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RESEARCH ARTICLE

Learning Styles and Brain Hemisphericity: Determinants of English Academic Performance

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ABSTRACT

The preparation for global workplace significantly identifies the necessity of developing Filipinos' competency in using English language in both oral and written communication. However, the two- year study conducted by Hopkins International emphasized the declining proficiency and competency of Filipinos in using the English language. This concerning dilemma could be brought by the irrelevant teaching strategies used in handling students with diverse needs and preferences inside the English classroom. With the end view of aligning instruction to students' learning preference, the study analyzed the learning styles and brain hemisphericity of students and their relationship with students' academic performance in English. In order to see the relationship among the aforementioned variables, the researcher utilized descriptive method. Also, the researcher administered survey questionnaire to gather necessary data on learning styles and brain hemisphere dominance among seventy (70) BA Communication students in Batangas State University Lipa. The study revealed that most of student-respondents are visual and left brain learners. Also, it found out that students with kinesthetic learning styles performed very satisfactorily; thus, validating that there is a significant relationship between students' learning styles and academic performance in English. However, brain hemisphere dominance was seen to be independent to students' competence in English language.

INTRODUCTION

In the continuous preparation of Filipinos for the global workplace, teaching of English, the Lingua Franca, as the second language has been strengthened to secure communicative competence in both local and international setting. Particularly, in a 2015 research study on the Globalization of English which included top international companies, it was revealed that good communication skills in English add a salary premium of 30% to 70% depending on region (Tejada, K. M., 2018). This significantly identifies the necessity of developing Filipinos' competency in using English language in both oral and written communication.

However, according to EF English Proficiency Index 2017, the Philippines only ranked third among the non-native English-speaker countries in Asia. It is alarming that based on the two- year study conducted by Hopkins, the Filipino university graduates' median score was comparable to the proficiency of 5th and 6th grade students in native English-speaking countries such as the US and the United Kingdom. This suggestively emphasized the declining proficiency and competency of Filipinos in using the English language. This concerning dilemma could be brought by the irrelevant instructional strategies used in handling students with diverse needs and preferences inside the English classroom. This diversity encompasses the differences of students' learning styles and brain hemisphere dominance.

In the contemporary time, students with diverse background, personality, and learning preferences are sent on a single classroom.

This has been a challenge for educators in tertiary levels to produce quality graduates. In recognizing this matter, along with the vision of CHED, the researcher had seen that analyzing and understanding students' differences in terms of learning preferences would produce professionals who are not only English Language literate but also competent enough in both local and international labor markets.

OBJECTIVES

This study aimed to determine the relationship between the students' learning preferences and their English language fluency. It covered the profile of the respondents in terms of age, sex, and academic performance in English; the learning styles of the students based on the visual, auditory and kinesthetic skills; and the student's dominant brain hemispheres. Relationship among the aforementioned variables was identified as a basis of designing materials in teaching English language that would cater students' learning preferences.

METHODOLOGY

In order to see the relationship among the aforementioned variables, the researcher utilized descriptive method. The respondents of the study were first year AB Communication students of Batangas State University- Lipa who are taking Ged 106: Purposive Communication. The total number of freshmen enrolled in the program in the first semester of the A.Y. 2018- 2019 was used as the subject of the study.

Survey instrument was used by the researcher as primary source of data. It was composed of three parts which focus on students' profile, learning styles and brain hemisphericity. The first part included items to determine the profile of the respondents in terms of age, sex and academic performance in English. The second part focused on the determination of students' learning styles. It is a standardized 30-item multiple choice self-assessment test developed by Victoria Chrislett to assess students' learning styles as to visual, auditory and kinesthetic. The third part was centralized on the determination of students' brain dominance through the 20-item yes or no standardized structured personality test developed by Personality Test Center Psychometric Services.

Upon the administration, the gathered data were tabulated, analyzed and interpreted using frequency, percentage and chi-square.

1. Frequency – This was used to determine the characteristics of the respondents.
2. Percentage – In this study, it was used to determine the profile distribution of the respondents when grouped according to age, sex and academic performance in English.
3. Chi-square – It was used to determine the significant relationship between the profile of the respondents and their learning styles and brain hemisphericity.

RESULTS AND DISCUSSION

Profile of the Respondents

The profile of the students in terms of age, sex and academic performance in English were gathered in this study for the purpose of presenting accurate descriptions of the respondents.

Table 1 showed the distribution of the student-respondents in terms of age. With the used of frequency, the researcher determined which among the given age bracket has the highest number of respondents.

