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# MILIEU, ATTITUDE AND COGNITIVE ASPECTS OF STUDENT-CENTERED LEARNING IN NURSING EDUCATION: A CORRELATIONAL STUDY

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## Abstract

Recently, student-centered learning has found its place in the Philippine nursing education yet there was very limited literature as to how Filipino learners take it. This article: (a) described the assessment of implementation of student-centered learning (SCL) in the B.S. Nursing (BSN) program and (b) determined the relationships of attitude, milieu and cognitive aspects of SCL. This correlational study underwent institutional review before a sample of 250 nursing students completed the 50-item 4-point Likert Questionnaire with Chronbach α 0.94.

This study showed that Filipino nursing students assessed the implementation of both social and physical milieu as mostly acceptable. Furthermore, SCL was assessed as completely acceptable to be fittingly supportive of the nursing students' self-directedness, inventive skills, reasoning skills and made them even more innovative, critical thinker, expressive, and collegial. They assessed the entire SCL experience as suitable and adaptive to the demands of real-life challenges. This study supported other study findings that SCL milieu, attitude and cognitive aspects are interrelated to each other. This may be suggestive that further enhancing the SCL milieu would correspondingly generate more desirable attitudes and cognitive attributes among nursing students. Full implementation of SCL may be recommended to other nursing schools.

**Keywords:** Milieu, Cognitive, Attitude, Student-Centered Learning, Nursing Education.

## Introduction

Student-centered learning approach was long overdue to be implemented in healthcare education yet, it was only recently, that few educational institutions in the Philippines responded to the call to implement pedagogical change. The advancement of student-centered learning in the academic setting is expected to offer scientific placement of new nurse graduates in the healthcare setting. Student-centered learning approach shifted the role of teacher from primary source of information to facilitator of learning. Student-centered learning is generally labelled with desirable benefits to students but how was it taken by Filipino nursing students is yet to realize furthermore.

Since 1999, the Bologna Process has brought with it an extraordinary transformation to make higher education programs more transparent and comparable across the European continent. This reform encourages higher education institutions (HEIs) to place greater emphasis on students and usher students at the center of their thinking and help them consciously and constructively design their own learning paths [1]. This educational reform is widely known as student-centered learning approach.

Traditional teaching method remains to be the dominant teaching method in nursing education not only in the Philippines but relatively throughout the continent [2] for over a century. But the employment market for nurses is fast-evolving, and it is important that educational system keep pace with new trends and employer needs. After all, innovation occurs at breakneck speed. As healthcare educational institution compete to be at par with the global changes and challenges, curriculum needs to be updated to reflect those changing needs. To remain competitive, educational institution need to understand what qualities and skills public private partners are looking for in their nursing graduates.

Being used to traditional lecture type teacher-centered learning for over century, the shift would require major adjustment to nursing students. How well the learning goods of SCL has been delivered and received by Filipino nursing students provides very limited literature. This correlational study

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(a) described the assessment of nursing students toward the implementation of student-centered learning (SCL) and

(b) determined the relationships of attitude, milieu and cognitive aspects of SCL.

## Methodology and Methods

This correlational research study:

(a) described the assessment of the implementation of student-centered learning (SCL) in the B.S. Nursing (BSN) classroom and

(b) described the relationships of attitude, milieu and cognitive aspects of SCL.

The eligibility criteria of the respondents were as follows:

(a) full-time first-year nursing students,

(b) undergone student centered-learning pedagogy,

(c) currently enrolled,

(d) willing to participate.

The researcher made use of Raosoft sampling size calculator to determine the representativeness of the population with a 95% confidence level and a 5 margin of error. A stratified sampling technique was employed to ensure representativeness from each section. Out of 564 nursing student population, 229 was the computed sample size. Twenty percent (46 respondents) was added to serve as contingency for possible invalid responses reaching a total of 275 respondents. Twenty-five (25) questionnaires were invalidated due to insufficient and/or erroneous data accounting to a total of 91% response rate.

A two-part instrument was used in the conduct of this study. The first part focused on the demographic profile of whom includes the age, sex and pre-college teaching method employed to the students.

