

Gender Differences In Learning Style Preferences Among Veterinary Medicine Students

Jose A. Escarlos Jr., Gladys S. Escarlos

Abstract: Learners have preferences for the ways in which they receive information. Knowing the learning of student is a valuable skill in education. Knowledge of learning style may help educators identify and solve learning problems among students. The study aimed to determine the learning styles of male and female among 3rd year to 5th year veterinary medicine students of Central Mindanao University. A VARK questionnaire was used to gather the data needed. Descriptive statistics such as frequency count and chi-square analysis were used to describe and analyze the data. Study revealed that majority of the 3rd year to 5th year veterinary medicine students of Central Mindanao University were visual learners and there is no significant difference on the learning style of the respondents when group according to gender.

Index Terms: Gender Differences, Learning Styles, Students Preferences, VARK

1. INTRODUCTION

The most important goal of education is to teach students how to learn on their own. It is vital that students acquire the skills of how to learn, and that skills enable them to learn not just while they are in school but for a lifetime. Equally important component is the teaching and learning process. Teaching is the stimulus, and learning is the response. The quality of learning attained by the students is related to the quality of teaching done by the teacher. Better teaching should always bring about better learning and better learning should always show better teaching and the test of most effective teaching is effective learning. It can be said, therefore, that teaching and learning supplement and complement each other. Gregorio (1986) pointed out that teachers will not succeed in teaching without understanding the learner and how learning takes place. The learner must be recognized as the center of educative process. Hence, it is necessary to study his characteristics, needs, capacities so that ways and means may be devised to enhance his ability to assimilate learning. According to Froebel, an education psychologist, methods of teaching must find their basis in psychological principles and must correspond to the normal type of mental and motor responses through which learning is regularly achieved. So that learning may be most productive, the teaching method must be the best. It is the work of the teacher to stimulate the thinking power of the learner to react effectively to the subject matter. Finding out what goes on in the mind of the learner must be made the starting point in every teaching principle. It should be remembered that learners have different ways of learning and manner of processing information. Likewise, they have preferred ways of expressing thoughts, feelings and ideas, these preferences involve thinking/learning style (Drysdale, 2001).

It is imperative to know the learning style of the 3rd year to 5th year veterinary medicine students of Central Mindanao University considering the kind of subjects and curriculum. While it is true that knowledge acquisition is important because of the nature of the subject, but, the guiding principles concerning the nature of the learner must be taken into consideration. It must bear in mind that the nature of the teaching should determine the nature of learner rather than nature of subject matter.

2 REVIEW OF RELATED LITERATURE

2.1 On Learning Style

Learning style refers to individuals' characteristic and preferred ways of gathering, organizing, and thinking about information specifically deal with characteristic style of learning that is how one learns (Fleming, 2001). It is also the way people begin to concentrate on, process, internalize, and remember new and difficult information. It is comprised of both biological and developmental traits that make the same environments and resources effective for some people and ineffective for others (Dunn and Dunn, 2010). The learning style is affected by individual traits such as personality, cognitive styles, temperament, sensory processes and age. Fleming (2001) developed a VARK model which is based on a person's preference for particular types of external events to stimulate their senses to help them learn. He categorizes student learning based on the sensory preference of the individual. Students with a (V) visual preference learn best by seeing or observing (drawings, pictures, diagrams, demonstrations, etc. Learners that prefer (A) aural are best suited to learn by listening to lectures, discussing materials, talking through material with themselves or others. (R) read-write learners learn through interactions with textual materials. (K) Kinesthetic style learners perform best by using physical experiences: touching, performing activity, moving lessons that emphasize doing, manipulation of objects. Student learners are capable of using all of these sensory modes of learning; however each individual has a unique preference, or set of preferences, in which one mode is dominant. Learners with a single learning style preference are referred to as unimodal, whereas others preferring variety of styles are known as multimodal. Of the multimodal learners, there are sub-classification for bi-, tri-, and quadmodal learners who prefer to

