Learning Styles and Preferred Teaching Styles of Master of Arts in Teaching (MAT), major in Vocational Technological Education (VTE) Generation Y Learners

Gener S. Subia, Cherrylyn L.Trinidad, Rodelio R. Pascual, Hernina B. Medrano & Eminiano P. Manuzon

Faculty Members, Nueva Ecija University of Science and Technology (NEUST), Central Luzon, Philippines

Abstract— *This study explored the learning styles of 50 MAT-VTE Generation Y (millennial) learners and the teaching styles they preferred for their Graduate School professors. This employed the descriptive-correlational research design.*
Majority of the learners absorbed and retained information better when pictures, diagrams, and charts were presented to them. Their sexwas not associated with their learning styles. Respondents who graduated from public tertiary schools were more of visual learners while those from private institutions were more auditory and kinesthetic. Likewise, respondents who came from rural areas were more auditory and kinesthetic and those from urban areas were more of visual learners. The respondents preferred funny, casual, physically expressive and intelligent teachers. Teachers who taught repeatedly, meticulously and raised tough questions and disturbing opinions did not appeal to them.
Keywords— *Auditory, kinesthetic, learning styles, teaching styles, visual.*

I. INTRODUCTION

One of the missions of the Graduate School of the Nueva Ecija University of Science and Technology (NEUST) is to transform human resources into productive citizenry by offering quality education [1] as cited in [2]. To attain this goal, the learners' needs, especially in a classroom setting should be well understood and addressed properly. Hence, the necessary skills and knowledge needed in the real workplace will be imparted to them.

Learning styles are not dichotomous and generally operate on a continuum or on multiple, intersecting continua [3]. Some studies suggest that such are related to different variables which include thelearner's personality.

Brown, as cited by [4], "argued that learning strategies do not merely operate by themselves, but rather,

these are directly tied to the learner's understanding of learning styles and other personality-related variables of the learner." Furthermore, [5]"exhorted researchers to view learning styles in the context of general personality factors such as: introversion and extroversion, reflectiveness and impulsiveness, field independence and field dependence, self-confidence and self-concept, self-efficacy and creativity and anxiety and motivation (intrinsic and extrinsic)[6]."

Learning styles are defined as the particular way in which a learner tries to learn something and perform better on undertakings which match their preferences. Therefore, "it is important for teachers to be aware of their students' preferred styles to take advantage of opportunities to maximize student learning[7]."However, today, because of the generation gap between the teachers and students, difficulties in addressing the learners' learning styles arise.

At the 2002 National Learning Infrastructure Initiative annual meeting, a faculty member asked two students, "What is the most difficult thing about being a student these days?" These students had the same answer, "Having to sit through a class lecture without being able to check e-mail, surf the Web, or listen to music." Another participant asked the faculty member, "How would you have answered that question?" The faculty member thought for a moment and said, "I would have answered Calculus[8]."The exchange highpoints the dissimilarity between most of the teachers and learners in the schools nowadays. This is due to the Generation Ylearners' exposure to modern technology which is different from the previous generations. Some studies even point out that there is a physiological difference between the brains of digital natives and those of adults from previous generations, such that their learning styles are no longer ours and conversely, "[W]e are not them because our world is not theirs [9]."

The previous researches proved that understanding how learners learn in today's generation conceivably is the most vital undertaking a teacher confronts. This concern is also evident even in the Graduate School level, owing and attributing to the fact that most of the professors belong to Generation X (born in the 1960s to 1980) while the majority of the students are from Generation Y (born in 1980s-early 2000). Generation X teachers frequently utilize their preferred learning styles as their bases and if their students do not share those similar preferences, then, learning can be very arduous and annoying for the learners.

Based on the preceding situations, the researchers were prompted, motivated to focus on the learning styles of the MAT-VTE Generation Y learners of NEUST [10]. Likewise, the preferred teaching styles used by the teachers of the said learners were also described here. To understand their learners better will guide and enlighten the researchers, who are professors of NEUST Graduate School. Thus, a more engaging, enjoyable, direct and simple [11] teaching styles apt for their students can be employed to bolster the offering of excellent education which is one of the institution's core values.

II. METHODOLOGY

The descriptive-correlational research design was used in this study. Correlational research is employed to test the degree of relationship between two or more variables [12] as cited in [13].On the other hand, descriptive research according to [14] as quoted by the authors in [15], systematically describes a situation, problem, phenomenon, service or program, attitude towards an issue or simply, it provides information on a subject.