The second part was a 50-item questionnaire utilizing a 4-point Likert scale that focused on assessment of SCL as a teaching-learning pedagogy.

The questionnaire was subdivided into three aspects: milieu, cognitive and attitude. It was interpreted using mean score based on the table below divided into three aspects: in the milieu area, the higher score denoted the students are more likely to appreciate on the social and physical milieu student-centered learning, while in the cognitive area, the higher the score denoted the higher they agree in SCL in developing inventive, reasoning critical thinking and innovative skills and lastly in attitude area, the higher the score, the more positive that they manifested attitude like collegiality, self-directedness and expressiveness through SCL approach in which the global society needs. [3]

**Table 1: Verbal Interpretation of Scores**

| Mean Score | VI | Verbal Interpretation |
|---|---|---|
| 1.00-1.75 | NA | Not Acceptable |
| 1.76-2.50 | SA | Somewhat Acceptable |
| 2.51-3.25 | MA | Mostly Acceptable |
| 3.26-4.00 | CA | Completely Acceptable |

Instrument content was validated by three Doctorate degree holders in Education and subsequently subjected to pilot testing yielding a Cronbach alpha of 0.94.

The study underwent Institutional Ethics Review approval and sought informed consent of every target respondents.

## Results

Results showed that respondents have an average age of 19.24 years, majority were female accounting to 76%, and most of them (78%) were into teacher-centered learning approach during their pre-college years.

As shown in table 1.1 the SCL Milieu ($\bar{x}$ =2.82) was assessed to have been employed as mostly acceptable manner both in social ($\bar{x}$ =2.83) and physical environment ($\bar{x}$ =2.86) aspects. Also, the nursing students assessed that SCL implementation as completely acceptable to support cognitive development having a $\bar{x}$ =3.20.

Similarly, as reflected in table 1.2 nursing students assessed SCL implementation as mostly acceptable in developing reasoning skills ($\bar{x}$ =2.92) and completely acceptable to support inventive skills ($\bar{x}$ =3.24). Furthermore, SCL implementation was assessed as completely acceptable to develop innovative skills ($\bar{x}$ =3.38) and critical thinking skills ($\bar{x}$=3.32).

**Table 1.1: Assessment of Milieu Aspect of Students-Centered Learning According to Profile Variables**

| Profile Variable | | Physical Milieu Mean | Interpretation | Social Milieu Mean | Interpretation |
|---|---|---|---|---|---|
| Age | < 20 y/o | 2.82 | *MA | 2.84 | MA |
| | ≥20 y/o | 2.71 | MA | 2.87 | MA |
| Sex | Male | 2.96 | MA | 2.77 | MA |
| | Female | 2.81 | MA | 2.81 | MA |
| Teaching Method | *TCL | 2.78 | MA | 2.77 | MA |
| Method | *SCL | 3.08 | MA | 2.89 | MA |
| Overall | | 2.86 | MA | 2.83 | MA |

*TCL-Teacher-centered Learning, SCL-Student-centered Learning

| | | |
|---|---|---|
| 1.00-1.75 | NA | Not Acceptable |
| 1.76-2.50 | SA | Somewhat Acceptable |
| 2.51-3.25 | MA | Mostly Acceptable |
| 3.26-4.00 | CA | Completely Acceptable |

**Table 1.2: Assessment of Cognitive Aspect of Students-Centered Learning According to Profile Variables**

| Profile Variable | | Inventive Skills | *VI | Innovative Skills | VI | Reasoning Skills | VI | Critical Thinking Skills | VI |
|---|---|---|---|---|---|---|---|---|---|
| Age | < 20 y/o | 3.19 | *MA | 3.39 | CA | 2.90 | MA | 3.33 | CA |
| | ≥20 y/o | 3.25 | MA | 3.39 | CA | 2.82 | MA | 3.24 | MA |
| Sex | Male | 3.23 | MA | 3.25 | MA | 3.04 | MA | 3.27 | CA |
| | Female | 3.19 | MA | 3.44 | CA | 2.85 | MA | 3.33 | CA |
| Teaching Method | *TCL | 3.14 | MA | 3.38 | CA | 2.85 | MA | 3.28 | CA |
| | SCL | 3.43 | CA | 3.44 | CA | 3.03 | MA | 3.47 | CA |
| Overall | | 3.24 | MA | 3.38 | CA | 2.92 | MA | 3.32 | CA |

