A Glimpse at the Learning Styles of Grade 12 STEM Strand Students of the University of the City of Manila as a Focal Point of their Learning Ability Concerning Spelling in Filipino

Bernardo F. Ramos[1], Victoria R. Ramos[2]

[1]*Chair Person, Dept. of Languages and Literature, Pamantasan ng Lungsod ng Maynila, Manila, Philippines*
[2]*Faculty, College of Education Faculty, Pamantasan ng Lungsod ng Maynila, Manila, Philippines*

Abstract: **Each student is a totality of an individual, each has his/her unique characteristics and nature – a starting point of the realization of his /her effective learning. These said characteristics can be traced in the manner by which he / she learns as well as his/ her liking and inclination towards the diverse teaching strategies of a teacher.**

The study aims to have glimpse of the learning strategies of the 149 Grade 12 STEM strand students of the University of the City of Manila and to use it as a focal point towards their being able to learn the rudiments of spelling in Filipino. Utilized in the study were Felder and Silverman's Index of Learning Style (ILS) as well a researcher-made questionnaire that was administered to the students during the pre and post-tests. So as to determine the significant difference of the pre and post-tests, the t-test of an independent sample was used. Based on the findings of the study, a slight improvement in the mean score of the post-test being 18.25 as compared to 15.82 mean score of the pre-test was observed. Similarly, a significant difference was seen in the score of the students before and after an intervention was made. However, the 18.25 post-test mean score out of 30 items is only equivalent to a grade of 75 that is, if one would consider the 60% passing mark set by the Department of Education. The result of the study implies that the three week teaching duration of the rules in spelling concerning Filipino ortography is not enough considering that the subject is quite difficult to learn and not really a focus of the subject Filipino sa Piling Larangan. Nonetheless, it is still useful to consider the students' learning styles. The study recommends the following: for the Department of Education and school administrators to develop a program that would promote the utilization of teaching strategies that take into account the different learning styles of the students, for the teachers to try out teaching strategies that would suit their students' learning styles, and for the students to experiment on a suitable learning style which they can use to further improve their knowledge and maximize their development.

Keywords: **Learning Styles, orthography, Strategies, Spelling, Teaching**

1. Introduction

As a student escalates into a much higher form of complicated learning, he/she is comforted with different academic demands. He/she has to surpass the academic requirements set by his/her teacher. One of the few detestable things being shunned by a student as regards the subject in Filipino is the topic about ortography. Such problem arises due to the fact that the students were not able to master the skills required in this particular field, worst, they are left compounded.

According to Fortunato (2009) in her *Muling Pagtingin sa Ortograpiyang Filipino: Karanasang DLSU,* it took thirty six years for the old ABAKADA to be reborn again through the second alphabet, and it took thirteen years for the third alphabet to arrive. Six years have passed after the last DECS order #81, when the people who have been using the language in the different fields which include the higher education and the publication felt the need for a change in the current set-up of the ortography. As there are different varieties in spelling that can be seen in the newspapers and even in the academic publishing from the different institutions, she recommended that a review be made in the existing system of ortography in Filipino.

If the afore cited would be related to teaching, it can be said that the no two students share the same attitude and perception as regards the process of teaching and learning, and even to their response to their environmental and instructional stimuli. It is assumed that if only teachers would be able to fully understand the differences that exist in their students, they might be able to find a way to address their learning needs that follow no same procedure of learning which is dependent on their preferred learning style.

According to Felder (2005), as cited by Avsec at Szewczyk-Zakrzewska (2017) in their paper *Predicting academic success and technological literacy in secondary education: a learning*

International Journal of Research in Engineering, Science and Management
Volume-2, Issue-12, December-2019
www.ijresm.com | ISSN (Online): 2581-5792

87

style perspective, each student receives , understands, and processes information in a different manner. This is so relevant with K-12 education as it banks on the importance of having the knowledge on learning styles.

Felder (2005), is one with Harlow, et al (2017) in their study *Personality types and student performance in an introductory physics course*, into saying that students have a sort of boat ridge in obtaining and processing information in different manner. This could be by means of their visual and listening, description and action, reasoning in logical manner and /or through intuition, analysis, and imagination and other pertinent things.

Even teaching methodologies vary. There are some teachers who do lectures, some demonstrate, others lad their students towards self-discovery, others give more weight to principles while others are into the practical aspects of the lesson, still, others are into rote memory while others are into comprehension.

One difficult aspect of teaching is the so called handling of the divergent personalities of students inside the classroom. It can't be denied that one of the major problems in the educational system is the mismatching of the teacher's teaching strategy to that of the students learning style. If there is a mismatch between these two aspects, this may lead to the loss of student's interest in listening that may pave the way to his/her the loss of motivational drive to learn. Chances are, this may result to poor grades and lack of total interest to the subject being studied upon.