The respondents of the study were 50 MAT-VTE Generation Y students of NEUST enrolled during the first semester of the school year 2018-2019. As to their sex, forty percent (40%) are males &60% are females. As to the type of college where they finished their tertiary education, seventy-four percent (74%) were from public schools and 26% were from private institutions. In terms of their area of settlement, fifty-six percent (56%) were from the rural areas and 44% were from the urban areas.

In determining the learning styles of the respondents, the study considered the visual, auditory and kinesthetic (VAK) modalities popularized by [16] as quoted by the researchers in [17]. According to [16], a visually dominant learner absorbs and retains information better when pictures, diagrams, and charts are presented to them. An auditory-dominant learner prefers listening to what is presented to him or her and responds best to voices in a lecture or group discussion. Conversely, a

kinesthetic-dominant learner prefers the physical experience or hands-on approach. The simplicity and usefulness of the VAK model have contributed to its popularity among teachers and trainers. Acknowledging that the study will be based on the classroom approach, it is but reasonable to adopt this model [16].

As to the types of MAT-VTE learners'preferred teaching styles, the respondents chose three from the eight teaching styles introduced by Riesman (compulsive type, boomer, maverick, coach, a quiet one, entertainer, secular and academic[18]).

Statistical tools utilized in this study were frequency, percentage, weighted mean and chi-square test.

III. RESULTS AND DISCUSSION
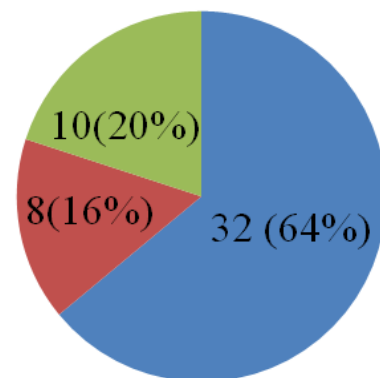### 1. Learning Styles of the Respondents

Fig.1. Learning Styles of the Respondents

The figure reveals that 32 (64%) of the respondents have visual learning styles. Ten (20%) are kinesthetic and the rest, auditory. The data suggest that most of the MAT-VTE Generation Y learners (Millennials) absorbed and retained information better when pictures, diagrams and charts were presented to them while the least (16%)learned best when listening to what was presented to them and responded best to voices in a lecture or group discussion [16].

The finding is similar to the author's findings in [19] regarding the new method in teaching and assessing Millennial learners. He found out that the video clips were to the liking of learners as these provided them with more meaningful, enjoyable and engaging test experiences since they are mostly visually oriented.

2. The Relationship between Profile and Learning Styles
2.1. Sex and Learning Styles

*Table.1: Sex * Learning Styles-Cross Tabulation*

| | | | Learning Styles | | | |
			Visual	Auditory	Kinesthetic	Total
Sex	**Male**	Count	15	3	2	20
		Expected Count	12.8	3.2	4.0	20.0
		% within Sex	75.0%	15.0%	10.0%	100.0%
	Female	Count	17	5	8	30
		Expected Count	19.2	4.8	6.0	30.0
		% within Sex	56.7%	16.7%	26.7%	100.0%
Total		Count	32	8	10	50
		Expected Count	32.0	8.0	10.0	50.0
		% within Sex	64.0%	16.0%	20.0%	100.0%

The table reveals that out of the 32 visual learners: 15 are males and 17 are females. As for the eight (8) auditory learners: 3 are males and 5 are females while among the 10 kinesthetic learners: 2 are males and 8 are females. To test the relationship between sex and learning styles using the chi-square test, Table 2 reveals that the relationship is not significant. This implies that the sex of the Vocational-Technological teachers is not associated with their teaching styles.

*Table.2: Chi-Square Tests (Sex*Learning Styles)*

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	2.318[a]	2	.314
Likelihood Ratio	2.472	2	.291
Linear-by-Linear Association	2.229	1	.135
N of Valid Cases	50		

Ns = No significant relationship since p > 0.05

2.2. Type of School Graduated from and Learning Styles

*Table.3: Type of School Graduated From * Learning Styles- Cross Tabulation*

| | | | LS | | | |
			Visual	Auditory	Kinesthetic	Total
SGF	**Public**	Count	28	2	7	37
		Expected Count	23.7	5.9	7.4	37.0
		% within SGF	75.7%	5.4%	18.9%	100.0%
	Private	Count	4	6	3	13
		Expected Count	8.3	2.1	2.6	13.0
		% within SGF	30.8%	46.2%	23.1%	100.0%
Total		Count	32	8	10	50
		Expected Count	32.0	8.0	10.0	50.0
		% within SGF	64.0%	16.0%	20.0%	100.0%

Table 3 shows that there are 75.7% visual learners who graduated from public college institutions and 30.8% visual learners who graduated from private colleges. In terms of the auditory learners, there are 5.4% from public schools and 46.2% from private schools respectively. To test the significant relationship between the respondents' type of school which they graduated from and their learning styles, the relationship is significant as revealed in the Chi-square, Table 4.

