
ABSTRACT

The study was conducted to determine the learning difficulties in Mathematics of the senior students of Cathedral School of La Naval, Naval, Biliran. This utilized a descriptive method of research. Different statistical tools were used in the analysis of data: frequency and percentage for the profiles, number of mistakes and performance. Mean and t-test with alpha level of significance was set at 0.05 to determine the correlation.

The findings of the study showed that there is significant difference between the performance and age while there is no difference between performance and sex and parents'/guardians' highest educational attainment with very high correlation. A very high correlation was also found out in terms of performance and learning difficulties, where both variables were significant. The item which incurred the greatest number of mistakes was on Perfect Square Binomial. Mentors should give focus or remediation on topics where students' low performance was identified and further establish friendly ambiance so that they could fill-in the learning gap of the learners with the use of various teaching strategies and materials.

KEYWORDS: Learning difficulties, Mathematics, National Secondary Assessment Test, Cathedral School of La Naval.

INTRODUCTION

Mathematics, to most, is considered as one of the complex subjects. It is an essential tool basically contained in the daily living and largely used for the success in many chosen fields. Nevertheless, it continues to be an important part of students' programs from primary to tertiary level and, in fact, mandatory to complete these in all educational levels. However, some sad realities always open up in any endeavor.

The House of Senate (2008) uncovered that the real country's basic education sector is in an alarming state. Performance indicators have worsened in recent years while the quality, as manifested by the appalling performance of Filipino students in international assessment tests, continued to deteriorate. In Mathematics, Philippines got an average score of 378 out of 467 passing percentage and is in rank 41st out of 45 participating countries, besting Botswana (42), Saudi Arabia (43), Ghana (44) and South Africa (45). Wherein, the top five were bagged by Singapore, South Korea, Hong Kong, Chinese Taipei and Japan. This is based on International Mathematics Science Study (TIMSS), 2003 results from Institute of Education Sciences, United States Department of Education.

Similarly, the Department of Science and Technology (2008) stated in the 2004 Executive Report on Philippine TIMSS of the University of the Philippines/TIMSS National Research Coordination Office showed that in five years, only 7 regions out of the 15 regions manifested improvements on skills and competencies in mathematics and 6 regions in the science subjects.

Regretfully, it was supplemented in the same report that the students from Regions 2, 8, 9, 10, and 11 did not show any improvements as far as the International Mathematics and Science Benchmarks (passing grades) are concerned

and evidently Mathematics is still one of the disciplines young Filipinos are confronted with great learning deficiencies.

In a survey conducted among students in the School Year 2009-2010, out of more than 1.5 million test takers the mean percentage score in Mathematics is only 39.64. The achievement level of students is low, with only 30.51 percent getting the mastery level at an average percentage score of 75 to 100, while 33.80 percent have no mastery with percentage score of below 50. (The Manila Bulletin 2010).

Moreover, based on the latest available National Career Assessment Examination (NCAE) results taken from the National Education Testing and Research Center (NETRC) of the Department of Education (DepEd) in Biliran Division, the Cathedral School of La Naval (CSN) posted little increase of its Mean Percentage Score (MPS) of 66.84% which still requires a counterpart in moving towards Mastery Level.

Van Steenbrugge (2008) articulated that there is lack of research about Mathematics learning difficulties and the proven need to start early interventions to cope with related difficulties. In the same vein, Mathematical learning concern has been addressed by few. Since few studies have been done to look at students' learning difficulties in Mathematics, the researcher was prompted to deal on the subject not only to get the real score of this national issue and concern in the academia but also address the same problem that has been grappled in her own school.

Similarly, results generated from this study would serve as baseline information to make teaching-learning Mathematics a productive and engaging experiences and opportunities for both teachers and students and could facilitate improvement of Mathematics performance particularly in Cathedral School of La Naval.

METHODOLOGY

This study used the descriptive survey research design. To generate the data, a questionnaire was used to elicit needed information on the different variables/objectives considered in the study which include the respondents' profile, learning difficulties and performance in the subject which yielded to the presumed output.

The method utilized was deemed appropriate as a fact-finding measure to give appropriate interpretation of the different variables identified and assessment of their corresponding relationships. The venue of the study was mainly concentrated at the Cathedral School of La Naval which is a Roman Catholic High School of Biliran Division. The school is located at the capital town of Naval in the province of Biliran.