So as to remedy this situation, educators should find a striking balance in their teaching methodology that would boost their learners; desire to learn. Teachers must be able to deliver the right kind of activities that would suit their students' learning style to facilitate greater learning.

In the study of WenHsieh (2011), et al entitled Effects *of teaching and learning styles on students' reflection levels for ubiquitous learning*, they aimed to investigate the effect of the teaching style and learning style to the level of reflective thinking of students in the context of *u-learning*.

In particular, they investigated on the teaching styles and the brainstorming dimensions as well as instruction and recall together with the learning styles and the dimensions of active and reflective learning. The experimental study was conducted in 39 Grade five students of Southern Taiwan. The findings reveal that, by means of *one-way ANOVA*, that students who received a match between the teaching and learning style have shown a significant improvement in their reflective level. This proves that a match in the teaching and learning style would lead to the student's meaningful reflective level in an *e-learning* environment.

The present study aims to assess the effect of matching the learning style of students in the 21st century to that of their knowledge in orthography particularly in spelling.

Students would be asked to answer the *Index of Learning Styles Questionnaire* of *Barbara A. Soloman at Richard M.*

Felder to determine the top two leading learning styles that students are inclined into. These two learning styles would be the bases for the teacher to anchor his teaching strategy that is deem to yield a fruitful result in terms of applying the right activity in connection to the lesson as regards ortography.

A. Statement of the problem

The researchers tried their best into finding out the effectiveness of using the appropriate learning stole as baseline for employing a suitable teaching strategy to be used by the teacher in teaching the topic in orthography particularly that of spelling.

It also seeks to answer the following questions:
1. What is the pretest results of the respondents in the study?
2. What are the different learnign styles that the students are attuned into?
3. What is the post test results after the intervention was given as regards the utilization of *Index of Learning Styles* (ILS) technique?
4. Is there a significant difference in the pre test and post test results of students?
5. What practical implications can be drawn from the present study as regards spelling issues?

B. Hypothesis of the study

Ho: There is no significant difference between the pretest and post test results of students.

C. Methodology

This study was conducted during the second semester of School Year 2017-2018 at the University of the City of Manila (Pamantasan ng Lungsod ng Maynila). Grade 12 students from sections 1, 2, 5 at 11 who were under the strand Science, Technology, Engineering and Mathematics (STEM) at the Pamantasan ng Lungsod ng Maynila. They at that time, were taking the subject *Filipino sa Piling Larangan*.

The study was anchored on the models of Felder and Silverman (2005). The assumption behind this theory is that students have different strengths and preferences in the manner that they obtain information and how they process such.

In other words, they have varying learning styles. Others prefer those with concrete information (factual information, data from experiment) while others are comfortable with abstraction, (theory, symbolic information, mathematical model). Others, clamor for visual presentation of information through pictures, diagram, chart, schemas, etc.)

The Felder-Silverman's Index of Learning Styles (ILS) was uilized in this research so as to determine the estate and needs of the students and by so doing the teacher would be able to appropriate a teaching strategy that would suit the learning style of the students.

The instrument Felder-silverman's Index of Learning styles (ILS) is an on-line test that students were asked to answer in order that their respective learning style would be determined. The necessary permission was solicited from the proponents of

International Journal of Research in Engineering, Science and Management
Volume-2, Issue-12, December-2019
www.ijresm.com | ISSN (Online): 2581-5792

88

the *Index of Learning Styles* before it was used in the study. The top two learning styles that emerged form the results were the basis of the researchers in doing the necessary intervention so that their (students') spelling skills as regards the rudiments of ortography is concerned, would be improved.

Aside from the *Index of Learning Styles*, the resarchers made use of a questionnaire composed of thirty items that would assess the knowledge of students with regard to spelling . This questionnaire was given twice to the students, once during the *pre-test* and the other one during the *post-test*. The 30 item questionnaire has its focus on spelling as regards the use of E for the words that have ES in the beginning and the spelling that requires the use of O for the words that have M/P AT P/V in the second syllable.

The questionnaire was created by the researchers and underwent content validation that focused on word usage and sentence structure from three language experts and a statistician. The three language experts are composed of a retired Director III of the Commission of Fillipino Language (Komisyon sa Wikang Filipino), who is teaching as a professor in De La Salle University same with the other two validators who were also seasoned professors in the field of language teaching in the area of Filipino who like her, are textbook writers and Ph. D holders.

The tool was pilot tested to one section of Grade 12 taking the track HUMSS (Humanities and Social Sciences) in University City of Manila for statistical validation.

During the first week of the second semester of School Year 2017-2018, Pretest was conducted on the four sections of Grade 12 students from sections 1, 2, 5 at 11 who were taking the subject *Filipino sa Piling Larangan*.