Table 1. Distribution of the Respondents in Terms of Age.

Age Bracket	Frequency	Percentage
16-17	4	5.7
18-19	48	68.6
20-21	17	24.3
22-23	1	1.4
Total	70	100

Table 1 surfaced the distribution of the respondents in terms of age. As revealed, out of 70 respondents, 48 (68.6%) falls under the age bracket of 18-19 while 17 (24.3%) are 20-21 years old. It is followed by the age bracket of 16-17 with the frequency of 4

(5.7%). Conversely, the age bracket of 22-23 tallied the least number of respondents, 1 (1.4%) respectively. The distribution could be due to the used of college freshmen as respondents of the study. On the registry records of BatState-U Lipa City, most of freshmen enrolled are 18-20 years old.

Table 2 shows the distribution of the respondents in terms of sex. With the used of frequency, the researcher determined the number of male and female respondents.

Table 2. Distribution of the Respondents in Terms of Sex

Sex	Frequency	Percentage
Male	22	31.4
Female	48	68.6
Total	**70**	**100**

As shown in the provided matrix, out of 70 respondents, 48 or 68.6 percent are female while 22 or 31.4 percent are male. It can be seen from the result obtained that most of students enrolled in AB Communication in BatStateU-Lipa City are female. According to the study of Nevala, N., (2015) about the case study on gender communication, most women are more inclined in communication than men; that is, majority of women tend to be expressive and aggressive in communicating ideas. Also, according to the study conducted by Wolfe, J., (2012) about communication styles, men engaged primarily in Mathematics and engineering field of works while women mostly engaged in promotions, domestics, social works and language teaching. With these, female respondents could undoubtedly outnumbered males in communication concerns.

Table 3 displays the profile distribution of the student-respondents in terms of their academic performance in English. With the used of frequency, the researcher determined the high, average and low achievers.

Table 3. Distribution of the Respondents in Terms of Academic Performance in English

Academic Performance in English	Frequency	Percentage
75-79 (Poor)	14	20
80-84 (Fair)	14	20
85-89 (Satisfactory)	22	31.4
90-94 (Very Satisfactory)	16	22.8
95-99 (Excellent)	4	5.71
Total	70	100

Table 3 showed the distribution of the respondents in terms of their academic performance in English. The data revealed that almost one-third of the respondents fall under the grade bracket of 85-89. Specifically, it obtains the frequency of 22 which is equivalent to 31.4 percent. It is followed by the grade bracket of 90-94 with the frequency of 16 which is equivalent to 33.8 percent. Also, out of 70 respondents, both grade brackets of 75-79 and 80-84 obtain the frequency of 14 with the equivalent percentage of 20. Conversely, only 4 respondents fall under the grade bracket of 95-99. It tallies the least response which is only equivalent to 5.71 percent.

Learning Styles of the Students

Table 4 displays the distribution of the respondents in terms of their learning styles. With the used of frequency, the researcher determined the number of visual, auditory and kinesthetic learners.

Table 4. Distribution of the Respondents in Terms of Learning Styles

Learning Styles	Frequency	Percentage
Visual	32	45.7
Auditory	24	34.3
Kinesthetic	14	20
Total	70	100

The matrix above showed that most of the respondents are visual learners. It specifically obtains the highest tallied number of responses quantifying to 32 which is equivalent to 45.7 percent. Second on the rank is auditory learning style tallying the frequency of 24 or 34.3 percent. Evidently, as revealed by the data, kinesthetic learning style obtains the least frequency of 14 which is transparently equivalent to 20 percent.

The tabulated data corroborated with the study conducted by Zang (2011). Zang emphasized that most of students in schools are highly visually inclined. He added that visual learners who are set on a single classroom process information and effectively learn through illustrations, pictures and videos and abstract imaginations.

Brain Hemisphericity

Table 5 shows the distribution of the respondents with respect to their dominant brain hemispheres. It displays the obtained frequency and the corresponding percentage of responses on each brain hemisphere dominance.

Table 5. Distribution of the Respondents in Terms of Brain Hemisphericity.

Brain Hemisphericity	Frequency	Percentage
Left Brain	45	64.3
Right Brain	14	20
Both Brain	11	15.7
Total	70	100

The matrix above showed the results of the assessment applied to determine the brain hemisphere dominance of AB Communication students in BatState-U Lipa City. As depicted, almost two-thirds of 70 student-respondents are left brain dominant. Specifically, it dominantly obtains the highest tallied number of responses quantifying to 45 which is equivalent to 64.3 percent. It is followed by right brain dominant with the obtained frequency of 14 or 20 percent. Contrariwise, both brain dominance obtains the least frequency of 11 which is equivalent to 15.7 percent.