*TCL-Teacher-centered Learning, SCL-Student-centered Learning
* VI-Verbal interpretation

| | | |
|---|---|---|
| 1.00-1.75 | NA | Not Acceptable |
| 1.76-2.50 | SA | Somewhat Acceptable |
| 2.51-3.25 | MA | Mostly Acceptable |
| 3.26-4.00 | SA | Completely Acceptable |

Moreover, based on table 2 the nursing students assessed SCL implementation as completely acceptable to be promotive of desirable attitude having a $\bar{x}$ =3.27. Correspondingly, as shown in table 1.3 nursing students assessed SCL implementation as completely acceptable in developing self-directed learners ($\bar{x}$ =3.27). Opportunely, SCL implementation was observed as completely acceptable to buzz collegiality ($\bar{x}$ =3.28) and expressiveness ($\bar{x}$ =3.34) among nursing students.

**Table 1.3 Assessment of Attitude Aspect of Students-Centered Learning According to Profile Variables**

| Profile Variable | | Self-directedness | Interpretation | Expressiveness | Interpretation | Collegiality | Interpretation |
|---|---|---|---|---|---|---|---|
| Age | < 20 y/o | 3.23 | *MA | 3.34 | CA | 3.27 | CA |
| | ≥20 y/o | 3.2 | MA | 3.24 | MA | 3.28 | CA |
| Sex | Male | 3.20 | MA | 3.26 | CA | 3.19 | MA |
| | Female | 3.24 | MA | 3.35 | CA | 3.30 | CA |
| Teaching Method | *TCL | 3.29 | CA | 3.38 | CA | 3.24 | MA |
| | SCL | 3.46 | CA | 3.44 | CA | 3.38 | CA |
| Overall | | 3.27 | CA | 3.34 | CA | 3.28 | CA |

| | | |
|---|---|---|
| 1.00-1.75 | NA | Not Acceptable |
| 1.76-2.50 | SA | Somewhat Acceptable |
| 2.51-3.25 | MA | Mostly Acceptable |
| | | Completely |
| 3.26-4.00 | CA | Acceptable |

Furthermore, cognitive, milieu and attitude aspects of Student-Centered Learning were assessed as mostly acceptable ($\bar{x}$ 3.11) parallel across all ages, sex and teaching methods during pre-college.

**Table 2: Assessment of implementation of aspects of Student-Centered Learning**

| Student Centered Learning Aspects | Mean | Standard Deviation | Interpretation |
|---|---|---|---|
| Milieu | 2.82 | 0.43 | *MA |
| Cognitive | 3.20 | 0.45 | MA |
| Attitude | 3.27 | 0.37 | CA |
| Overall | 3.11 | | MA |

| | | |
|---|---|---|
| 1.00-1.75 | NA | Not Acceptable |
| 1.76-2.50 | SA | Somewhat Acceptable |
| 2.51-3.25 | MA | Mostly Acceptable |
| 3.26-4.00 | CA | Completely Acceptable |

Furthermore, Table 3 shows that SCL milieu, attitude and cognitive aspects were interrelated to each other having a p-value 0.00 at α 0.05. Both milieu and cognitive (0.61); and attitude and milieu displayed moderate relationship rho=0.55 while cognitive and attitude displays a high positive relationship (0.82).

**Table 3: Relationship between Milieu and Cognitive, Attitude and Milieu, and Cognitive and Attitude aspects of Student-Centered Learning**

| Variables | Mean | Correlation | p-value | Interpretation |
|---|---|---|---|---|
| Milieu & Cognitive | 2.82<br>3.20 | 0.61 | 0.00 | Moderate positive relationship |
| Attitude & Milieu | 3.27<br>2.82 | 0.55 | 0.00 | Moderate positive relationship |
| Cognitive & Attitude | 3.20<br>3.27 | 0.82 | 0.00 | High positive relationship |

