INTERNATIONAL JOURNAL OF MULTIDISCIPLINARY: APPLIED BUSINESS AND EDUCATION RESEARCH
2022, Vol. 3, No. 5, 758 – 766
http://dx.doi.org/10.11594/ijmaber.03.05.04

Research Article

Teacher Education Students' Preferred Learning Styles in the New Normal: Basis for Enhancing Pedagogies

Ma. Rosario M. Quejado, Reynald Alfred A. Recede*, Rosario B. Carnecer

College of Arts and Sciences and Education Pamantasan ng Lungsod ng Marikina Marikina City, The Philippines

Article history:
Submission May 2022
Revised May 2022
Accepted May 2022

**Corresponding author:*
E-mail:
reynaldalfred23@gmail.com

ABSTRACT

The students' preferred learning style is a very important part of the teaching and learning process. In selecting the most appropriate pedagogy to teach a lesson, the diversity of learners must be taken into serious consideration. The study examined the preferred learning styles of teacher educations students in Pamantasan ng Lungsod ng Marikina, Philippines during the time of the Covid 19 pandemic. A survey was conducted among 282 college students taking education course. Descriptive research design was used to analyze the data gathered during the investigation. Results showed that both male (WM=3.06) and female (WM=3.11) teacher education students scored highest on the visual learning style meaning they learn best when shown instructional materials in the form of pictures and videos. However, it was also revealed that female students learn better in terms of visual style as compared to their male counterpart. Hence, it is recommended that college instructors and professors consider and take a look at the teacher education students' preferred learning styles when crafting teaching strategies for their students even in remote learning in the time of pandemic.

Keywords*: Learning styles, teacher education, student preferences*

Background

Determining the students' preferred learning style is very important in the teaching and learning process. The diversity of college students in an educational setting vary in many aspects. Some students may prefer learning though visual means while some would prefer to gather information through auditory channels. Khan et al. (2019), explained that learners may have developed their own learning preferences. Students recognize their abilities and came up with ways in which they can learn the lesson better. According to Fleming as cited in Kamal (2021), he explained that most people possess a dominant or preferred learning style. These learning styles are visual,

How to cite:
Quejado, Ma. R. M., Recede, R. A. A., & Carnecer, R. B. (2022). Teacher Education Students' Preferred Learning Styles in the New Normal: Basis for Enhancing Pedagogies. *International Journal of Multidisciplinary: Applied Business and Education Research*. *3*(5), 758 – 766. doi: 10.11594/ijmaber.03.05.04

auditory, and kinesthetic. Miller (2001) argued that it is the role of educators and teachers to consider the diversity of students' learning preference. Identifying and employing appropriate learning styles could play an important part in selecting teaching styles which can improve the quality of education. Consequently, learning style is a complicated approach in which the learner should save, recall, and process the concepts in the most efficient and effective way. Therefore, it is apparent that teaching strategies have to be planned according to the learners' uniqueness (Peyman et al., 2014). Educators thought that success and motivation will be improved when learning style and education provided are in harmony with one another (Dunn et al., 2001). Student motivation has proved to play an important role in the teaching and learning process. Finally, teaching strategies are supposed to be in line with the abilities of the students like their learning preferences to enhance academic performance.

Researchers stated that learning styles are cognitive characteristics. Moreover, behavior and psychological learning styles are also the easiest way an individual has to absorb, regulate, and process information received by students (Bire et al., 2014). In addition, Neha, et al. (2015) stated that many researchers agree that the learning style of a student can have an impact on their performance in school. Because of this, understanding student learning styles is a very important thing to be able to help and guide students towards success and to avoid failure. It has been agreed by many that by understanding the learning styles and preferences of students, this will help to realize the learning process which will eventually be beneficial to students and teachers (Awla, 2014). Speaking in a broader perspective, the learning styles can be classified into three main types, namely cognitive, personality (psychology), and sensory. Sensory learning style can further be classified into three general learning styles that are often used and have been divided into three sub-types of learning styles by De Porter (2016), which include visual, audio and kinesthetic learning styles (Dornyei, 2005; Oxford, 2001). Interestingly, Kamal (2021), argued that students might not be aware which learning method is suitable for them.

