

# **Kinesthetic Learning Style and Structured Approach to Learning as Most Preferred by Nursing Students**

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## **ABSTRACT**

The learning process has been the focus of numerous studies, but remains complex and affected by many factors. Since hardly any attention has been paid to how students learn and how teachers teach in many institutions, this quantitative descriptive-correlational study was conducted to determine the learning styles and attitude towards learning of nursing students. A sample of 304 nursing students was selected from all the nursing schools in Marawi City, Philippines using stratified proportionate random sampling technique with replacement. Results revealed that the four learning styles (Visual, Auditory, Tactile, and Kinesthetic) were found to have been used by the students simultaneously as major learning styles and most of them expressing a preference for kinesthetic learning style (78%). On the other hand, they expressed a minor and negligible preference for group Learning. The results of the questionnaire on the attitude towards learning revealed a high level of academic comfort and a preference towards structured, spontaneous, and person-centered approaches to learning. The study concludes that out of the six learning styles tested; only group learning style is found to have no significant relationship with the participants' attitude towards learning. Based on the findings, the researcher recommends that faculty members should take into consideration the differences among the students when designing the course material.

**Keywords** — Social Science, learning styles, attitude towards learning, quantitative research, Marawi City, Philippines

## INTRODUCTION

Educators have long been interested and fascinated by how students learn. In this regard, there have been various research studies focused on learning styles. Despite these academic investigations, how students learn and how educators can facilitate this process continue to be of primary importance. The teaching-learning process often becomes a struggle as educators attempt to impart information and knowledge to students in the hope that such knowledge are absorbed to the maximum. There are probably many ways to teach as there are many ways to learn.

Various studies have established that students differ greatly in how they learn and their attitude towards learning. Draper (1989) conducted a study that assessed the learning styles of college students. It was found out that most of the respondents preferred kinesthetic learning, were independent learners, preferred written as opposed to oral examination, and spent majority of their study time in reading. Frankel (2009) conducted a study to explore staff learning styles in three main categories - visual, auditory and kinesthetic learning. The study explored whether recognizing nurses' learning styles could help integrate theory and practice. The findings suggest that staff predominantly prefer kinesthetic or visual learning, with auditory the least preferred. The findings suggests that being aware and considerate of individual learning styles is a prerequisite in designing effective training programs. A study of Hauer (2005) to assess the learning style preferences of students enrolled in various allied health professional programs indicated similar learning style preferences from these groups and exhibited a close balance between all learning styles. The study recommended that there is a need to focus on student learning styles and their impact on the educational process. Park, Endo and Goodwin (2006) concluded that Filipino students preferred to learn more through their visual, and kinesthetic senses were more teacher motivated and preferred to learn in a greater variety of ways.

Different bodies of literature depict varying opinions and findings on the students' attitudes towards learning. According to Yara (2009), attitudes of students can be influenced by the attitudes of their teachers and their style of teaching. Adesoji (2008) have concluded that some factors have been identified about students' attitude to learning. These factors include teaching methods,

teacher attitude, influence of parents, and cognitive styles of pupils.

However, it is unfortunate that some academicians teach students without having much consideration of the way students learn. Many lecturers know how themselves and their approach towards learning, but are not sensitive as to how their students learn.

There is a need to find ways and means to encourage the two different cultures of 'students' and 'faculty members' to dialogue and to mediate in defining the future of nursing. Analyzing how students learn, as well as acknowledging and attempting to understand the socially conditioned knowledge they bring to the classroom will contribute to the enrichment of their learning process. The results of the study can be used to facilitate dialogue between students and faculty members on the nature of the learning process, and what can be done to improve it. Hopefully, it will enable nursing students to get more of the academic process.

## **FRAMEWORK**

The independent variable is the participants' attitude towards learning. The dependent variable is the learning styles of the participants. An independent variable is assumed to have an influence on the dependent variable. Although numerous internal and external factors influence learning style, the study focused on the relationship of learning style and attitude towards learning of nursing students.