The domination of left-brain hemisphere among brain hemisphericities upholds the findings of the study conducted by Heray (2009). He emphasized that most of students in schools are left brain thinkers. Thus, they performed better at analyzing and looking for details, focusing on one thing, giving direct answers and organizing information and material in logical and linear way.

Relationship Between the Students' Profile and Learning Styles

Table 6 presents the results of the computations done on the assessment of the relationship reached between the respondents' profile and their learning styles.

Table 6. Association Between the Respondents' Profile and Learning Styles.

Profile Variables	p-values	Computed Values	Decision on Ho	Verbal Interpretation
Age	.57	4.84	Accept	Not Significant
Sex	.01	9.26	Reject	Significant
Academic Performance in English	.00	52.20	Reject	Significant

The computation of the data revealed that two components considered in the study yield results which manifest significant at .05 level of significance. In particular, sex and academic performance in English obtain p-values of .01 and .00, respectively. Such p-values are less than .05 level of significance. Thus, the null hypotheses are rejected; and hence, discloses that there is significant relationship between students' learning styles and sex, and academic performance in English.

Specifically, the gathered and tallied data revealed that most males preferred kinesthetic learning style since they learn easily through action while most females preferred visual because they learn best through images, illustrations and observations.

The finding corroborated with the study of Dobson, J., (2010) which focused on the comparison between the students' learning style preferences and their sex, status and course performance. Dobson highlighted that there was a significant between sex and the perceived and assessed sensory modality preferences or learning styles.

Moreover, the matrix also highlighted the impact of learning styles on students' academic performance in English. As depicted, students with kinesthetic learning styles performed most satisfactorily. This validated the study of Tomrak, M., et al., (2016) regarding the relationship between the learning styles and academic performance of Turkish Students. The study of Tomrak, M., et al (2016) highlighted the positive correlation between success grade and participant score. They found out that the success

grade of participant (kinesthetic) group was significantly higher than all other groups. It was also revealed that students with participant (kinesthetic) learning style had significantly higher academic performance than students with other learning styles.

Relationship Between the Students' Profile and Brain Hemisphericity

Table 7 displayed the results of computations done on the assessment of the relationship reached between the respondents' profile and their dominant brain hemispheres.

Table 6. Association Between the Respondents' Profile and Brain Hemisphericity

Profile Variables	p-values	Computed Values	Decision on Ho	Verbal Interpretation
Age	.35	6.68	Accept	Not Significant
Sex	.82	.40	Accept	Not Significant
Academic Performance in English	.75	1.90	Accept	Not Significant

The matrix above showed the results of the assessment applied to determine relationship between the respondents' brain hemisphericity and profile in terms of age, sex and academic performance in English. As depicted, all the computed p-values are higher than .05 level of significance. This leads to the acceptance of the null hypotheses and concludes that there is no significant relationship between the students' profile and brain hemisphere dominance. Hence, this indicates that the brain hemisphericity of the respondents is independent to their profile.

The results corroborated with the study conducted by Singh, P. (2015) about the interaction effect of brain hemispheric dominance and self-concept on students' academic achievement. Singh investigation found out that there is no significant relationship between the students' academic achievement and the combined effect of brain hemispheric dominance and self-concept.

Moreover, the study of Oflaz, M. (2011) entitled "The Effect of Right and Left-Brain Dominance in Language Learning" emphasized that English language classrooms consists of students who have differing learning styles which are related with the dominance of right and left-brain hemispheres. However, the study determined that the brain dominance of students is independent to sex and bears no effect on students' learning and academic achievement in English.

CONCLUSION

The study comprehensively analyzed the relationship between the profile of the respondents and their learning styles and dominant brain hemispheres. The analysis concluded that most of the learners are 18-19 years old and females with satisfactory academic performance in English. Majority are also visual and left brain learners. As well, it is revealed that there is significant relationship between the students' learning styles and profile, particularly sex and academic performance in English, but no significant relationship between students' profile and brain hemisphericity.

RECOMMENDATION

Based on the conclusions drawn, it is recommended that exploratory research should be conducted to examine educators' teaching styles and their relationship with learning styles and students' academic performance in English. Research studies parallel to the present study may be conducted to effectively address the learning needs of students through their learning preferences. Besides, other contributing factors to the decreasing English language proficiency of Filipino graduates may be explored in preparation for the global workforce.

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