The Covid-19 pandemic had a serious impact in the Philippine education system. The coronavirus outbreak called for educators in different places around the world to change their methods from traditional to a more adaptive, technological, and virtual way of teaching. The changes and adaptation of the educational process in the time of pandemic demanded for more practical and workable solutions (Krstić & Radulović, 2021). With the unexpected spread of the coronavirus, it may be expected that many students have been adversely affected which led to the development of strong negative emotions brought about by the sudden introduction into an unfamiliar and untested learning platform which resulted from unpredictable times. These sudden changes in the academic approaches and learning experiences may have been worsen by factors such as stress, reduced to no face-to-face social interactions, inadequate social interaction with personnel both academic and non-academic. Longer response time to electronic communications via e-mail or other online problems and prolonged screen time surely contributed to the students' dilemma (Adnan & Anwar, 2020).

Teacher education students in the Philippines are not exempted from the problem brought about by the pandemic. With the implementation of the synchronous and asynchronous platforms, learners are prompted with the problem of choosing which learning platforms will be most suitable that will fit their learning styles. Other factors such as lack of appropriate and quality devices, poor internet connection and students' financial problems even contributed to the stress experienced by Filipino students in the tertiary level. Even on the part of the faculty members and other personnel in the academe, it became a big challenge to go to the unchartered territories of online and remote learning. While physical and technical aspects of the learning process contribute greatly to the academic process, the readiness and acceptance of the students is one important aspect that must be considered. Studies have shown that college students have developed learning styles for them to learn efficiently. However, no investigation on the

teacher education students' preferred learning style in learning in the new normal has been explored. Hence, it is here that this study is considered important.

Purpose of the Study

The study investigated the preferred learning styles of teacher education students. Specifically, it sought to find answers to the following questions:

1. What is the demographic profile of the student-respondents in terms of:
   1.1 Sex
   1.2 Year Level; and
   1.3 Major?
2. What are the preferred learning styles of the student-respondents in terms of:
   2.1 visual;
   2.2 auditory;
   2.3 and kinesthetic?
3. Based on the result of the study, what can be recommended pedagogies to enhance the teaching and learning process?

Methods

The study utilized descriptive research design. The respondents of the study were 242 first year teacher education students and 40 second year teacher education students majoring in Filipino and Mathematics subjects. The respondents are in enrolled in Pamantasan ng Lungsod ng Marikina for the Academic Year 2021-2022.

Survey method was utilized in the study. The instrument, Barsch Learning Style Inventory was used in the study. This instrument was developed by Jeffrey R. Barsch, EdD in 1996. To determine the primary learning styles of young adults, BLSI's main purpose is to provide knowledge of their type of learning styles through a set of short answer questions. The purpose of the BLSI was to assess the learning styles of learners who are classified as young adults as well as younger learners. The Barsch Learning Style Inventory is composed of a total of 24 items. These 24 items are divided into three factors; 8 items referring to visual, 8 items referring to auditory and 8 items referring to kinesthetic learning styles. Items 2-3-7-10-14-16-20-22 pertain to visual learning styles, items 1-5-8-11-13-18-21-24 pertain to auditory learning styles and items 4-6-9-12-15-17-19-23 pertain to kinesthetic learning styles.

Weighted Mean was used to determine which learning styles were preferred by teacher education students.

Results and Discussion

Table 1 below highlights the weighted mean of the preferred learning styles of teacher education students in terms of auditory when grouped according to sex.

Table I. Preferred Learning Style of Teacher Education Students in terms of Auditory when grouped according to Sex

AUDITORY	Male		Female	
	WM	VI	WM	VI
I can remember more about a subject through listening than reading in online learning platforms.	3.0	HA	2.89	MA
I require explanations of diagrams, graphs or visual directions.	3.3	HA	3.18	HA
I can tell if sounds match when presented with pairs of sounds.	3.0	HA	3.04	HA
I can do better at academic subjects by listening to lectures and tapes uploaded in online learning platforms.	2.9	MA	3.05	HA
I learn to spell better by repeating the letters aloud than by writing the word on paper or typing them on the computer or y device.	2.91	MA	2.90	MA
I would rather listen to a good online lecture or speech than read about the same material in a website or e-book.	3.15	HA	3.08	HA
I prefer listening to the news on the podcasts rather than reading about it online.	2.9	MA	3.18	HA

AUDITORY	Male		Female	
	WM	VI	WM	VI
I follow oral directions better than written ones.	2.95	MA	2.96	MA
	3.02	MA	3.04	HA

Results showed that female students scored a weighted mean of (WM=3.04) which is better than the score (WM=3.02) of the male students in terms of the auditory learning style. It is important to note that both groups scored more than 3.00 which has a verbal interpretation of highly applies to me. This means that both male and female teacher education students learn through listening and making meaning out of sounds.