Table.4: Chi-Square Tests (Type of School Graduated from*Learning Styles)

	Value	Df	Asymp. Sig. (2-sided)
Pearson Chi-Square	13.098[a]	2	.001
Likelihood Ratio	11.978	2	.003
Linear-by-Linear Association	3.511	1	.061
N of Valid Cases	50		

There is a highly significant relationship between the type of school which the respondents graduated from and their learning styles, x^2 (2, N=50) =13.098, p<0.05, Cramer's V=.512). This means that those who graduated from public tertiary schools were more of visual learners while those who graduated from private institutions were more of auditory and kinestheti cleaners.

2.3. Area of Settlement and Learning Styles

Table.5: Area of Settlement * Learning Styles-Cross Tabulation

			Learning Styles			
			Visual	**Auditory**	**Kinesthetic**	**Total**
AOS	**Rural**	Count	12	6	10	28
		Expected Count	17.9	4.5	5.6	28.0
		% within AOS	42.9%	21.4%	35.7%	100.0%
	Urban	Count	20	2	0	22
		Expected Count	14.1	3.5	4.4	22.0
		% within AOS	90.9%	9.1%	.0%	100.0%
Total		Count	32	8	10	50
		Expected Count	32.0	8.0	10.0	50.0
		% within AOS	64.0%	16.0%	20.0%	100.0%

Table 5 reveals that there were 42.9% visual learners from rural areas and 90.9% from urban. As to the auditory and kinesthetic learners, there were 21.4% & 35.7% from rural and 9.1% & 0% from urban areas, respectively. To test the significant relationship between the area of settlement and learning styles, the relationship appeared significant as shown in the Chi-square, Table 6.

Table.6: Chi-Square Tests (Area of Settlement * Learning Styles)

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	13.474[a]	2	.001
Likelihood Ratio	17.256	2	.000
Linear-by-Linear Association	13.106	1	.000
N of Valid Cases	50		

There is a highly significant relationship between the area of settlement and learning styles, x^2 (2, N=50) =13.474, p<0.05, Cramer's V=.519). The findingssuggest that those who came from rural areas were more auditory and kinesthetic while those fromurban areas were more visual learners.

3.   Preferred Teaching Styles from Teachers

Table.7: Preferred Teaching Styles (N=50)

Riesman's Teaching Styles (Based on the definitions provided by the author in [18])	Frequency	Percentage	Rank
COMPULSIVE A teacher who instructs repeatedly and concerns himself/herself with functional order and structure	2	4.0	8
BOOMER A teacher who uses a strong voice and shouts out	6	12.0	6
MAVERICK A teacher who raises difficult questions and gives disturbing ideas	4	8.0	7
COACH A teacher who is physically expressive in conducting a class, informal, earthy and may be an athlete	19	38.0	3
QUIET ONE A teacher who is sincere, calm but definitely commanding of both respect and attention	16	32.0	5
ENTERTAINER A teacher who is unrestrained, free enoughto joke and laughs with the students	44	88.0	1
SECULAR A teacher who is relaxed and informal and one who will have lunch or play with students	17	34.0	4
ACADEMIC A teacher who is interested in knowledge and in the substance of ideas	39	78.0	2

Table 7 reveals that the respondents preferred a teacher who is categorized as an entertainer (88%), academic (78%) and coach (38%). In contrast, they do not like teachers who fall under them averick (8%) and compulsive (4%) types.

The data suggest that the respondents favour Graduate School teachers who are funny, casual and physically expressive yet intelligent. They are not interested in teachers who teach repeatedly, meticulously and ones who raise tough questions and disturbing opinions.

IV.   CONCLUSIONS

This study explored the MAT-VTE Generation Y (millennials) students' learning styles and the preferred teaching styles for their Graduate school professors.

The findings revealed that most of these millennial Vocational-Technological learners absorbed and retained information better when pictures, diagrams, and charts were presented to them. Their sex is not associated with their learning styles. Respondents who graduated from public tertiary schools were visual learners while those from private institutions were more of auditory and kinesthetic ones. Likewise, respondents from rural areas were more of auditory and kinesthetic learners and those from urban areas were more of visual learners.

The respondents preferred Graduate School teachers who are funny, casual and physically expressive yet intelligent. They were not interested in teachers who teach repeatedly, meticulously and ones who raised tough questions and disturbing opinions.

