

Multiple Intelligences as Basis for the Strand Preference of the Grade 10 Students

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Abstract - Intelligence refers to our humans' biopsychological ability to process types of information in specific ways. This study is set to assess the Multiple Intelligence as basis for the Strand preference of the Grade 10 students in St. Paul University Surigao. The research study employed a quantitative descriptive research design where the respondents were 150 randomly selected students. The main instrument used in gathering the data was a modified questionnaire from Armstrong (2009) and was analyzed using Frequency Count and Percentage Distribution, Mean and Standard Deviation, Analysis of Variance, and Pearson Product-Moment Correlation.

Based on the findings, the Grade 10 students at St. Paul University Surigao have a high level of multiple intelligence. The intelligence of the Grade 10 Students of St. Paul University Surigao matters depending on his/her sex, specifically on linguistic, spatial, musical, interpersonal, intrapersonal and naturalist intelligence. The strand preference of the Grade 10 Students of St. Paul University Surigao corresponds with their intelligence, particularly in linguistic, logical-mathematical, bodily-kinesthetic, interpersonal, intrapersonal and naturalist intelligence. In view of the findings and conditions aforementioned in the study, the following actions were recommended: (a) The students may assess their various intelligence and interest first before choosing their preferred strand, (b) the teachers may develop a practical and useful lesson plan for the students to improve their Multiple Intelligence and assess student in choosing their preferred strand, (c) school administrators may organize programs that enhance students' Multiple Intelligence and support students in selecting their preferred strand.

Keywords: Multiple Intelligences, Strand Preference, Sex, Socioeconomic Status

INTRODUCTION

In the early 1980s, Gardner's Theory about Multiple Intelligences introduced the concept that each person has their intelligence profile, but it differs according to its range (Bathan, 2018). According to Armstrong (2009), an American Developmental Psychologist, Howard Gardner, mentioned in his book *Frames of Mind* the occurrence of the eight intelligences: logical-mathematical, verbal-linguistic, bodily-kinesthetic, musical-rhythmic, interpersonal, visual-spatial, intrapersonal and naturalist. In addition, intelligence refers to our humans' biopsychological ability to process particular types of information in specific ways (Gardner,

2013). According to Bathan (2018), these Multiple Intelligences will serve as a guide to find out what is best for the learners, identify what interest they want to excel in, and fully unlock their potential. In addition, it will improve the knowledge of the students to value the importance of choosing the right decision for their future.

The K to 12 Law or Enhanced Basic Education Act of 2013, also known as the Republic Act No 10533, developed the basic education system of the Philippines (Butron, 2018). Under the Republic Act No. 10533, senior high school is a two-year specialized upper secondary education program in which students can specialize based on their aptitude, hobbies, and school competence. There are four tracks available to senior high school students: Academic, Technical-Vocational-Livelihood, Sports, and Arts. Accountancy, Business and Management (ABM); Humanities and Social Sciences (HUMSS); and Science, Technology, Engineering, and Mathematics (STEM), General Academic Strand (GAS) are the strands under the Academic Track (CIIT Philippines, 2017).

Moreover, the new curriculum allows students to decide what strand fits their skills and interests (Butron, 2018). According to Barman and Roy (2021), it is claimed that making the right decision at the appropriate moment is critical to one's success in life. In this sense, students are not an exception. Making a decision indicates that there are alternatives to consider and select the one that best suits our aims, objectives, wants principles, and so forth. Choosing the perfect strand might even be challenging for any learner (Salazar, n.d.).

The objective of the study was to assess the Multiple Intelligence as basis for the Strand preference of the Grade 10 students in St. Paul University Surigao. The findings of this study will benefit the students in determining what strand to choose before moving to the Senior High School level. In addition, it will benefit society by considering the results as basis for the educators to develop a new teaching strategy and the students to have improved and advanced learning styles. After knowing the findings, recommendations will be proposed for the beneficiaries to improve their decision-making on what strand to choose and formulate an effective career plan.