Respondents of the study were all senior students officially enrolled at CSN for the school year 2010 - 2011. There were forty (40) students from section Mater Purissima and thirty four (34) students from section Foederis Arca for a total of seventy four (74) respondents.

This study used a questionnaire as the main data gathering tool. The instrument was divided into two parts. Part I solicited the respondents' profile such as age, sex and guardian's highest educational attainment. Part II was on Mathematics assessment test designed to gather students' responses on the skills stipulated in the DepEd NSAT of which the assessment test was lifted for the purpose of finding out their academic performance and learning difficulties in the subject area.

RESULTS AND DISCUSSION

The Profile of the Senior Students

The profile of the senior students was categorized in terms of age, sex and parents/guardians' educational attainment. This is presented in Table 1.

Table 1: The Profile of Senior Students

Variable	Frequency	Percentage
1.1 Age		
18 yrs. old and above	1	1.4
16-17 years old	44	60.3

15 years old and below	28	38.4
Total	73	100
1.2 Sex		
Male	35	47.9
Female	38	52.1
Total	73	100
1.3 Parents/guardians' educational attainment		
Elementary Graduate	0	0
High School Level	1	1.4
High School Graduate	1	1.4
College Level	2	2.7
College Graduate	61	83.6
Masters Degree	4	5.5
Doctoral Degree	4	5.5
Total	73	100

Age. As to age, 44 or 60.3 percent of the senior students were within the age range of 16-17 years old, 28 or 34.4 percent were within 15 years old and below, and 1 or 1.4 percent belonged to the age range of 18 years old and above. The result suggests that majority of the respondents were within 16-17 years old range. This means that the ages of the respondents are exactly approximate to their level as senior students which means that they entered or begun schooling at the right and proper ages.

Sex. In terms of sex, 38 or 52.1 percent of the students were females and the other 35 or 47.9 percent were males. This shows that there were many females than males among the senior students.

Parents/guardians' educational attainment. With regards to the parents' or guardians' educational attainment, 61 or 83.6 percent were college graduates, 4 or 5.5 percent were master's degree holders, another 4 or 5.5 percent were doctoral degree holders, 1 or 1.4 percent was high school graduate, the other 1 or 1.4 percent was high school level and not one is an elementary graduate. Based on this findings, it can be deduced that majority of the parents or guardians of the senior student-respondents were college graduates. This would imply that the parents or guardians were well-educated and strongly value the importance of education.

PERFORMANCE OF THE SENIOR STUDENTS

The performance of the senior students was measured through the scores they obtained from the assessment test given to them. This is presented in Table 2.

Table 2: Performance of the Senior Students

Score	Descriptive Category	Frequency	Percentage
61-75	Outstanding	22	30.14
46-60	Very Satisfactory	43	58.9
31-45	Satisfactory	7	9.59
16-30	Needs Improvement	1	1.37
0-15	Poor	0	0
Total		73	100

As provided in the Table, out of the 73 senior student-respondents, 43 or 58.9 percent were very satisfactory and obtained the scores 46-60, 22 or 30.14 percent were outstanding and had scores 61-75, 7 or 9.59 percent were satisfactory and had scores 31-45, 1 or 1.37 percent were on the category "needs improvement" and had the scores 16-30, and nobody got 0-15 scores in poor category. Based on this data, majority of the respondents register high scores while no one falls on very poor scores. This may indicate that the performance of the senior students was high and that they were competent in the subject.

LEARNING DIFFICULTIES OF THE SENIOR STUDENTS

The learning difficulties of the senior students focused on the number of mistakes they got from the quizzes taken from the different topics in Mathematics. The data is shown in Table 3.