Table 2 below highlights the weighted mean of the preferred learning styles of teacher education students in terms of visual when grouped according to sex.

Table 2. Preferred Learning Style of Teacher Education Students in terms of Visual when grouped according to Sex

VISUAL	Male		Female	
	WM	VI	WM	VI
I follow written directions better than oral directions in online learning platforms. .	3.125	HA	3.06	HA
I like to type things on my keyboard or any device for visual review.	3.04	HA	3.22	HA
I am skillful with and enjoy developing and making graphs and charts.	2.81	MA	2.86	MA
I can understand and follow directions on maps.	2.85	MA	2.97	MA
I can better understand a news article by reading about it online rather than by listening to it on the radio or podcasts.	2.84	MA	2.93	MA
I feel the best way to remember is to picture it in your head.	3.21	HA	3.31	HA
I prefer to be shown rather than told.	3.39	HA	3.31	HA
I obtain information on an interesting subject by reading relevant online materials	3.19	HA	3.25	HA
	3.06	HA	3.11	HA

It was depicted in the results that female students scored a weighted mean of (WM=3.11) which is better than the score (WM=3.06) of the male students in terms of the visual learning style. Both groups scored more than 3.00 which has a verbal interpretation of highly applies to me. This means that both male and female teacher education students also learn efficiently through graphic means.

Table 3 on the next page highlights the weighted mean of the preferred learning styles of teacher education students in terms of kinesthetics when grouped according to sex.

Table 3. Preferred Learning Style of Teacher Education Students in terms of Kinesthetic when grouped according to Sex

KINESTETIC	Male		Female	
	WM	VI	WM	VI
I write forcefully with a pen or pencil when writing.	2.93	MA	2.96	MA
I enjoy working with tools and other manipulatives.	3.13	HA	3.14	HA
I remember best when I write things down several times.	3.24	HA	3.35	HA
I can play with coins or keys in pocket.	2.39	MA	2.53	MA
I chew gum, smoke, or snack during studies.	1.90	SA	2.03	MA
I learn to spell by "finger spelling" the words.	2.26	MA	2.33	MA

I am good at solving and working on jigsaw puzzles and mazes uploaded in online learning platforms.	2.65	MA	2.72	MA
I feel very comfortable touching others, hugging, handshaking, etc.	2.99	MA	2.84	MA
	2.68	MA	2.74	MA

It was revealed in the results that female students scored a weighted mean of (WM=2.74) which is better than the score (WM=2.68) of the male students in terms of the kinesthetic learning style. Both scored more than 2.00 which has a verbal interpretation of moderately applies to me. This means that both male and female teacher education students also learn efficiently through graphic means.

Table 4 below highlights the weighted mean of the preferred learning styles of teacher education students in terms of auditory when grouped according to year level.

Table 4. Preferred Learning Style of Teacher Education Students in terms of Auditory when grouped according to Year Level

AUDITORY	First-year		Second-Year	
	WM	VI	WM	VI
I can remember more about a subject through listening than reading in online learning platforms.	2.90	MA	3.1	HA
I require explanations of diagrams, graphs or visual directions.	3.23	HA	3.15	HA
I can tell if sounds match when presented with pairs of sounds.	3.00	HA	3.225	HA
I can do better at academic subjects by listening to lectures and tapes uploaded in online learning platforms.	3.00	HA	3.1	HA
I learn to spell better by repeating the letters aloud than by writing the word on paper or typing them on the computer or y device.	2.92	MA	2.8	MA
I would rather listen to a good online lecture or speech than read about the same material in a website or e-book.	3.06	HA	3.325	HA
I prefer listening to the news on the podcasts rather than reading about it online.	2.90	MA	3.05	HA
I follow oral directions better than written ones.	2.89	MA	2.95	MA
	2.99	MA	3.09	HA

Results showed that second year teacher education students scored a weighted mean of (WM=3.09) which is better than the score (WM=2.99) of the first year teacher education students in terms of the auditory learning style. Second year teacher education students scored more than 3.00 which has a verbal interpretation of highly applies to me. Meanwhile, first year teacher education students scored more than 2.00 which has a verbal interpretation of moderately applies to me. This means that both group of students learn through listening and making meaning out of sounds.