MATERIALS AND METHODS

The research study employed quantitative research design. Specifically, the descriptive research design since they are aiming to obtain information from a population (Chaudhari, 2021) and it is a scientific method in which the behavior of a subject is observed and described without influencing him in any way (Shuttleworth, 2008). The researcher used a questionnaire in collecting data. The survey method will be taken up as the main methodology, which is one of the most common methods of collecting data on attitudes and opinions from a relatively large number of respondents. This is the most appropriate research approach or design for the study since this type of research design enables the researchers to collect and analyze the data and come up with the ideal conclusions for the study. By using this research design, the researchers will be able to give answers to the queries raised and will meet the purpose of the study as one of the objectives of this research is to assess the Multiple Intelligence as basis for the Strand preference of the Grade 10 students in St. Paul University Surigao.

The respondents of this study were the selected Grade 10 students from St. Paul University Surigao who will be randomly chosen. Simple random sampling was used as the sampling

technique accumulating the needed data for assessment. The sample size for this study will be taken using Slovin's formula.

In this study, the researchers used a modified questionnaire from Thomas Armstrong (2009) as a major tool for gathering data. The survey questionnaire will be used to assess the Multiple Intelligence as basis for the strand preference of the Grade 10 students in St. Paul University Surigao.

The modified questionnaire will be divided into three parts. The first part aims to seek the profile of the respondents such as sex and socioeconomic status. The second part aims to seek the strand preference of the respondents. The third part contains checklist to assess the Level of Multiple Intelligence of the Grade 10 students in St. Paul University Surigao. To augment the validity of the instrument, a letter of request will be sent to three experts to validate the instrument with regards to construct validity.

To assess the Multiple Intelligence as basis for the Strand preference of the Grade 10 students, the following statistical tools were used to treat the data. Frequency Count and Percentage was used to display data that specifies the percentage of observations that exist for each data point, specifically, expressing the frequency of survey responses of the respondents in their profiles. Mean and Standard Deviation were used to describe the multiple intelligences of the students. Analysis of Variance was used to compare the means of two or more variables to determine whether there is statistical evidence that the associated population means are significantly different. Pearson Product-Moment Correlation. This was used to determine the strength and direction of a relationship between two variables on at least an interval scale.

RESULTS AND DISCUSSION

This study aimed to assess the Multiple Intelligence as basis for the Strand preference of the Grade 10 students in St. Paul University Surigao. A quantitative descriptive research design using a survey technique was employed. The respondents of this study were the selected Grade 10 Students from St. Paul University Surigao. The main instrument used to solicit information is a modified questionnaire from Thomas Armstrong (2009) consisting of three (3) parts. Frequency Count and Percentage, Mean and Standard Deviation, Analysis of Variance, and Pearson Product-Moment Correlation were the statistical tools used in this study.

Based on the analysis done on the data gathered, the findings revealed in this study are summarized as follows:

1. Majority of the respondents are females with 86 (57.33%) while 64 (42.67%) are males. As to the *socioeconomic status*, most of the respondents belong to the category of poor (less than PHP 10,481) with 49 (32.67%), followed by the low-income class (between PHP 10,481 and PHP 20,962) with 33 (22.00%), the lower middle-income class (between PHP 20,962 and PHP 41,924) with 28 (18.67%), the middle middle-income class (between PHP 41,924 and PHP 73,367) with 17 (11.33%), the upper middle-income class (between PHP 73,367 and PHP 125,772) with 14 (9.33%), the rich (PHP 209,620 and above) with 8 (5.33%), and upper-income class with 1 (0.67%).

2. Majority of the respondents chose STEM (Science, Technology, Engineering and Mathematics) with a total of 21 (14.00%) respondents chose HUMSS (Humanities and Social Sciences), a total of 15 (10.00%) respondents chose ABM (Accountancy, Business and

Management), a total of 7 (4.67%) respondents chose GAS (General Academic Strand), a total of 9 (6.00%) chose ADT (Arts and Design Track), and a total of 7 (4.67%) chose TVL (Technical-Vocational-Livelihood) while a total of 2 (1.33%) of the respondents chose Sports Track.