The Learning Styles Model as developed by K. J. Dunn and R. S. Dunn (1978) influenced the study. The Learning Styles Model is built on the theory that each individual has a unique set of biological and developmental characteristics. These unique characteristics impact substantially on how a person learns new information and skills.

The study was also influenced by Bruner's Constructivist Theory (1987). It asserts that learners do not simply absorb and store information, instead, they make active interpretations of experiences and draw from them sound independent conclusions.

## **OBJECTIVES OF THE STUDY**

The study intended to identify the learning styles of nursing students and their attitude towards learning in the different schools of nursing in Marawi City, Philippines. The study also intended to discover the relationship between the participants' learning style and their attitude towards learning.

## METHODOLOGY

### Research Design

The study utilized quantitative descriptive-correlational design. The descriptive design was used to describe the attitude towards learning and the learning styles of nursing students who were enrolled in the Bachelor of Science in Nursing in all the nursing schools in Marawi City during the First Semester of School Year 2014-2015. The correlation method of research was used to investigate the significant relationship between the learning styles and the attitudes towards learning. The degrees of a relationship were expressed through correlation of coefficient.

### Participants and Settings

To determine the learning styles of nursing students and their attitude towards learning, the researcher utilized probability sampling in which all the members of the entire population are given a chance of being selected. The setting of the study included all nursing schools (College of Health Sciences, Mapandi Memorial College, Lanao Islamic Paramedical College Foundation, Inc., Jamiatul Mindanao Islamic Foundation, Mindanao Institute of Health Care Professional, Safrullah M. Dipatuan Foundation Academy, Cali Paramedical College Foundation, HOPE Healthcare Institute), which were located in Marawi City, Philippines as the locale and focus area of the investigation. The participants of the research consisted of 304 nursing students who were randomly selected using the proportionate stratified sampling with replacement from a target population of 1,239 nursing students from all the nursing schools. This was conducted to provide the researcher with a wide breadth and diversity of students to be represented in the sample group. The participants were regular nursing students who were enrolled in the Bachelor of Science in Nursing program during the First Semester of School Year 2014-2015. The vast majority of the participants were single, female Meranao students with ages ranging from below 18 to 21 and above, with a median age of 18. The participants were evenly distributed in all year levels. However, the majority of the participants belong to the first two year levels, with passing to excellent grades. Most of them are from private schools.

### Data Collection

The researcher requested permission to seek the participation of the students from the Deans of the nursing schools prior to the conduct of the study. The

randomly selected nursing students were invited to participate in the research study; those who declined to participate were replaced. The purpose of the research was explained briefly to them after class. Students expressing interest in participating in the survey were given a consent form. After consent was obtained, the students were given standardized information on how to answer the questionnaire, placing emphasis on honesty in answering the questions, and assurance of confidentiality of the results; then each student was given a copy of the Learning Style Questionnaire along with a scoring sheet to complete. A questionnaire to determine their attitude towards learning and a demographic sheet that asked for basic student information were provided. Thereafter, the accomplished forms were returned to the researcher for verification of compliance with directions and for the accuracy of scoring.

### **Data Analysis**

To determine the type and strength of learning style of the participants and their attitude towards learning, the researcher used a structured three-part questionnaire. Part I dealt with the profile of the respondents.

Part II consisted of a descriptive survey instrument called the Learning Style Preference Questionnaire (LSPQ) developed by Reid (1995) which was incorporated into the questionnaire that was used by the researcher. The questionnaire assessed the preferred learning styles of the students based on how students learn best using their perceptions: Visual, Auditory, Kinesthetic, and Tactile preferences, and two social aspects of learning: Group and Individual preferences. The advantages of the instrument are many; it is easy to administer, it is easy to interpret, it is self-scoring, and not scored by an external agent, it is relatively quick to administer and complete, it has easily reportable scales, and it has reliability and validity supported by research (Reid, 1987).