These students were soon asked to answer the on-line Index of Learning Styles (ILS) to determine their individual learning style preference. This served as the baseline for the teacher-researcher in choosing the appropriate materials and teaching strategy in conducting the lesson as regards the rules in spelling. The teaching process took three weeks and after which, a post test was given to the student-respondents.

The scores obtained by the students in their pre and post tests were compared so as to determine if there was an improvement that took place after the intervention. To obtain the significant difference between the pre test and post test, the *independent sample t-test* was utilized.

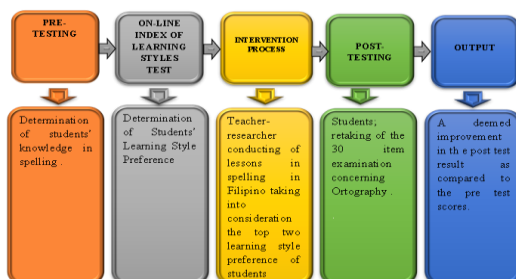The flow of the research was described using the diagram below.

Fig. 1. Paradigm of the Research Flow

2. Results and discussion

A. Profile of Respondents

In table 1, the profile of the respondents are presented

Table 1
Respondents' Profile

SECTION	NUMBER	PERCENT
1	35	23.50%
2	37	25%
5	35	23.50 %
11	42	28%
	149	100%

Table 1 shows that Section 11 has the most number of students comprised of 42 (28%) which was followed by Section 2 that has 37 2 (25%) and the sections that have the least number of students are sections 1 at 5 that both have 25 (23.5%). In total, there are 149 students that serve as respondents of the study.

Table 2 depicts the different learning styles of the students. The top two learning styles were the bases for the conduct of intervention where the teaching strategy that was suited to these two was utilized.

B. Students' Different Learning Styles

Table 2
The Different Learning Style Breakdown of Students

Section	Active	Sensual	Visual	Sequential	Reflective	Intuitive	Verbal	Global
1	10	17	17	2	9	4	3	8
2	10	15	20	10	6	4	6	3
5	8	15	18	10	7	2	6	4
11	10	19	22	7	7	5	7	7
Mean	9.50	16.50	19.25	7.25	7.25	3.75	5.50	5.50

As can be gleaned from the table , the top two learning style preference of students are *visual* which has a mean of 19.25 and *sensual* that has a mean of 16.50. The least learning style preference is intuitive having a mean of 3.75 which is followed by verbal and global having a mean of 5.50.

C. Pretest and Post-test Mean

The mean of Pre-test and Post-test scores are illustrated in Table 3.

Table 3
MEAN of Pretest and Posttest

	SECTION	PRE-TEST	POST-TEST	REMARKS
M	1	16.91	18.51	INCREASED
E	2	13.92	17.14	INCREASED
A	5	16.28	20.31	INCREASED
N	11	16.17	17.02	INCREASED
	Average	15.82	18.25	INCREASED

International Journal of Research in Engineering, Science and Management
Volume-2, Issue-12, December-2019
www.ijresm.com | ISSN (Online): 2581-5792

89

It can be seen in Table 3 that the mean scores in the Pretest are lower as compared to Post-test (15.82 vs. 18.25). This only shows that there is an improvement on the part of the students in their spelling prowess after the intervention was made where the top two learning styles were the bases for the teaching strategy that was employed during the classroom instruction.

D. T-test Computation

Table 4
Computation of T-test

	Mean	SD	Significance Level	Tabular Value	Computed Value	Judgment
Pretest	15.82	3.34				
			0.05	1.65	14.32	*To reject Ho*
Posttest	18.25	3.22				

It is manifested in Table 4 that the mean *score* in the pre-test is 15.82 that has a standard deviation of 3.34, while the mean score in the post-test is 18.25 having a standard deviation of 3.22. The tabular *value* at 0.05 level of significance is 1.65 and the computed t-test value is 14.32. Because the computed value is higher than the tabular value, the null hypothesis is rejected. It can be concluded that there exists a significant difference in the pretest and post test results of students.

E. Practical implications drawn from the present study as regards spelling issues

The practical implications that can be drawn from the present study as regards spelling concerns are the following:

a. Even though the scores that the students obtained in the pre test is 15.82 it is a passing rate in the basis of a 50-50% standard. However, this score is a failing mark when the 60% standard set in the K-12 program is observed. It means, that for a student to pass in the 100 item test, he /she has to obtain a scoe of 60. In a 30 item test, the student must obtain a score of 18.

b. When the students were asked regarding their background in ortography, there answer was none. In the subject *Filipino sa Piling Larangan* , na kanilang asignatura, only a minimal discussion was afforded in the syllabus . Despite the effort of the teacher-researcher to teach the subject for a thre week period utilizing visual instruments (manila paper,cartolina, point presentation, etc.) and writing exercises through essays and fb group page for th euploading of teaching materials, this only yielded a non-satisfactory mean score of 18.25 which when subjected to a 60% standard, would only reach a fairly passing mark.

c. Students attribute their 18.25 non-satisfacoty mean score to the insufficient alloted time to teach Filipino . As they say in Filipino : "Kulang po ang panahong inilaan para ituro ang lituntunin sa pagbabaybay sa Ortograpiya." This implies that the subject Filipino ortography is difficult for

them to absorb in such a limited time frame.