3. As to the respondents' level of *linguistic intelligence*, the item *I appreciate rhymes, puns, tongue twisters* got the highest mean ($\bar{M}=3.15$, $SD=0.69$), which can be verbally interpreted as *agree* and qualitatively described as *high*. Meanwhile, the items *I have a good memory for names, places, dates, or trivia* and *I have a good vocabulary* got the lowest mean ($\bar{M}=2.86$, $SD=0.80$ and 0.63 , respectively), which can be verbally interpreted as *agree* and qualitatively described as *high*. On average, the respondents' level of *linguistic intelligence* got a mean ($\bar{M}=3.00$, $SD=0.71$) which can be verbally interpreted as *agree* and qualitatively described as *high*.

As to the respondents' level of *logical-mathematical intelligence*, the item *I ask a lot of questions about how things work* got the highest mean ($\bar{M}=3.54$, $SD=0.61$), which can be verbally interpreted as *strongly agree* and qualitatively described as *very high*. Meanwhile, the item *I enjoy math class* got the lowest mean ($\bar{M}=2.66$, $SD=0.83$), which can be verbally interpreted as *agree* and qualitatively described as *high*. On average, the respondents' level of *logical-mathematical intelligence* got a mean ($\bar{M}=2.94$, $SD=0.78$) which can be verbally interpreted as *agree* and qualitatively described as *high*.

As to the respondents' level of *spatial intelligence*, the item *I like to view movies, slides, or other visual presentations* got the highest mean ($\bar{M}=3.49$, $SD=0.56$), which can be verbally interpreted as *strongly agree* and qualitatively described as *very high*. However, the item *I am good at drawings* got the lowest mean ($\bar{M}=2.37$, $SD=1.01$), which can be verbally interpreted as *disagree* and qualitatively described as *low*. On average, the respondents' level of *spatial intelligence* got a mean ($\bar{M}=3.07$, $SD=0.78$) which can be verbally interpreted as *agree* and qualitatively described as *high*.

As to the respondents' level of *bodily-kinesthetic intelligence*, the item *I move, twitch, tap, or fidgets when sitting for a long time in one spot* got the highest mean ($\bar{M}=3.27$, $SD=0.68$), which can be verbally interpreted as *strongly agree* and qualitatively described as *very high*. However, the item *I excel in one or more sports* got the lowest mean ($\bar{M}=2.73$, $SD=0.87$), which can be verbally interpreted as *agree* and qualitatively described as *high*. On average, the respondents' level of *bodily-kinesthetic intelligence* got a mean ($\bar{M}=2.95$, $SD=0.78$), which can be verbally interpreted as *agree* and qualitatively described as *high*.

As to the respondents' level of *musical intelligence*, the item *I sing songs that I have learned outside of the classroom* got the highest mean ($\bar{M}=3.41$, $SD=0.74$), which can be verbally interpreted as *strongly agree* and qualitatively described as *very high*. However, the item *I have a good singing voice* got the lowest mean ($\bar{M}=2.27$, $SD=0.90$), which can be verbally interpreted as *disagree* and qualitatively described as *low*. On average, the respondents' level of *musical intelligence* got a mean ($\bar{M}=2.96$, $SD=0.81$) which can be verbally interpreted as *agree* and qualitatively described as *high*.

As to the respondents' level of *interpersonal intelligence*, the item *I have two or more close friends* got the highest mean ($\bar{M}=3.50$, $SD=0.68$), which can be verbally interpreted as *strongly agree* and qualitatively described as *very high*. Meanwhile, the item *I seem to be a natural leader* got the lowest mean ($\bar{M}=2.56$, $SD=0.87$), which can be verbally interpreted as *agree* and qualitatively described as *high*. On average, the respondents' level of *interpersonal intelligence*

got a mean ($M=3.02$, $SD=0.78$) which can be verbally interpreted as *agree* and qualitatively described as *high*.

As to the respondent's level of *intrapersonal intelligence*, the item *I am able to learn from my failures and successes in life* got the highest mean ($M=3.44$, $SD=0.65$), which can be verbally interpreted as *strongly agree* and qualitatively described as *very high*. Meanwhile, the item *I have good self-esteem* got the lowest mean ($M=2.87$, $SD=0.89$), which can be verbally interpreted as *agree* and qualitatively described as *high*. On average, the respondents' level of *intrapersonal intelligence* got a mean ($M=3.19$, $SD=0.75$) which can be verbally interpreted as *agree* and qualitatively described as *high*.

