247). Processes by which students participate in their daily classroom activities.

These processes refer to activities and preparations students engaged in before their daily classroom interactions. Results revealed that generally, students come to class consistently prepared in terms of reviewing previous notes and the class timetable. However, students also reported they hardly exert efforts to read additional materials prior to class meeting, downloading documents associated with the lesson, and not being conscious of what to expect and prepare for the class session. Table 5 presents the mean scores of the students' ratings. Findings revealed common mean scores ranging from 2.97 to 3.53 (from 1: strongly disagree to 4: strongly agree) and very low standard deviations with overall mean of 3.04. The concentration of means reveals the lack of strong commitment to the various indicators of active learning. However, when actual class is going on, respondents indicated that they were willing to concentrate and focus their full attention to the lesson. The letdown referred to the instances when teachers failed to engage the students in an active discussion and did not provide opportunities for active and participatory learning.

Activities engaged in by respondents before classroom interactions	Means	Standard Deviation
I read the lesson timetable.	3.53	0.64
I prepare my thinking before the lesson.	3.10	0.60
I listen attentively to the lecture of my teacher.	3.32	0.59
I am challenged when the difficult discussion happens in the classroom.	2.97	0.62
I get frustrated when the teacher talks without opportunity to discuss content.		0.79
I read additional material about lesson content.		0.72
I review my lesson notes.		0.62
I spend my time at last 30 minutes in the library every lunch time for downloading documents associated with the lesson.		0.82
Overall mean	3.04	

**Table 5:** Means and standard deviations of respondents according to activities and preparations they engaged in before their daily classroom interactions (n = 247).

On the other hand, actual classroom observation showed that most teachers came to class on time and started the first question with what was the topic that he or she was going to teach. Then, continue with few questions and answer those questions after a few minutes before starting or continuing their lecture. The teachers seemed not really focused much with the discussion. Sometimes they gave students opportunities to conduct tasks to work as a team but they gave very little feedback to the students according to the narrow time provided by the schedule committee of TSMC/UHS.

Similarly, the teacher's focus group discussion (TFGD) also revealed that teachers did not have enough time for these activities. The official schedule just gave them one hour only per session, sometimes a maximum of two hours per session, so they could not afford any interactive discussion. Moreover, during the SFGD students reported that the school also did not have any special encouragement such as best teaching award of the year or other extrinsic rewards that can motivate teachers.

In addition, they disclosed that the Ministry of Health/Human Resources Department required them, through the school authorities, to strictly follow the university evaluation system only. And there was no university policy written that teachers are allowed to add any assignment, quizzes, midterm in the result of students, or strictly must give feedback to students. Activities and preparations students engaged in during their daily classroom interactions. With respect to actual classroom discussions, results revealed that students tend not to be actively engaged in their daily classroom discussions. Respondents said that they hardly share their ideas in class (mean = 2.97 and Standard Deviation (SD) = 0.71). They also do not ask questions during class discussions (mean = 2.52 and SD = 0.84). The means and SDs slightly improved in terms of items that involved participation in small group learning activities like role plays (mean = 3.09 and SD = 0.81), working with their classmates or engaging in teamwork (mean = 3.30 and SD = 0.64) and actively participating in class to clarify misconceptions and ensure understanding (mean = 3.14 and SD = 0.72). The overall mean for this construct was 3.00. During actual observations, almost half of the students in class really participated by sharing their ideas, asked questions as well and enjoyed working with their team mates when their teachers used small group work activities as their teaching methodology. According to the SFGD students said they enjoyed when teachers used role play as a method to approach their new activities or clarified their assignment during feedback sessions. These were truly seen by the research assistant who conducted the direct observation during classroom activities. She reported that the classroom turned to be more active and student seemed to enjoy the discussion while the teachers used role play or small group discussions as teaching methodology followed by students allowed to ask questions. In addition, in both TFGD and SFGD, students reported a big problem that limited their participation. In TFGD alone most teachers in all year levels complained about their preparation if they wanted to use any small group work activities. They said "it really took so much time and consumed all their physical and emotional power but they don't receive any proper motivation of their effort". Most of the time only one-hour session was indicated in the class schedule that provided by TSMC/UHS schedule committee. So they said "only lecture method is the best for us as teachers. And let students try their best as much as they can by themselves." Students on the other hand during SFGD, also raised the issue of limited time for their activities issued in the posted schedule signed by schedule committee. They said they really enjoyed and were able to connect well the concept of their topic but teachers forced them to finish since it would soon be time to change to other lecturer. They were given only two-hours maximum for one session. And they told that most of them hesitated to ask questions to their teachers.