## Discussion

### Milieu Aspect of Student-centered Learning

The milieu is a critical variable in facilitating student-centered learning (SCL). It is an environment in which relationship with each other in a classroom develops [4]. It encapsulates not only the external (physical) aspect but also the social component of a learning space. It is always a fact that when students know something that others can learn from co-students are motivated to think deeper some more. The freedom of him unleashing deep seated information he had doubt of whether he is right or wrong can create an unexpected confidence because he is able to expound the schema of where he is coming from for his reasoning. If students can communicate freely among them, they tend to present argument that even facilitators can use to ignite others to participate in the deepening of knowledge. In this study, both the physical and social aspect of SCL milieu was assessed at a satisfactory level of implementation. This showed that the current implementation in terms of milieu was assessed as good enough or mostly acceptable in enabling student-centered learning. This can be attributed to the transitions made by the university from regular classroom into what they called "interactive classroom". The concept of traditional learning is the presence of an authority about the subject matter who can feed the inquiring minds of the students and the students are limited with only the things they are required to do by the authority where most of the time, they are made to to listen. Even the physical set up of the classroom is dominated by an impression of grandeur whoever is seated in front of all the students. Traditionally, regular classroom is where teacher's table is stationed at the centerstage in front and the students are set as audience at the back to nowadays trend, research locale's classrooms' face was changed to where there are round tables equipped with Wi-Fi and LAN connections for internet, with power socket where gadgets can be charged, with nine 32 inches LCD that surrounds the classroom so those who are visually challenged, and with touch screen and scribble-ready large screen that replaces white board and colorful chairs that helps in brain stimulation. This new learning spaces intend to provide opportunity to decentralize learning to allow students to collaborate and talk to each other and work with their teacher [5].

In the new interactive classroom, the students are more engaged because they don't just play as plain passive listener to their teacher instead, they are orchestrated in groups to interact with another. The current classroom supports the students to be more socially engaged as they take part on different educational activities. The less formal setup of a modern classroom maybe subject to question on the bases of gratitude and respect to the teacher, but, what is evident is that student are less reserved in their way of putting some points to consider in the discussion that encourages other students to present another point. This kind of freewheeling discussion setup encourages the whole class to enjoin the class's vibrant discussion of a topic. Facilitators, however, must not only be tactful but quick to send signals in pursuing valuable context to put some direction and focus.

### Cognitive Aspect of Student-centered Learning

According to Vygotsky, learning is a socially mediated process [6]. Students develop cognitively by interacting with peers. The social interactions involved in SCL pedagogy, students were encouraged to hypothesize, experiment with new ideas, receive feedback and learn from classmates. The result of this study provides another evidence that student-centered learning satisfactorily promotes cognitive skills. Studies show that active learning results cognition development greater or equal to the use of passive instructional techniques [7]. In student-centered environments, the individual assumes responsibility for exploration and hypothesis formation through personal interactions with groups, individuals, and objects, thereby increasing the cognitive demands associated with learning. As we migrate the student's cognitive skills the SCL way, do not discount the necessity of our traditional teachers to migrate as well. This is a two-way process of paradigm shift if we want a result that is emulating and acceptable.

In this study, SCL was implemented in nursing as mostly acceptable to stimulate reasoning and inventive skills while it was completely acceptable to support development of innovative and critical thinking skills. The result of this study conformed with recent researches that suggest that cognitive tools can be scaffolded in student-centered learning environments. This may be attributed that the new commonly used strategies like information seeking, information presentation, knowledge organization, knowledge integration, problem solving and knowledge generation activities which are geared toward more on the direction of development of innovative and critical thinking skills, inventive and reasoning skills in student-centered learning.

In SCL classroom, students were enabled to develop their innovative skills [8] through varied activities that was done independently or in collaboration with other students. Studies have shown that creative thinking was enhanced by SCL [9]. This may be caused by the techniques employed where students actively engage in group dynamics and other activities that require sharing

of thoughts and making decisions that's crucial in developing critical thinking. Students are immersed on a day to day basis in classroom engagements where higher order thinking are the expected outcome. Being in the academe myself for almost two decades, the said scaffolds of learning is never acquired through structure or procedure prescribed in any book. This is embedded in an open source idea coming from students as they lay arguments about a topic discussed at hand. This deepening and enrichment earned while discussion is ongoing, continuously delve into a melded web of information that brings out quality of reasoning unexpectedly valuable for the whole class to re-evaluate certain concepts. Quite outstanding to note is the interest and enthusiasm this SCL have created.