DeCapua and Wintergerst (2001) in their study on the construct validity of one learning styles ran Reid's LSPQ through a reliability analysis to examine the internal consistency in each scale. The results showed the scale alpha for each learning style as follows- Visual (Cronbach's  $\alpha=0.53$ ); Auditory (Cronbach's  $\alpha=0.48$ ); Kinesthetic (Cronbach's  $\alpha=0.69$ ); Tactile (Cronbach's  $\alpha=0.59$ ); Group (Cronbach's  $\alpha=0.87$ ); and Individual (Cronbach's  $\alpha=0.75$ ).

The survey consists of 30 self-report statements. The inventory was self-scored by the students, and the raw scores were obtained for each of the learning style categories. The score on each item/statement for each learning style were

summed, and the sum for each learning style was multiplied by two. The learning style categories with the most points determine an individual's preference for those categories.

Part III consists of seventeen (17) items with subscales to determine the students' attitude towards learning. The subscales included the level of academic comfort (1-5); structured approach (6-8); spontaneous approach (9-11); person-centered approach (12-15); and objective approach (16-17). The statements are concerned with how the students think and feel about learning, including what they pay attention to, what they expect from learning, and what motivates them to learn. Pilot testing was conducted to 10 individuals who were not part of the study but who shared similar characteristics as the participants.

The data were analyzed using the Statistical Software for Social Sciences. The following statistical tools were utilized in analyzing the data: Scoring was used for the standard instrument which measured the students learning styles and their attitude towards learning. The ranking was used to determine the learning style based on the statements given them. After which, the respondents' responses were counted in frequencies and percentages and ranked from the highest count to the lowest. Weighted Mean was used to determine the average value of the participants' responses on their attitude towards learning. Lastly, to find out possible correlation and significant relationship between the participants' learning styles and their attitude towards learning, Spearman Rho Correlation was utilized due to the level of measurement used in the variables' scale which is ordinal.

## **RESULTS AND DISCUSSION**

The findings revealed that majority of the participants preferred kinesthetic learning style (78%) as their major learning style. This result was followed closely by auditory learning style (76.6%); visual learning style (67.1%); individual learning styles (65.5%); tactile learning styles (62.5%); and lastly, by group learning style (47.7%). Conversely, the minority of the respondents at 21.1% has Kinesthetic as their minor learning style preference; followed by auditory with 23.0%; visual and individual learning styles come next, both with 31.3%, and tactile learning style with 34.9%.

Overall, kinesthetic learning, when compared with the other learning styles, was the participants' major learning style. Consequently, the majority of the participants have group learning style as their minority learning style preference (42.0%). We can see that students were not in favor of group learning compared

to the other modes of learning. It implies that only a minority model their study habits after this style. Kinesthetic learning style is the most popular major learning style but the least popular as a minor learning style. This result implies that nursing students feel the need to move around to learn more easily. To further support this finding, Draper (1989) had listed kinesthetic learning as the most preferred learning style among the respondents in his study "Continuing Education for College Students based on Learning Style Research".

The findings also revealed that the relationship between the frequency and distribution of the learning styles as either major or minor is inversely proportional. The finding showed that since majority of the participants use kinesthetic as a major learning style, only a few participants use kinesthetic as minor learning style. This is because one cannot use a specific learning style as major and minor learning styles simultaneously.

Humans, by nature, are born auditory. Since a baby's vision is fuzzy when born, he/she relies on his/her hearing. As they become toddlers, they become visual since their vision has been defined. They are fascinated by shapes and colors. When they become adolescents, they become more kinesthetic since they move around more often. This is prominent in the case of nursing students who are required to be mobile often. This aspect of not being able to stay in one place becomes ingrained in their system, and soon in their study habits and learning style. This trait might be the reason why kinesthetic ranks first and auditory and visual next since people are nothing without the learning styles they are born with.