Activities engaged in by respondents before and during classroom interactions	Means	Standard Deviations
I actively participate in the discussion, answering assignment and/or clarifying things I did not understand.		0.72
I often, share ideas to the class.		0.71
I usually ask questions during class progress or when my teachers are giving lecture.		0.84
I enjoy learning with other people in a small group context.		0.64
I find role plays helpful to understand difficult content.		0.81
Overall mean	3.00	

**Table 6:** Means and standard deviations of respondents according to activities and preparations they engaged in during their daily classroom interactions (n = 247).

Students commented that "some teachers were really in a hurry presenting their lecture and most of the time kept telling us do more self-research for further information or ask them next time or during break." But during the break, most of their teachers will again hurry to their next other class. So we were not really able to get what we want and use enough time to discuss with teachers." The students reported during the SFGD and was confirmed by the direct observation that most of the time, there was no more time for feedback and there was really limited time for them to interact and actively participate. Before they knew it, the teachers have already moved to their next classes.

# Teacher strategies that promote active and participatory learning

Findings in this construct confirm the rather contradicting descriptions of the actual teaching-learning conditions in the ADN program. Previous findings cited above presented mean scores revealing students were engaged in active and participatory learning but there were also results suggesting that they were passive and merely reactive. There were the same results in the case of teachers. In terms of teaching strategies. Table 7 shows the frequency distribution of respondents according to teaching strategies used by their teachers. Figures show that the number of students are generally concentrating in the "agree" option but not strong enough because the distributions were lower than fifty percent. The next popular option is "disagree" indicating that some teachers to these students were really not consistently engaging them in active and participatory learning. The most notable of this distribution can be found in Statement 4: My teacher has many different teaching strategies (47.8 percent) yet in Statement 5: My teacher's teaching strategy is lecturing as always (51.5 percent). Similar results are seen in the rest of the statements suggesting the students' agreement in their teacher's use of motivation and challenges, application of modern information and communication technology (ICT) and use of the traditional rote and drill learning.

	Percentages			
Questions about teaching strategies used	Strongly Disagree	Disagree	Agree	Strongly Agree
My teacher's teaching strategies really motivate me to bring the study issues for classroom discussion.		18.60	46.60	34.00
The drill technique of my teacher promotes more participation learning in the classroom	00	12.10	46.60	38.90
Team working as a classroom activity really motivates me to active and participation learning in the classroom.	0.80	8.40	50.20	40.60
My teacher has many different teaching strategies.	0.80	11.30	47.80	40.10
My teacher's teaching strategy is lecture as always	3.30	21.80	51.50	23.40
My teacher usually giving feedback to me during the classroom discussion and after presentation.	9.00	15.50	46.50	29.00
My teacher using high technology while having classroom discussion.	7.30	21.10	51.80	19.80

**Table 7:** Percentage distribution of respondents according to their perceptions on teaching strategies used in classroom discussions (n = 247).

To complement the percentage distributions, the table below presents the mean scores and standard deviations of students' ratings of teaching strategies used in classroom discussions. Results reveal that strategies using small groups, engaging the class in team work, posing challenging and motivating activities, with the appropriate ICT are more preferred and appreciated compared to drill and one-way lecturing.

Strategies used by teachers	Means	Standard Deviations
My teacher teaching strategies really motivate me to bring the study issues for classroom discussion.	3.14	0.74
The drill technique of my teacher promote more participative learning in the classroom.	3.27	0.66
Team working as a classroom activity really motivates me to be active and participate in learning in the classroom.	3.31	0.66
My teacher has many different teaching strategies.	3.27	0.69
My teacher's teaching strategy is lecturing as always	2.95	0.77
My teacher usually gives feedback to me during the classroom discussion and after presentation.	2.96	0.90
My teacher uses high technology while having classroom discussion.	2.84	0.82
Overall mean	3.11	

**Table 8:** Means and standard deviations of respondents according to teaching strategies used during classroom discussion (n = 247).