Table 3: Learning Difficulties of the Senior Students

Number Mistakes	of f	%	Item Nos.	Topics
52	1	4	38	Perfect square binomial
47	1	4	57	Graphical Analysis on Distance
45	1	4	52	Business Math
43	1	4	64	Speed test problem
41	1	4	62	Problem solving in algebraic expression
38	3	12	25 66 70	Transversal Arithmetic word problem Arithmetic Progression
35	1	4	32	Ratio and proportion
34	1	4	69	Algebraic multiplication
33	2	8	24 41	Coplanar Angles Division / Multiplication on scientific notation
32	3	12	44 67 74	Area of square and rectangle Division of polynomials Angle measure in triangle
30	1	4	73	Quartile
29	2	8	14 72	Division of polynomials Range
28	3	12	29 61 65	Fractional Percentage Price problem Quadratic equation
27	3	12	23 33 60	Segments in a Circle Fundamental quantity Congruence
26	1	4	13	Multiplication of polynomials
Total	25	100		

As revealed in the Table, the topic which registered the highest number of mistakes at 52 or 4 percent was on Perfect Square Binomial. 47 or 4 percent mistakes were on Graphical Analysis on Distance. Meanwhile, the topic with the least number of mistakes at 26 or 4 percent was on Multiplication of Polynomials. This means that the students found

the topic Perfect Square Binomial difficult and the Multiplication of Polynomials easier. This would imply that the students needed to concentrate more on the topic Perfect Square Binomial in order to cope with their learning difficulty on this subject matter.

RELATIONSHIP BETWEEN THE STUDENTS' PERFORMANCE AND THEIR PERSONAL PROFILE

This section discusses the results of the correlation between the senior students' performance and their personal profile which includes the age, sex and the senior students' parents/guardians educational attainment. This is presented in Table 4.

Figure 1: The table shows that in the variable students' performance and age, the r value of 0.999 had a very high correlation. The computed value of 22.34 is greater than the table value of 3.182 at alpha 0.05. Since the computed value is greater than the table value, the null hypothesis there is no significant relationship between the students' performance and their age is rejected and therefore the variables are significant.

Figure 2: As to the students' performance and sex, the table reveals that r value of 0.940 is of very high correlation, the computed value of 2.76 is lesser than the table value of 3.182 at alpha 0.05. Since the table value is lesser than the computed value, the null hypothesis there is no significant relationship between the students' performance and their sex is accepted and therefore the variables are not significant.

Figure 3: Table 4: Relationship between the Students' Performance and Their Personal Profile

Variables	r	CV	TV	Decision
Students' performance to age	0.999	22.34	3.182	Ho rejected Significant
Students' performance to sex	0.940	2.76	3.182	Ho accepted Not Significant
Students' performance to parents/guardian educational attainment	0.906	2.14	3.182	Ho accepted Not Significant

Very High correlation, very dependable relationship at $(\alpha) = 0.05$ $df = 3$

Regarding the students' performance and their parents or guardians' educational attainment, the table shows that the r value of 0.906 is still of very high correlation with a computed value of 2.14 which is lesser than the table value of 3.182 at alpha 0.05. Since the computed value is lesser than the table value, this means that the null hypothesis there is no significant relationship between the students' performance and their parents or guardians' educational attainment is accepted and therefore not significant.

RELATIONSHIP BETWEEN THE STUDENTS' PERFORMANCE AND THEIR LEARNING DIFFICULTIES

This section shows the relationship between the students' performance and their learning difficulties. Results are presented in Table 5.

As reflected in the table, the r value of 0.94 is of very high correlation. The computed value of 10.2 is greater than the table value of 2.179 which means that the null hypothesis there is no significant relationship between the students' performance and their learning difficulties is rejected and is therefore significant. This would imply that the performance of the students in Mathematics is influenced by their learning difficulties in some of the topics indicated.

Table 5: Relationship Between the Students' Performance and Learning Difficulties

Variables	r	CV	TV	Decision
Students' performance to learning difficulties	0.94	10.2	2.179	Ho rejected Significant

Very High correlation, very dependable relationship at (α) = 0.05

CONCLUSIONS

Majority of the respondents are 16 -17 years old, females are greater than males, and their parents or guardians' highest educational attainment are college graduates. Majority of the respondents have very satisfactory performance in NSAT. Most of the learning difficulties of the students are on the topic about perfect square binomial. The profile of the students particularly their age influences their academic performance in Mathematics, while their sex and their parents'/guardians' highest educational attainment do not contribute or have any influence at all. However, the students' performance in Mathematics is generally affected by their learning difficulties in some of the topics where they struggle heavily.

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