The group learning style which is not exactly a learning style but a social aspect of learning ranked the lowest. Most of the participants were female Meranaos, who are by tradition conservative and do not feel comfortable when in a group even for studying purposes. As further proof of this, individual learning style ranked quite high in the social aspect of learning which would imply that participants can study better alone.

The participants' responses tend to center on the highest score in all statements pertaining to *academic comfort*, which indicated that the participants have a high level of comfort in the academic setting and that they are in a situation wherein they feel secured and comfortable in their environment.

The participants generally agree to all statements pertaining to the structured approach to learning. For spontaneous approach, the participants' responses also tend to center on "Agree". Spontaneous learning is unstructured and informal. So there can be lots of gaps in knowledge that is accumulated this way. Teachers

should try to identify important missing knowledge components that they can follow up in a more structured way later.

The participants also agreed to the statements pertaining to person-centered approach. This result implies that teachers need to understand the potential of person/student-centered learning in comparison with traditional teaching styles. In a person-centered approach, the teachers act as facilitator of learning and not the provider of learning. This implies that teachers need to feel unthreatened when experimenting with this approach. In contrast, for objective approach, the participants' responses have a low median score of 2.0 which is interpreted as "Disagree". Based on their responses, the participants were not objective or analytical in their learning which implies that they depend on their teachers to provide them with the necessary knowledge they require in their academics.

The participants were also found to prefer the spontaneous and person-centered approach to learning, but do not favor the objective approach to learning. This implies that the respondents believe it as necessary to have a personal relationship with the teacher to excel. It is not surprising considering that in an objective approach to learning, inter-dependence between teacher and learner is essential.

Overall, the participants' attitude towards learning is structural in nature which means that they prefer the simplest solution path for a problem and then learning more complex paths until mastery of a concept is achieved.

The results of the study showed that out of the six learning styles mentioned, only group learning style is found to have no significant relationship with the respondents' attitude towards learning which means that group learning style does not have any bearing on the respondents' attitude towards learning.

The results further showed that the participants' attitude towards learning is positively correlated with all learning styles except group learning style. The positive correlation between these two variables entails a parallel relationship, which can be interpreted to mean that as the participants' preference for visual, auditory, tactile, kinesthetic and individual learning styles goes higher, their attitude towards learning also increases. Meanwhile, should their preference goes lower, it would follow that their attitude towards learning suffers.

It is not surprising that tactile learner is perfectly correlated with 100% confidence level to the participants' attitude towards learning. Tactile learners make up about 30% of the population (Fleming, 2009). A tactile learner picks up concepts through touch and movement. Tactile learners remember things that are done, rather than things that are seen or topics that are discussed. It is important

to note that student nurses are required to perform clinical procedures, and they cannot learn these effectively through reading textbooks alone. The textbooks and lab manuals provide learning opportunities that match the preferences of the visual and auditory learner, but student nurses need to perform these procedures hands-on for them to relate what they have learned in the classroom to a clinical setting.

The findings verify that students prefer to learn in ways that are personally unique to each student. The participants have different major learning styles which they may use simultaneously and which in turn affect their attitude towards learning and vice-versa.

The participants in the study were mostly in their adolescence. A typical adolescent is usually active and agile and, thus, wants to move around while learning. Some may want to be entertained while studying, whether by listening to music or watching videos of clinical procedures on the internet while others may want to study alone without the company of friends. According to Fleming (2009), a typical visual learner uses visualization techniques to remember things. Many prefer to read information in a textbook or on the whiteboard rather than listen to the teacher lecture. Visual learners typically use sight words in their everyday terminology. Auditory learners learn best by listening and talking aloud. They are good at remembering things that they hear. They often read to themselves as they study. They are also often distracted by noise and sounds. Kinesthetic learners typically learn best by doing. They enjoy learning through hands-on methods. They might pace while studying or take breaks from studying to get up and move around.

A limitation present in the study pertained to psychological types of the participants since it was only limited to the attitude of the participants towards learning. Further, the use of a questionnaire for assessing the attitude of participants towards learning employs quantitative survey scales with the assumption that different participants will interpret items in a similar manner.