3. Summary of the findings

Based from the data analysis and interpretation, it shows that:
1. The result of the pre test of the student respondents is 15.82.
2. The top two learning style preference of students are *visual* having a mean of 19.25 and *sensual* having a mean of 16.50. Number three spot is shared by verbal and global with a mean of 5.50 and the least is intuitive with a mean of 3.75.
3. There is an indication that the students' spelling prowess improved as manifested by the post test mean score of 18.25 as compared to 15.82 mean score in the pre-test.
4. There is a significant difference in the pre test and post tests results of students as revealed by the computed value of 14.32 as compared to the tabular value of 1.65.
5. The subject Filipino Ortography is so difficult that it entails a sufficient time for absorption.

4. Conclusion

As Filipino Ortography subject is quite difficult to learn , this entails a more time duration to master. On the other side of the coin, the matching of the teacher's teaching strategy to that of students' learning styles prove to be useful.

5. Recommendation

The study recommends the following: for the Department of Education and school administrators to develop a program that would promote the utilization of teaching strategies that take into account the different learning styles of the students, for the teachers to try out teaching strategies that would suit their students' learning styles, and for the students to experiment on a suitable learning style which they can use to further improve their knowledge and maximize their development.

References

[1] Avsec, Stanislav and Szewczyk-Zakrzewska, Agnieszka (2017). Predicting academic success and technological literacy in secondary education: a learning styles perspective, International Journal of Technology and Desgin Education, 2017, 27, 2, 233.
[2] Solomon B. and Felder R. Index of Learning Styles Questionnaire. Nakuha sa http://www.engr.ncsu.edu/learningstyles/ilsweb.html
[3] Barnier, Carol (2009), The Big What Now Book of Learning Styles: A Fresh and Demystifying Approach. Paperback – March 1, 2009
[4] Brookfield, Stephen D. (2009). Self-Directed Learning. Nakuha sa, https://link.springer.com/Chapter/10.1007%2F978-1-40205281-1_172?LI=true
[5] Fortunato, T. (2009). Muling Pagtingin sa Ortograpiyang Filipino: Karanasang DLSU. Malay. April 2009, Vol. 21 Issue 2, pp. 45-49
[6] Franzoni, A. (2008). Student Learning Styles Adaptation Method Based on Teaching Strategies and Electronic Media Inst. Tecnol, Autonomo de Mexico, Mexico City.
[7] Harlow, Jason J. B. et al. (2017). Personality types and student performance in an introductory physics course. Phys. Rev. Phys. Educ. Res. 13, October 2017.

International Journal of Research in Engineering, Science and Management
Volume-2, Issue-12, December-2019
www.ijresm.com | ISSN (Online): 2581-5792

90

[8] Hattie, J. (2008), Visible Learning: A Synthesis of Over 800 Meta-Analyses Relating to Achievement. Routledge, 19 Nov. 2008 – Education – 392.

[9] Jenniings, P. and Greenberg, M. (2009). The Prosocial Classroom: Teacher Social and Emotional Competence in Relation to Student and Classroom Outcomes. In Classroom: Teacher Social and Emotional Competence in Relation to Student and Classroom Outcomes. Nakuha sa

[10] Krichen, J. (2007) Learning styles in the online context: Can learner selection of instructional activities improve the quality of learning? Capella University, ProQuest Dissertations Publishing, 2007.

[11] R.M. Felder and J.E. Spurlin, "Applications, Reliability, and Validity of the Index of Learning Styles." Intl. Journal of Engineering Education, 21(1), 103-112 (2005). A validation study of the Index of Learning Styles.

[12] Solomon B. and Felder R. Index of Learning Styles Questionnaire. Nakuha sa, http://www.engr.ncsu.edu/learningstyles/ilsweb.html

[13] T. A. Litzinger, S.H. Lee, J.C. Wise, and R.M. Felder, "A Psychometric Study of the Index of Learning Styles." J. Engr. Education, 96(4), 309-319 (2007). Reliability, factor structure, and construct validity of the Index of Learning Styles.

[14] WenHsieh, S, et al. (2011). Effects of teaching and learning styles on students' reflection levels for ubiquitous learning, 2011.

[15] Yahaya, Sembilan Azizi bin, et al. (2011), The relationship between learning styles and teaching methodology with the achievement of civil engineering studies at secondary technical school in Nigeria, Elixir Psychology, 41, 2011, 5900-5906.