## Attitude Aspect in Student-centered Learning

Attitude can critically affect every aspect of a person's life, including their learning. Student's attitude towards specific learning platform determine their ability and willingness to engage and learn. If negative attitudes are not altered, a student is unlikely to continue his education or might transfer to other learning institution. Unpredictably, considering that 78% of the respondents were molded up in a teacher-centered learning environment, table 1 showed that nursing students assessed student-centered learning instructional approaches as very satisfactorily leading to positive student attitudes. The finding of this study negated the claims of a study done in Hongkong that despite their effort, students in Hong Kong still tend to be traditional learners who rarely experience real student-centered learning [10]. This may be inferred that even if most of the students has been strongly rooted from a teacher-centered learning environment, when the students are well primed about the advantages of SCL prior to its implementation their attitude towards SCL becomes positive. With the group-related activities involved in SCL like round robin, role play, problem solving, project-based, etc., students become more self-directed, expressive and collegial and appreciate SCL even more. SCL facilitators believed that nursing students should be wheedled to participate in the classroom even though many of them are reluctant to voice their opinions at the beginning [11].

Overall, nursing students' assessment of attitude, milieu and cognitive aspects of SCL implementation in a private university revealed as mostly acceptable. Although seemingly, transitioning from traditional teacher-centered to active learning pedagogy like SCL gained cooperation and appreciation from the nursing students, there are other areas to improve on. To name a few is provision of sound-proof rooms, ascertained functionality of the technical gadgets and only few rooms have been set-up to fit SCL implementation.

Furthermore, based on table 2, overall assessment of attitude, milieu and cognitive aspects of SCL implementation was mostly acceptable almost parallel across all ages, sexes and pre-college teaching methodology of nursing students. Despite that the respondents belong to different age generation (Millennials and Gen Z), when it comes to learning and education, they share similar qualities of searching for continuous development that both generation ages find in SCL. Both modern ages and sexes seemed to dislike sitting down in a room all day and get bored. With SCL, they get more control over how they spend their learning time, stimulate their critical thinking, communicate effectively, innovate and collaborate with other students. These skills are very important when they become registered nurses and when there are no more clinical instructors who will be looking over their shoulders when they care for their patients.

Table 3 shows that SCL milieu, attitude and cognitive aspects were interrelated to each other having a p-value 0.00 at $\alpha$ 0.05. Both milieu and cognitive ($r = 0.61$); and attitude and milieu displayed moderate relationship ($r=0.55$) while cognitive and attitude ($r=0.82$) displayed a very strong positive relationship. Results showed the dynamism of three interrelated factors on how each play an important role in honing the students learning process. The figures suggested that when one enhances the environmental aspect, an expected increase will likewise happen to both the behavioral and the intellectual component. The result supported the theory of Bandura proposing that the learning process of student are interwoven by three variables namely: environment, behavior and cognitive entity [12].

## Conclusion and Recommendations

Despite being rooted from traditional teacher-centered learning environment for a long time, Filipino nursing students mostly accepted the transitioning to a student-centered learning environment. Evidence seemed to point out that nursing students mostly accepts that SCL enhances self-directedness, inventive skills, reasoning skills and completely accepts that it makes them even more innovative, critical thinker, expressive, and collegial. Data further revealed that students seem to undergo metamorphosis in active learning environment that SCL offered. More than the positive evidences gathered in the data, what is most encouraging is the confidence that is built within the person that will arm him to face the

world of uncertainties and become the model of a new generation of adult learned individual.

While high level of acceptability on the part of students as evidenced by this research becomes a given, a full circle of remediation, training of facilitators and support in all aspect entails the administrators to fully consider the new shift. However, study showed that in the face of favorable assessment of SCL implementation, still it stresses rooms for improvement. The study highlights further enhancement of physical and social milieu of SCL so that nursing student's cognitive skills and attitude will correspondingly improve.

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