- Jose A. Escarlos Jr. is a faculty of College of Veterinary Medicine of Central Mindanao University. E-mail: joseescarlos@gmail.com
- Gladys S. Escarlos is a faculty of the Professional Education Department of College of Education, Central Mindanao University. E-mail: gladyssahaqun@gmail.com

user two, three, or four styles respectively. In the study of Marzano (1998) he found that graphic and tactile representations of the subject matter had noticeable effects on learning outcomes regardless of any attempt to match them with learners' modalities (learning preference or style). Another study found that visual presentation through the use of pictures was advantageous for all adults, irrespective of a high or low learning style preference for visual images. In addition, it was especially advantageous for those with a strong preference for verbal processing (Baker, 2002). Dunn (2010) mentioned that most people have learning style preferences, but they differ significantly from each other. The stronger the preference, the more important it is to provide compatible instructional strategies. Accommodating individual learning style preferences through complementary educational, instructional teaching, and counseling interventions results in increased academic achievement and improved learner attitudes toward learning. Bennett (1990) stated that learning style is a consistent pattern of behavior and performance by which an individual approaches educational experiences. It is the composite of characteristic cognitive, affective, and physiological behavior that serve as relatively stable indicators of how a learner perceives, interacts with, and responds to the learning environment. People prefer to use different sensory modalities when they process information and demonstrate a distinct ability for remembering complex information better or less well by hearing, seeing, or experiencing or mastering it through hands-on learning (Tenedero, 2011). Students preferentially take in and process information in different ways: by seeing and hearing, reflecting and acting, reasoning logically and intuitively, analyzing and visualizing, steadily and in fits and starts. Teaching methods also vary. Some instructors lecture, others demonstrate or lead students to self-discovery; some focus on principles and others on applications; some emphasize memory and others understanding. In the study of Felder and Silverman (1988), mismatches exist between common and traditional learning style and traditional teaching style, accordingly, instructors who adapt their teaching style with the student learning style provide and optimal learning environment for most in a class. In most cases, professors will teach the way they were taught even to the detriment of student learning. In Ideal setting, matching teaching strategies to students' preferred learning style not only promotes understanding but information is likely to be retained leading to higher level of understanding (Wittmann Price & Godshall, 2009). According to Bastable (2008), information that is delivered in a style that matches the student learning styles promotes understanding that leads to the retention of new information at a conceptual level, versus surface learning that only requires memorization. On the other side, discounting learning style can lead to bored, unresponsive class participants, which in turn affect grades and attendance rates, therefore leading to a loss in satisfaction. Learners make the most out of information when they can select information and organize it into representations that make sense to them. (Coffield, et.al., 2004) emphasized that it is important to match presentation with the nature of the subject, such as providing correct learning methods, strategies and context rather than matching individual preferences. Learning style is independent of intelligence oftentimes people have preferred learning styles but may switch styles depending on the problem. Pritchard (2005) drew attention to VARK learning styles. He argued that learners may not only

have preferred learning styles but expectations concerning the nature of the learning material. Problems may arise if the learner is expecting visual material and is presented with a kinesthetic approach without explanation. David Merrill (2002) has the best philosophy for using learning styles – instructional strategies should first be determined on the basis of the type of content to be taught or the goals of instruction (the content-by-strategy interactions) and secondarily, learner styles and preference are then used to adjust or fine-tune those fundamental learning strategies. Finally, content-by-strategy interactions take precedence over learning-style-by-strategy interaction regardless of the instructional style. Knowledge of one's learning style can be used to increase self-awareness about their strength and weaknesses as learners. While it is a goal for all teachers to achieved learning and improved student motivation and performance it is important to adapt teaching approaches to meet the different style preferences of the students. It is important to note that many of the theoretical works of learning styles are not gender-based. They are instead based on differences of students learning styles.