Table 5 below highlights the weighted mean of the preferred learning styles of teacher education students in terms of visual when grouped according to year level.

Table 5. Preferred Learning Style of Teacher Education Students in terms of Visual when grouped according to Year Level

VISUAL	First-Year		Second-Year	
	WM	VI	WM	VI
I follow written directions better than oral directions in online learning platforms. .	3.10	HA	2.95	MA

VISUAL	First-Year		Second-Year	
	WM	VI	WM	VI
I like to type things on my keyboard or any device for visual review.	3.15	HA	3.25	HA
I am skillful with and enjoy developing and making graphs and charts.	2.83	MA	2.95	MA
I can understand and follow directions on maps.	2.92	MA	3.025	HA
I can better understand a news article by reading about it online rather than by listening to it on the radio or podcasts.	2.87	MA	3.1	HA
I feel the best way to remember is to picture it in your head.	3.26	HA	3.25	HA
I prefer to be shown rather than told.	3.32	HA	3.4	HA
I obtain information on an interesting subject by reading relevant online materials	3.24	HA	3.225	HA
	3.09	HA	3.14	HA

It was found out that second year teacher education students scored a weighted mean of (WM=3.14) which is better than the score (WM=3.09) of the first-year teacher education students in terms of the visual learning style. Both scored more than 3.00 which has a verbal interpretation of highly applies to me. This means that both first year and second year teacher education students also learn efficiently through graphic means.

Table 6 below highlights the weighted mean of the preferred learning styles of teacher education students in terms of kinesthetic when grouped according to year level.

Table 6 Preferred Learning Style of Teacher Education Students in terms of Kinesthetic when grouped according to Year Level

KINESTETIC	First-Year		Second-Year	
	WM	VI	WM	VI
I write forcefully with a pen or pencil when writing.	2.93	MA	3.075	HA
I enjoy working with tools and other manipulatives.	3.12	HA	3.2	HA
I remember best when I write things down several times.	3.32	HA	3.275	HA
I can play with coins or keys in pocket.	2.46	MA	2.7	MA
I chew gum, smoke, or snack during studies.	1.95	SA	2.3	MA
I learn to spell by "finger spelling" the words.	2.27	MA	2.525	MA
I am good at solving and working on jigsaw puzzles and mazes uploaded in online learning platforms.	2.65	MA	2.975	MA
I feel very comfortable touching others, hugging, handshaking, etc.	2.93	MA	2.625	MA
	2.70	MA	2.83	MA

It was depicted in the results that second year students scored a weighted mean of (WM=2.83) which is better than the score (WM=2.70) of the first year students in terms of the kinesthetic learning style. Both scored more than 2.00 which has a verbal interpretation of moderately applies to me. This means that both first year and second year teacher education students learn through movements.

Table 7 below highlights the weighted mean of the preferred learning styles of teacher education students in terms of auditory when grouped according to major.

Table 7 Preferred Learning Style of Teacher Education Students in terms of Auditory when grouped according to Major

	Filipino Major		Math Major	
AUDITORY	WM	VI	WM	VI
I can remember more about a subject through listening than reading in online learning platforms.	2.94	MA	2.83	MA
I require explanations of diagrams, graphs or visual directions.	3.205	HA	3.27	HA
I can tell if sounds match when presented with pairs of sounds.	3.025	HA	3.06	HA
I can do better at academic subjects by listening to lectures and tapes uploaded in online learning platforms.	3.0	HA	3.06	HA
I learn to spell better by repeating the letters aloud than by writing the word on paper or typing them on the computer or y device.	2.935	MA	2.75	MA
I would rather listen to a good online lecture or speech than read about the same material in a website or e-book.	3.08	HA	3.21	HA
I prefer listening to the news on the podcasts rather than reading about it online.	2.92	MA	2.92	MA
I follow oral directions better than written ones.	2.89	MA	2.94	MA
	3.0	HA	3.0	HA

Results showed that teacher education students who are majoring in Filipino scored a weighted mean of (WM=3.00) which is the same with the score (WM=3.00) of the Math major teacher education students in terms of the auditory learning style. Both scored exactly 3.00 which has a verbal interpretation of highly applies to me. This means that both teacher education students majoring in Filipino and Math learn through listening and making meaning out of sounds.