The series of class observations done revealed that some teachers reviewed their lesson before the start of a new class or continue their previous topics. This format was common across the teachers who handled the three year levels. Only few teachers posed challenges with different teaching strategies. There were even fewer teachers who gave short opportunities for their students to discuss and actively participate during classroom teaching. In TFGD, several of selected teachers raised the issue again about a limited time table of one hour per session. They also complained about not giving them pedagogy training. Many others also complained about lack of maintenance and set up of teaching facilities like the liquid crystal display (LCD) projectors, speakers, microphones, etc. They repeated their comments that the official curriculum only allowed them 1 hour per session with a class, specific time for assessment, and strict implementation of the ADN curriculum.

As mentioned earlier, in terms of age, the youngest respondent is 16 years old and the oldest is 23 years old. Results revealed that generally, students were in the same thinking as teenager group or adolescents as seen in their common mean scores from 2.97 to 3.53. During actual classroom observation, respondents indicated that they appreciated the approaches of teachers who gave them opportunities to engage in class discussion, work with their classmates or engaging in team work, and role plays. They also cited providing appropriate feedback from their teachers, use of up- to- date ICT and setting up interesting classroom environment that bring about active and participatory learning in their daily classroom activities. All selected teachers on the other hand, repeatedly commented on the official curriculum that they could not innovate, lack of motivation and other extrinsic rewards, as well as strict monitoring of their implementation of the curriculum.

# Factors that bring about active and participatory in the classroom setting in their daily classroom activities

Several factors have been identified to ensure active and participatory learning. Chapter 2 cited these factors to include both physical, interpersonal and socio-psychological factors. The table below presents the mean scores and standard deviations of these items. In terms of physical environmental factors, students indicated a not-so conducive learning environment as shown by their mean scores of 2.85 and SD = 0.85 for classroom environment setting and 2.87 (SD = 0.71) for having access to relevant and available instructional resources. Respondents implied their appreciation of a curriculum and classroom that have been well-designed (mean = 2.95 and SD = 0.75) as well as the application of technology in teaching and learning. Results in the table also reveal the value of good inter personal and communication skills between teachers and students. In terms of overall socio-psychological factors, students reported their agreement to teachers demonstrating the right attitudes, approaches, and sense of accountability to ensure their learning. This last factor is also consistent with their low mean ratings for formative and summative assessments (mean = 2.95 and SD = 0.71).

Factors to ensure effective active and participatory learning of students		Standard Deviations
Classroom environment setting.	2.85	0.85
Teacher strategy and attitude approaches during class discussion.	3.16	0.74
Teacher capacity and accountability for answering the questions.	3.21	0.65
Relevant and available resources as needed.		0.71
Suitable contribution of ideas during class discussion.		0.55
Strong interpersonal, communication skills and commitment.		0.69
Result of formative and summative assessment.		0.61
Classroom and curriculum designed.		0.75
Use of technology.		0.71
Overall mean	3.01	

**Table 9:** Means and standard deviations of respondents according to factors promoting active and participatory learning (n = 247).

Reports from classroom observations revealed that most of the students wanted fresh motivation as reflected in their teachers using different methods, clear guidance and setting up interesting classroom environment while giving them the opportunity to feel unpressured and relaxed with study. They also reported that they could be more active and participatory when teachers told them the exact way to get the references and allow them to use their high technology gadgets such as laptop and smart phone for searching during class discussion. They even shared immediately the idea of giving challenging questions in class when teachers gave them the opportunity. During the FGDs, students reiterated their desire to actively participate in classroom discussions. They identified the need for more opportunities to engage in this exercise and for their teachers to allow them to use gadgets that are internet-based. They expressed that they would like teachers to make use of new teaching methods. On the other hand, teachers shared that other than their roles, students must also help themselves, engage in self-directed learning. They mentioned also the limitations on their part because of the official curriculum that they should follow as mandated by the government. The ADN curriculum has been designed five years ago and they needed to be professionally trained anew on new teaching methodologies and approaches for better and more effective teaching.