2.2 On Gender

Girls and boys differ fundamentally in the learning style they feel most comfortable with. These differences derive both from basic physiological differences, such as differences in the ability to hear, and from differences in higher-level cortical functions. It has been reported that males have a preference for rational evaluation and logic, whereas females use "elaborative" processing in which they tend to seek personal relevance or individual connections with the material being taught (Cheong, 2004). In addition, males tend to be more achievement oriented, whereas females are more socially and performance oriented (Chang, 2004). On the other hand, there are gender-specific personality traits which affect how children learn, it is assumed that gender differences in personality were socially constructed. The genders also differ in their beliefs about what is most important to student learning, with females ranking social interaction with other students and self-confidence is higher than males (Brassard, 2004). Furthermore, males are likely to attribute their success in the classroom to external causes, such as teaching, whereas females generally see their success as being directly related to their efforts in the classroom (Velayo, 1996). This suggests that males tend to be more externally focused, but females tend to be more introspective and self-critical. They further found fundamental differences in the factors motivating girls versus factors motivating boys. Most boys will be less motivated to study unless the material itself interests them. Another study conducted on best practices for teaching Mathematics and Science, it was observed that boys stimulate their interest by focusing on the properties of numbers per se while girls want to tie the topics into the real world – keep it real and keep it relevant. Hence, there are no differences in what girls and boys can learn but there are big differences in the best way to teach them. Both are equally capable of learning the material but teach the material in various ways to make it easier for girls and boys to understand (Feingold, 2002).

3 METHODOLOGY

The research is a descriptive method. It determine the learning

style of selected 3rd year to 5th year veterinary medicine students of Central Mindanao University. The study was conducted at College of Veterinary Medicine, Central Mindanao University for school year 2012-2013. The respondents of this study were selected 3rd year to 5th year veterinary medicine students of CMU. They were subjected to VARK questionnaire. There were 60 respondents in this study 30 males and 30 females. The questionnaire has two parts. Part A described the age and gender. Part B is the VARK questionnaire. Respondents choose answer per items to describe their learning style. Descriptive statistics were calculated for the profile and VARK questionnaire. It uses percentage to determine how many males and females and learning style. The VARK questionnaire developed by Fleming (2004) was used to determine the learning style. The questionnaire is a freeware. The total number of student responses in the VARK questionnaire was tallied. Learning style for male and female were computed using chi square.

4 FINDINGS

There were 60 questionnaires distributed randomly selected 3rd year to 5th year veterinary medicine students of Central Mindanao University. The respondents were equally distributed in terms of gender. The learning style of male and female were evaluated using the VARK questionnaire. Result shows and according to its final result which is shown in figure 2, majority of the respondents showed strongest preference in visual modality. Specifically, there were 10 males and 11 females who preferred visual mode of information presentation. This was followed by kinesthetic learning style which composed of 8 males and 9 females.

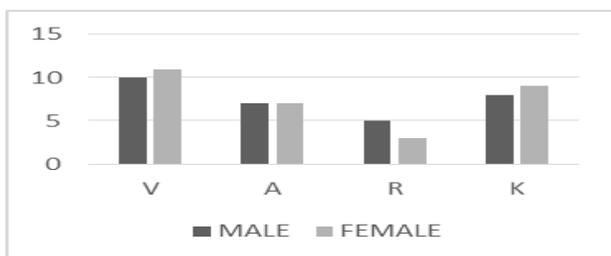


Figure 1. Distribution of Learning Style According to Gender.

Figure 1 noted that both male and female students are dominantly visual learners. This shows that students prefer to learn by visual. Visual learners should be stimulated with depictions of information in charts, graphs, flow charts, symbolic arrows, images and other devices that instructors use to represent what could have been presented in words. This is followed by Kinesthetic which means that the students preferred to move while learning.

Table 1. Significant difference on the learning styles of the respondents when grouped according to gender.

| | Value | Df | P value |
|--------------------|-----------|----|---------|
| Pearson Chi-Square | 35.846(a) | 27 | .119 |

Table 1 shows the chi-square test of differences in terms of learning styles between male and female of selected 3rd year to 5th year veterinary medicine students of CMU. The result shows that there is no significant mean difference in the learning styles between male and female. As reflected by $\chi^2 =$

35.846, with $p=0.119$ which is greater than $\alpha= 0.05$. This means that males and females have the same preference in learning style. Moreover, the respondents are made up of balanced learners where in there are groups of Visual (V), Auditory (A), Read-write (R), and Kinesthetic (K) learning styles.