Still, since this study investigated only 50 Graduate student learners, its findings do not translate to the entirety of all millennial learners. Thus, the researchers suggest that additional studies involving more respondents and Graduate School areas should be done to further strengthen the result of this research.

REFERENCES

[1] Nueva Ecija University of Science and TechnologyNEUST.(n.d.).https://www.triposo.com/poi/T__0b8f375c95cf

[2] Zabala, Bernardo. Jr, Gutierrez, Manuela P., and Subia, GenerS. (2018). Needs Assessment of Barangay Tanawan, Dingalan, Aurora towards a Proposed Oplan Development Program. International Journal of Environment, Agriculture and Biotechnology (IJEAB) Vol-3, Issue-6, Nov-Dec- 2018.http://dx.doi.org/10.22161/ijeab/3.6.28.

[3] Ehrman, M., 1996: Second Language Learning Difficulties: Looking Beneath the Surface. Thousand Oaks, CA: Sage.

[4] Cohen, A. D. (1996, July). Second language learning and use strategies: Clarifying the issues. Paper presented at the Symposium on Strategies of Language Learning and Use, Seville, Spain, December 13-16, 1994.

[5] Schmeck, R. (1988). Individual differences and learning strategies.In C. Weinstein, E. Goetz, & P. Alexander (Eds.), Learning and Study Strategies. N. Y.: Academic Press. pp. 171-191.

[6] Sadeghi, N.,Kasim, Z., Tan, B., and Abdullah, F. (2012). Learning Styles, Personality Types and Reading Comprehension Performance.English Language Teaching.Vol. 5, No. 4; April 2012.doi:10.5539/elt. v5n4p116

[7] *"Thinking Styles: Keys to Understanding Student Performance" Phi Delta Kappan January 1990 pp. 366-371.*Published in ERN May/June 1990 Volume 3 Number 3

[8] Barone, C.2002. "Support for Teaching and Learning: The Dilemma." EDUCAUSE Review 37: 64

[9] Faust-Sterling, A.2000."On Teaching through the Millennium." Signs: 1253–1256. Generational Learning Styles (Generation X and Y). Florida Institute of Technology Jason

[10] Subia, G., Lepon, M., Cumbe, M., Marcos, M. and Cruz, J. (2018). Vocational Technological Education Teachers on Facing Challenges of the Restructured Curriculum. Saudi Journal of Engineering and Technology (SJEAT).Vol-3, Iss-4 (Apr, 2018): 198-203.DOI: 10.21276/sjeat.2018.3.4.1

[11] Subia, G. (2018) Comprehensible Technique in Solving Consecutive Number Problems in Algebra. *Journal of Applied Mathematics and Physics*, **6**, 447-457. doi: 10.4236/jamp.2018.63041.

[12] M.L. Patten. Understanding Research Methods. Pyrczak Publishing: U.S.A., 2002.

[13] Subia, Gener, S., Salangsang, Lily G., and Medrano, HerninaB. (2018). Attitude and Performance in Mathematics I of Bachelor of Elementary Education Students: A Correlational Analysis. American Scientific Research Journal for Engineering, Technology, and Sciences (ASRJETS) (2018) Volume 39, No 1, pp 206-213.

[14] Kumar, R. (2014). Research methodology: A step-by-step guide for beginners (4th ed.) SAGE. CA: Thousand Oaks.

[15] Pagandian, Joni L., and Eduardo, Jesster P. Restorative Justice in Cordillera Administrative Region: Tradition and Praxis towards a Peace Process Model. International Journal of Social Science Studies Vol. 7, No. 1; January 2019 ISSN 2324-8033 E-ISSN 2324-8041. doi:10.11114/ijsss.v7i1.3748.

[16] Barbe, Walter Burke, Swassing, Raymond H., Milone, Michael N. (1979). Teaching through modality strengths: concepts and practices. Columbus, Ohio: Zaner-Bloser.

[17] ZubairBaig, Mirza&Mahmood Ahmad, Mudassar. (2016). Learning with a Style: The Role of Learning Styles and Models in Academic Success. European Academic Research. IV. 6695.

[18] Boiser, DiosdadaC. (2000). Strategies for Teaching. Rex Bookstore. 856 Nicanor Reyes, Sr.St., C.M. RectoAvenue, Manila, Philippines.

[19] Subia, GenerS. (2018). Think Like My Teacher (TLMT): A New Method in Assessing Millennial Learners. International Journal of Arts, Humanities and Social Sciences. Volume 3. Issue 1.www.ijahss.com