Table 8 on the next page highlights the weighted mean of the preferred learning styles of teacher education students in terms of visual when grouped according to their specialization.

Table 8. Preferred Learning Style of Teacher Education Students in terms of Visual when grouped according to Major

	Filipino Major		Math Major	
VISUAL	WM	VI	WM	VI
I follow written directions better than oral directions in online learning platforms. .	3.10	HA	2.98	MA
I like to type things on my keyboard or any device for visual review.	3.15	HA	3.25	HA
I am skillful with and enjoy developing and making graphs and charts.	2.82	MA	2.98	MA
I can understand and follow directions on maps.	2.93	MA	2.98	MA
I can better understand a news article by reading about it online rather than by listening to it on the radio or podcasts.	2.88	MA	3.04	HA
I feel the best way to remember is to picture it in your head.	3.29	HA	3.25	HA
I prefer to be shown rather than told.	3.32	HA	3.395	HA
I obtain information on an interesting subject by reading relevant online materials	3.23	HA	3.25	HA
	3.09	HA	3.14	HA

It was found out that teacher education students majoring in math scored a weighted mean of (WM=3.14) which is better than the score (WM=3.09) of teacher education students majoring in Filipino in terms of the visual learning style. Both scored more than 3.00 which has a verbal interpretation of highly applies to me. This means that both teacher education students who are majoring in Filipino and Math also learn efficiently through graphic means.

Table 9 below highlights the weighted mean of the preferred learning styles of teacher education students in terms of kinesthetic when grouped according to their specialization.

Table 9. Preferred Learning Style of Teacher Education Students in terms of Kinesthetic when grouped according to Major

	Filipino Major		Math Major	
KINESTETIC	WM	VI	WM	VI
I write forcefully with a pen or pencil when writing.	2.92	MA	3.06	HA
I enjoy working with tools and other manipulatives.	3.12	HA	3.19	HA
I remember best when I write things down several times.	3.31	HA	3.33	HA
I can play with coins or keys in pocket.	2.46	MA	2.645	MA
I chew gum, smoke, or snack during studies.	1.93	SA	2.31	MA
I learn to spell by "finger spelling" the words.	2.26	MA	2.54	MA
I am good at solving and working on jigsaw puzzles and mazes uploaded in online learning platforms.	2.65	MA	2.94	MA
I feel very comfortable touching others, hugging, handshaking, etc.	2.92	MA	2.71	MA
	2.70	MA	2.84	MA

It was depicted in the results that teacher education students majoring in math scored a weighted mean of (WM=2.84) which is better than the score (WM=2.70) of the teacher education students majoring in Filipino in terms of the kinesthetic learning style. Both scored more than 2.00 which has a verbal interpretation of moderately applies to me. This means that both teacher education students who are majoring in Filipino and Math also learn through movements.

Summary

Table 10 shows the summary of the findings of the preferred learning styles of teacher education students based on their sex, year level, and specialization.

Table 10. Summary of the Preferred Learning Style of Teacher Education Students in when grouped into Sex, Year Level and Specialization

LEARNING STYLE	SEX				YEAR LEVEL				MAJOR			
	MALE		FEMALE		FIRST YEAR		SECOND YEAR		FILIPINO MAJOR		MATHEMATICS MAJOR	
	WM	V1	WM	V1	WM	V1	WM	V1	WM	V1	WM	V1
AUDITORY	3.02	HA	3.04	HA	2.99	MA	3.09	HA	3.0	HA	3.0	HA
VISUAL	3.06	HA	3.11	HA	3.09	HA	3.14	HA	3.09	HA	3.14	HA
KINESTETIC	2.68	MA	2.71	MA	2.70	MA	2.83	MA	2.70	MA	2.84	MA