#### Comparison of performance of students in daily classroom activities who came from the city and from the provinces

Result revealed that generally, participation in daily classroom activities of students from the city and the provinces did not have any significant difference. The five attitudinal statements of participatory learning were grouped together as one construct and their overall mean score was obtained. The table below shows the mean scores from those who lived in the national capital (mean = 3.01) and those from the provinces (mean = 3.01). The t-test score and p value obtained suggested that there was no significant difference between participatory learning of students from both origins. This gives evidence to reject the null hypothesis. This means that there is statistical evidence to conclude that students from both the city and the provinces do not differ in terms of participation during classroom activities. During actual classroom observation, the two groups of students showed similar characteristics in the way they responded to their teacher's questions and contributed ideas. They liked to wait and see each other first. Rather than volunteer to answer or share their ideas at the start of the activities. But when teacher broke down the class into smaller groups, they participated actively. During these sessions, those students with better interpersonal and communication skills surfaced. They were able to more actively participate and tended to demonstrate leadership skills as well. When asked about the groupings and their overall performance, the teachers shared that they did not see much difference between the groups of students. Both groups seemed to lack self-confidence and rarely participated and volunteer to contribute ideas to the class unless they got directly called by name.

Place of Residence of Students	Means	Standard Deviation	t-test score	p value
Phnom Penh	3.01	0.40	0.096	0.924
Provinces	3.01	0.40		

**Table 10:** Means, standard deviations, and t comparing participatory learning of students from the city and the provinces (n = 247).

# Discussion

Results revealed that students were passive learners and teachers still a classroom manager. But interactive teaching strategies used by teachers were the most influential factor in encouraging participation among students. This finding was found in the survey as well as in the actual classroom observations. Almost half of the students in class really participated by sharing their ideas, asked questions, and enjoyed working with their team mates when their teachers used small group work activities. They said they enjoyed when teachers used role play as a method to approach their new activities or clarified their assignment during feedback sessions. Classroom teachers' communication skills also played an important role in shaping classroom interaction. Most students wanted fresh motivation as reflected in their teachers' using different methods, clear guidance and setting up interesting classroom environment while giving them the opportunity to feel unpressured and relaxed in their study.

In addition, the study also revealed that there were other factors affecting active and participative learning such as use of up-to-date ICT as teaching didactic by their teachers, availability of academic awards, revised class schedule, curriculum revision, and general change

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in classroom setting environments. Based on classroom observation, they also reported that they could be more active and participatory when teachers told them the exact way to get the references and allow them to use their high technology gadgets such as laptop and smart phone for searching during class discussion. Students observed showed that they were more inclined to participate when the teachers called them by name, asked probing questions, and engaged in positive nonverbal behaviors such as smiling and nodding to acknowledge their answers. Especially, when teachers let them feel that they are really approachable and helpful.

On the other hand, results also revealed that those students with better interpersonal and communication skills were able to more actively participate and tended to demonstrate leadership skills as well. And the teachers shared that they did not see much difference between the groups of students who are residents of the Phnom Penh capital city and province's residents. And they felt both groups seemed to lack self-confidence and rarely participated and volunteer to contribute ideas to the class, rather than wait until they got directly called by name.

# **Summary**

As a measure of active learning, processes engaged in by students before class discussion registered an overall mean of 3.04. The study showed that students generally come to class prepared in term of reviewing previous notes, read additional materials, prior to class meeting, downloading document associated with the lesson. With respect to processes engaged in by students during actual daily classroom discussion, results revealed an overall mean score of 3.00. Figures show that students hardly share ideas in class (mean = 2.97 and SD = 0.71), do not ask question during class discussion (mean = 2.52 and SD = 0.84). And the means and SDs slightly improved in terms of items that involved participation in small group learning activities like role plays (mean = 3.09 and SD = 0.81), working with their classmate or engaging in team work (mean = 3.30 and SD = 0.64), and actively participating in class to clarify misconceptions and ensure understanding (mean = 3.14 and SD = 0.72). With regard to teachers' strategies that promote active and participatory learning, results showed an overall mean of 3.11. These revealed that strategies like building conducive learning environment (mean = 2.85 and SD = 0.85), conducive classroom environment setting (mean = 2.87 and SD = 0.71), use of relevant and available instructional resources, appreciation of a curriculum and classroom that have been well-designed (mean = 2.95 and SD = 0.75) as well as the application of technology in teaching and learning and use of formative and summative assessments were appreciated by students. These items were scored relatively lower as they did not find them consistently being practiced by their teachers.