As to the respondents' level of *naturalist intelligence*, the item *I like field trips in nature, to the zoo, or to a natural history museum* got the highest mean ($M=3.38$, $SD=0.73$), which can be verbally interpreted as *strongly agree* and qualitatively described as *very high*. However, the item *I enjoy sharing flower and other natural things with our neighbor* got the lowest mean ($M=2.91$, $SD=0.91$), which can be verbally interpreted as *agree* and qualitatively described as *high*. On average, the respondents' level of *naturalist intelligence* got a mean ($M=3.08$, $SD=0.79$) which can be verbally interpreted as *agree* and qualitatively described as *high*.

Among the *multiple intelligences*, the *intrapersonal intelligence* got the highest mean ($M=3.19$, $SD=0.75$), which can be verbally interpreted as *agree* and qualitatively described as *high*. However, the *logical-mathematical intelligence* got the lowest mean ($M=2.94$, $SD=0.78$), which can be verbally interpreted as *agree* and qualitatively described as *high*. On the average, the respondent's level of *multiple intelligence* got a mean ($M=3.03$, $SD=0.77$) which can be verbally interpreted as *agree* and qualitatively described as *high*.

4. There is a significant difference between the sex of the respondents and their *linguistic intelligence*, *spatial intelligence*, *musical intelligence*, *interpersonal intelligence*, *intrapersonal intelligence* and *naturalist intelligence* (p-value of 0.011, 0.005, 0.004, 0.001, 0.001 and 0.049, respectively). However, there is no significant difference between the sex of the respondents and their *logical-mathematical intelligence* and *bodily-kinesthetic Intelligence* (p-value = 0.900 and 0.387, respectively.)

There is no significant difference between the *socioeconomic status* and the *linguistic intelligence*, *logical-mathematical intelligence*, *spatial intelligence*, *bodily-kinesthetic intelligence*, *musical intelligence*, *interpersonal intelligence*, *intrapersonal intelligence* and *naturalist intelligence* (p-value = 0.128, 0.140, 0.327, 0.171, 0.163, 0.099, 0.708, and 0.556, respectively).

5. There is a significant relationship between the *strand preferences* of the respondents and their *linguistic intelligence*, *logical-mathematical intelligence*, *bodily-kinesthetic intelligence*, *interpersonal intelligence*, *intrapersonal intelligence* and *naturalist intelligence* (p-value = 0.000, 0.000, 0.009, 0.002, 0.001, and 0.000, respectively.) Findings also revealed that there is a *low negative correlation* between *strand preference* and *linguistic and logical-mathematical intelligence* (r-value = -0.31 and -0.41, respectively.) Findings also revealed that there is a *negligible correlation* between the *bodily-kinesthetic intelligence*, *interpersonal intelligence*, *intrapersonal intelligence* and *naturalist intelligence* (r-value = -0.21, -0.25, -0.27, and -0.29, respectively.) However, there is no significant relationship between the *strand preference* of the respondents and their *spatial intelligence* and *musical intelligence* (p-value = 0.156 and 0.087, respectively.) Findings also revealed that there is a *negligible correlation* between the *strand*

preference of the respondents and their *spatial* intelligence and *musical intelligence* (r-value of -0.12 and -0.14, respectively.)

CONCLUSIONS

Based on the study conducted, it is therefore concluded that the Grade 10 students of St. Paul University Surigao have a high level of multiple intelligence which means that they possessed a unique set of skills that are inherently stronger than others for each of the intelligences and each of them contains all eight intelligences that will be develop to respectable degree of competence toward certain intelligences. The intelligence of the Grade 10 Students of St. Paul University Surigao matters depending on his/her sex, specifically on linguistic intelligence, spatial intelligence, musical intelligence, interpersonal intelligence, intrapersonal and naturalist intelligence. The strand preference of the Grade 10 Students of St. Paul University Surigao corresponds with their intelligence, particularly in linguistic intelligence, logical-mathematical intelligence, bodily intelligence, interpersonal intelligence, intrapersonal and naturalist intelligence.

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