The table shows that both male (WM=3.06) and female (WM=3.11) teacher education students scored highest on the visual learning style meaning they learn best when shown instructional materials in the form of pictures and videos. These results are in harmony with the findings of Gilakjani (2011) wherein the study showed that students learn best through visual means followed by auditory and lastly through kinesthetics. That is the reason why in classroom teaching, even in the virtual or remote way of learning, pictures and similar

graphics are deemed important that will lead to more efficient way of learning. However, it was also revealed that female students learn better in terms of visual style as compared to their male counterpart. This result is in line with study of Syahrir et al., (2019) where they claimed that English achievement is influenced by gender factor wherein auditory is the most influential learning style for male students, while for female students showed strong inclination towards visual style of learning. This finding may also put emphasis in considering differentiated instruction even in virtual platforms of learning. Another study by Shuib and Azizan (2015) also shared the same conclusion which reported that the male group prefers kinesthetic learning style while the female group prefers visual learning style. The results only showed that female learners highly favored graphical instructional materials.

Conclusion and Recommendations

The study revealed that teacher education students prefer visual learning style as their most ideal mode of learning. Moreover, it was also shown that the second preference of students when it comes to mode of learning is through auditory means. It was also revealed in the study that kinesthetic style of learning was the least favored mode of learning by teacher education students since the education is remotely carried out because of the Covid-19 pandemic.

For further researches, it is recommended: (1) college instructors and professors consider and take a look at the teacher education students' preferred learning styles when crafting teaching strategies for their students; (2) university and college administrators may look into the preferred learning styles of students in coming up with course curriculum and policies implemented in the school (3) future researchers may look into exploring the preferred learning styles of students coming from other programs.

References

Adnan, M., & Anwar, K. (2020). Online Learning amid the COVID-19 Pandemic: Students' Perspectives. Online Submission, 2(1), 45-51.

Awla, Hawkar Akram. (2014). Learning Styles and Their Relation to Teaching Styles.International Journal of Language and Linguistics 2014; 2(3): 241-245, doi:10.11648/j.ijll. 20140203.23.

Bire, Arylien Ludji, Uda Geradus & Josua Bire. (2014). Pengaruh Gaya Belajar Visual, Auditorial, dan Kinestetik Terhadap Prestasi Belajar Siswa. Jurnal Kependidikan Penelitian Inovasi Pembelajaran, Vol. 44, No. 2, November 2014.

DePorter, B dan Hernacki, M. (1992). Quantum Learning Membiasakan Belajar Nyaman dan Menyenangkan. Bandung: Kaifa Learning, pp 112.

DePorter, B dan Hernacki, M. (2016). Quantum Learning Membiasakan Belajar Nyaman dan Menyenangkan. Bandung: Kaifa Learning.

Dornyei, Z. (2005). The Psychology of the Language Learner: Individual Differences in Second Language Acquisition. Mahwah, NJ: Lawrence Erlbaum. Associates, Publishers.

Dunn, R., Honigsfeld, A., & Martel, L. D. (2001). Learning style characteristics of JROT cadets and instructors: Implications for training and instruction. Produced by the National Academiy of Integrative Learning, Inc., Hilton Head Island, S.C. Reports-Research. Retrieved from the ERIC database. (ED 471134)

Gilakjani, A.P., Ahmadi, S. M. (2011). The Effect of Visual, Auditory, and Kinesthetic Learning Styles on Language Teaching. International Conference on Social Science and Humanity, IPEDR, Vol. 5 (2011), pp. 469-472. IACSIT Press, Singapore.

Kamal et al., (2021) Evaluation of healthcare science student learning styles based VARK analysis technique. International Journal of Evaluation and Research in Education. Vol. 10, No. 1, March 2021, pp. 255-261

Neha, et al. (2015), stated that many researchers agree that the learning style of a student can have an impact on their performance in school.

Oxford, R. (2001). Language Learning Styles and Strategies. In. M. Celce-Murced, Ed. Teaching English as a Second or Foreign Language (3 ed.). USA: Heinle & Heinle.

Shuib, M., & Azizan, S.N. (2015). Learning Style Preferences Among Male and Female ESL Students in Universiti-Sains Malaysia. Journal of Educators Online, 12, 103-141.

Syahrir, Mahmud, M., & Salija, K. (2019). Male and Female Students' Learning Styles and Their Effects on EFL Achievements. In Selamat datang di Eprints Universitas Negeri Makassar (pp. 11–12)