The validity of the findings of this study must be viewed based on the research methodology and the number of participants which are limited to nursing students in Marawi City. While the conclusions may be applicable to this particular milieu, it would require further study to extend similar conclusions to other academic institutions. Any attempt to generalize conclusions based on the findings of the study, as applicable to other students in different educational facilities must further be validated.

## CONCLUSIONS

The study provided valuable information regarding the preferred learning styles of undergraduate nursing students. Some of the findings of the study agree with the Constructivist Theory and the Learning Styles Model of K. J. Dunn and R. S. Dunn (1978), as well as the results of previous learning style studies, lending support to the construct validity of the Learning Style Questionnaire.

Majority of the respondents are kinesthetic learners having kinesthetic style as a major learning style while having group learning style as their least preferred, ranking first as minor and negligible learning styles. A number of significant correlations were found between the learning styles of nursing students and their attitude towards learning. The researcher also found out that students learn differently. When teachers are teaching in ways that are compatible with their personal styles and strengths, both students and mentors are likely to benefit. Knowledge of learning styles encourages every student to draw from his natural strengths.

The positive effect of students discovering their learning styles preference cannot be measured easily, but it has significant implications for future personal and professional relationships. Identifying one's preferred learning style and how their attitudes affect their learning could also provide an advantage academically. Students frequently expressed both surprise and pleasure in discovering their learning style preference. It was also a rewarding experience for the researcher to provide this service to students during data collection.

The tremendous amount of complex, theoretical content that must be processed in a short period complicates the learning process for many nursing students. Nursing theory and theories from other disciplines must be committed to long-term memory so that it is readily available for future clinical decision-making. Many nursing students are kinesthetic learners and "hands-on" learners. They usually want to provide care for a patient with a specific problem or disease process so that they may properly understand the theory behind the disease. Since clinical experience is limited, students must understand the theoretical content without the benefit of linking theory to practice in the clinical area.

They may find situations in the clinical setting or hospitals that may contradict with what they have learned in the classroom as the ideal safe nursing practice. Although learning by experience in nursing is highly desirable, it is often limited in many situations. Theoretical content obtained by rote memorization of facts and by learning basic principles provides the knowledge base of nursing

practice theory and practice complement, but the ability to apply principles and see relationships is essential to critical thinking and problem solving in complex clinical environments. Both rote learning and meaningful learning are necessary for learning and acquiring knowledge. Thus, it is essential that teachers understand the different learning styles of students and use a variety of teaching-learning methods in the classroom.

Some issues emerged from the study such as the inevitable mismatch of learning and teaching styles between teachers and students in the classroom. Nevertheless, when teachers teach students in ways that agree with their personal styles and strengths, both are likely to benefit. Nursing faculty can certainly help students identify their preferred learning styles and strengthen their natural abilities while at the same time teaching in a manner that will emphasize their own strengths. Teaching and learning practices in nursing education must be improved. Learning style is a concept that can be of importance towards this end.

## **TRANSLATIONAL RESEARCH**

Students will be given a Learning Style Questionnaire at the start of school year to evaluate their learning style preference and that there should be an effort from the educator's side to accommodate those differences in the classroom. When the learning styles are determined, it is suggested that instructor takes into consideration the differences among the students when designing the course material. A variety of the materials will be incorporated in the classroom.

Additionally, students' study centers will be established in the school premises to cater the social preference of students to study individually. Instead of written reports, practicum should be used instead, as it would measure whether or not a nursing student can really use it in real-life experiences different from things he/she read.

Projects which are student-centered will be incorporated into the curriculum. An example would be actual hands-on experience wherein a student would interact with his or her patients. Teachers should also be more systematic and organized when giving their lessons so students would easily understand.

While the study was conducted locally, its findings certainly can be applied to educational institutions in other countries. Making adjustments for cultural differences, the findings on learning styles of students may be utilized by teachers in foreign educational institutions to create their own optimal learning models.

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