Furthermore, only 47.8 percent responded to the question of "my teacher has many different teaching strategies." Statement 5: My teacher's teaching strategy is lecturing as always was rated 51.5 percent. And similar results are seen in the rest of the statements. In addition, in terms of age, the youngest respondent is 16 years old and the oldest is 23 years old. Generally, students were in the same thinking as teenager group or adolescents as seen in their common mean scores from 2.27 to 3.53.

During the actual classroom observation and TFGD and SFGD, respondents indicated that they appreciated the approaches of teachers who gave them opportunities to engage in class discussion, team work with classmates, role plays, provided appropriate feedback and use up-to-date ICT and setting up interesting classroom environment that brings about active and participatory learning in their daily classroom activities. The study found that students from both the city and the provinces do not differ in terms of participation during classroom activities because the mean scores from those who lived in the national capital was 3.010 and those from the provinces was 3.005. And this means that there is statistical evidence with the t-test score and p value obtained suggested that there was no significant difference between participatory learning of students from both origins.

On the other hand, during actual classroom observation, the two groups of students as well as selected teachers and students in TFGD and SFGD, also showed similar characteristics in the way they responded to their teacher's questions and contributed ideas and answers similarly to emphasize the result has found during the different focused group discussion of selected teachers and students. Students liked to wait and see each other first, rather than volunteer to answer or share their ideas at the start of the activities or directly called by name. The study also found that students participated actively when teachers broke down the class in to the smaller groups. And those

students with better interpersonal and communication skills were able to more actively participate and demonstrate leadership skills as well. But both groups seemed to lack self-confidence and rarely participated and volunteered to contribute ideas to the class unless they got directly called by name.

## Conclusion

The ADN students were passive learners and the classroom still managed by teachers and supervised in all activities. And the interactive teaching strategies used by their teachers such as role playing, small group discussion, up-to-date technology as teaching didactic and friendliness approached were encouraging them to participate and share their ideas, ask questions, work with their team mates during classroom activities. Students get collectively motivated with these strategies and were willing to explore when allowed these opportunities in their daily classroom interactions. As well as allowing those students to use interactive online resource materials were also identified as the main factors to encourage active and participatory learning. There were no differences between both students from both origin Phnom Penh and Province in their daily classroom participation.

#### **Recommendations**

Both students from Phnom Penh and the Province have no ready access to knowledge, reading materials and being not ready before entering the class will lead them to become passive. They do not know what to ask and time schedule was also limited to one hour per session. So they just decided to sit and write notes. Possibly, this attitude has been embedded since they studied in high school or even childhood. There are also among of those who are not skilled with the language used in the classroom. Maybe sometimes they were afraid to laugh in class and just ask others to ask questions on their behalf. Most of the time they preferred to keep quiet and just listen until they were called by name and it was the time that they have no any other options. So teachers play an important role in encouraging active participation during classroom discussion. Teachers need to appreciate all contributions shared by everyone in class as important ideas. They should instruct students to overcome their fear of speaking in class and encourage them to develop the habit of sharing and asking without borders via appropriate guides, and let students get directly involved. Classroom discussion, schedule, student's assessment methods, evaluation tools should be changed as needed and academic awards should be officially announced and given regularly, as well as revise the curriculum and integrate ICT much more in their typical daily classroom activities are recommended.

Future studies of nurse teachers from additional colleges, both public and private should be encouraged to involve researchers to determine if the findings would be similar. All resources can vary from one university to another, public to private, regional to center that can impact on what teaching and learning strategies are utilized effectively in order to bring about active and participatory to the entire nursing education system in Cambodia.

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