5 CONCLUSION

Study revealed that the respondents learn well visually. Generally, the result shows that there is no significant difference on the learning style of the respondents when group according to gender. It is recommended that (1) identifying students learning style should be given into consideration and (2) the teacher should address the learning styles of the students to have better performance in their academic.

ACKNOWLEDGMENT

The authors would like to thank Central Mindanao University for funding this research.

REFERENCES

- [1] Bastable, S.B. (2008). Nurse as educator: Principles of Teaching and Learning from nursing practices (3rd ed.). Boston: Jones and Bartlett Publishers.
- [2] Baker, D. (2002). A guide to psychological debriefing: Managing emotional decompression and post-traumatic stress disorder. London, UK
- [3] Brassard C. (2004). Are learning patterns different on Mars and Venus? CDTL Brief 7: 5–6
- [4] Bennet, S.I. (1990). Comprehensive Multicultural Education, Theory and Practice, Boston: Allyn and Bacon Chang, W.C. (2004). Learning goals and styles by gender – a study of NUS students. CDTL Brief
- [5] Cheong E., Lie LY, Angelique L. How do male and female students approach learning at NUS. (2004)
- [6] Coffield, F. Moseley, D. Hall, E. and Ecclestone, K. (2004). Should we be using Learning Styles? What research has to say to practice. London: Learning and Skills Development Agency.
- [7] Dunn R., Grigg S. (2010). The Dunn and Dunn Learning Style model and Its Theoretical Cornerstone. New York: St. John's University Center for the Study of Learning and Teaching Styles
- [8] Drysdale G. 2001, the learning revolution, to change the way the world learns. Stafford; Network Educational Press LTD: 2001
- [9] Felder, R.M. and L.K Silverman. 1996. Learning and Teaching Style in Engineering Education. North Carolina State University, Raleigh. NC 27695-7905;6(4), 18-23.
- [10] Fleming, N.D. (1995). I'm different; not dumb. Modes of Presentation (VARK) in the tertiary classroom, in Zelmer, A., (ed) Research and development in Higher Education, Proceedings of the 1995 Annual conference of the Higher Education and Research Development Society of

- Australasia (HERDSA). HERSDA, Volume 18,pp. 308-313.
- [11] Fleming, N.D. (2001). Teaching and Learning Styles: VARK Strategies. Published by the author, Christchurch, New Zealand, 5th Edition, 2001
- [12] Fleming ND, VARK, A Guide to Learning Styles in the Tertiary Classroom, Christchurch, New Zealand; 2004
- [13] Froebel, DA. Spiritual Learning and Experience as the source of learning and development. Englewood Cleffs, NJ: Prentice Hall, 1984
- [14] Gregorio (1986). "The less of integrative modes of instructional learning in technology" Kendall/ Publishing Co.
- [15] Marzano, B. (1998). Learning Styles: A revision of Literature (1st draft). Australia: OPACS, The University of Southern Queensland
- [16] Merrill, D. (2002). Learning Styles: the multimedia of the mind. Education Resources Information Center (2002)
- [17] Pritchard, A. (2005) Ways of Learning, Learning Theories and Learning Style in the Classroom. London: Fulton Publisher.
- [18] Tenedero, H. S. (2011). Reviewing learning style and multiple intelligences. Breakthrough Education.
- [19] Tenedero, H. S. (2011). Learning and Teachings Styles, A Breakthrough. St. John's University, New York.
- [20] Velayo RS. (1996). Gender differences in the attribution of internal success among college students. Philadelphia, PA: Annual Convention of the Eastern Psychological Assoc., 1996
- [21] Wittmann-Price, R.A., and Godshall, M. (2009) Strategies to promote deep learning in clinical nursing courses. NursEducato, 34(5), 214-216