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# FACTORS CONTRIBUTING TO STUDENTS' POOR PERFORMANCE IN MATHEMATICS IN AN INTEGRATED SCHOOL, ZAMBALES, PHILIPPINES

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***Abstract***

*This study examined the factors contributing to students' poor performance in Mathematics. The study was conducted in an Integrated school in Zambales, Philippines. This study employed the descriptive research method with the survey questionnaire as the research instrument. A total of 200 respondents were included as respondents of the study. Based on the findings, the researcher concluded that the student – respondents' average grade is 77.93. The students agree that the school related factors contribute to the poor performance in Mathematics. There was a significant difference in the perception on the factors affecting students' poor performance, and there is a low negative correlation between the factors contributing students' poor performance and average grade in Mathematics. There was a significant difference in the perception on school related factors and media and technology factors when grouped by students' section and economic status of parents. Perception on the effect of social factors and family factors on poor performance in Mathematics was significantly different when grouped according to students' section. The researcher recommends that teachers may consider to create a classroom environment that motivates students to acquire positive towards acquiring problem solving skills to improve Mathematics performance, attend regular training, and use teaching-learning strategies such as cooperative learning.*

***Keywords****: Poor Performance, school, media and technology, society, family*

## INTRODUCTION

Mathematics education in the Philippines is one of the priority concerns of the Department of Education (DepEd). The dismal state of mathematics achievement of high school students was evident in the results of international, national, regional mathematics tests. For instance, the performance of Filipino students in the 2003 Trends in International Mathematics and Science Study (TIMSS) in which the Filipino second year high school students ranked 41st in math out of 46 participants, stuck at the bottom while struggling at a passing level locally. Students' performance in the National Achievement Test (NAT) was even more discouraging. Some one million fourth year students' NAT in 2003-2005 had only ten percent mastery in mathematics. Students' NAT for four succeeding years (2006-2009) in both elementary and secondary levels registered below mastery level of 75 percent (Imam, O., Abas-Mastura, M., Jamil H. 2013).

Mathematics is the framework of the development in the community. It is believed that the development of mathematics and civilizations go together. The first step to learn mathematics thoroughly is to know the basic skills in mathematics such as addition, subtraction, multiplication and division. An alternative approach helps students in gaining a better understanding behind the concept of the order of operations. The interviews were necessary in order to gain the students'

feedback in the implementation of the alternative approach. Most of the students who were interviewed responded that it was easier for them to remember the triangle rather than using the mnemonic as a tool to remember the order of operations (Rahman et al., 2017).

It cannot be denied that problem solving is an important part of Mathematics education. Mathematics is an important subject because of its practical role to a person and the society. However, before a student solves a problem, the student needs to possess good reading comprehension, analytical skills and computation skills. DepEd says that reading competence as the first factor for the failure of students in mathematics. In the public schools. Along this line, appropriate measures were undertaken to improve students' performance in English and Mathematics. Some of these measures included implementing various reading programs by DepEd, training of mathematics teachers, and strengthening the use of English language as a primary medium of instruction in all public institutions of learning at the secondary level. Imam, O., Abas-Mastura, M., Jamil H. (2013) says that espite all these government efforts to improve the quality of mathematics performance as well as reading skills, the problem on these two areas persists. Reading is regarded as an indispensable part of mathematics and "mathematical knowledge". Learning to love and value mathematics language requires a good foundation in reading. Improving mathematics achievement necessitates enhancing students' reading. It is also vital to recognize that young learners develop reading and mathematics skills at different rates.

**ABSENTEEISM**

Absenteeism takes place when students are already uneasy with the pressures coming in from their daily school activities. It is one of the many factors that affect the student performances in academic areas. It is defined as a deliberate or habitual absence from going to school. The issue of absenteeism can also be viewed in context of academic problems of students which come in various forms such as difficulty in math subject, lack of motivation and study habits, strict teachers and failed major examinations. Absenteeism in one angle viewpoint is one of the most common causes of degrading performance of the students. Especially to those who are included in the advance intelligence curriculum, absenteeism causes a great loss and may result to giving up an aimed position. It can also cause social repletion especially when a class is composed of a great number of students. This habit can cause a dilemma to the school administration when big figures are involved and may decrease the school's performance. On the other hand, contamination of sickness and disease can be avoidable because of the absences of a person (Elis, J., 2016).

**STUDY HABITS**

The study habits of students vary from one student to the other and from one place to another. It is an important aspect of learning because students' achievement in schools depends greatly on their study habits. The low understanding level in mathematics has become great concern for our country, parents, educationists and government. The researchers and educationists have made large efforts to find out the causes of low achievement in mathematics subject. Despite all these efforts the problems persist. The study habits of students play a vital role in reflecting the standard of education and the students' achievement in mathematics. The students cannot be expected to learn everything needed about the subject from their teachers in the classroom alone, it is the combination of both the classroom learning and out of classroom learning that make up students' study habits (Sorenson 1991).

## METHODOLOGY

### Research Design

This study employed the descriptive research method with the survey questionnaire as the research instrument. For Shields and Rangarajan (2013) descriptive method includes the collection of data to test the hypothesis and to answer the question concerning the present status of the study. Each of them employs the process of disciplined inquiry through the gathering and analysis of empirical data, and each attempt to develop knowledge. Surveys and fact-finding inquiries are a kind of descriptive research. The main characteristic of this method is that the researcher has no control over the variables. Descriptive research as described by Calmorin (2009) involves and employs the process of inquiry, interpretation and attempts to develop knowledge. This method describes what is involved, the description of recording, analysis and interpretation of condition that exists.

### Study area

The study was conducted in Pamibian Integrated School, Division of Zambales. The two hundred (200) respondents were junior (Grade 7, Grade 8. Grade 9, and Grade 10) and senior (Grade 11) high school students. The students were purposively selected. The students were selected based on the criteria that the grade point average in Mathematics was 80% and below. Identification of the respondents was done by the Mathematics teacher for the particular grade level.

### Research Instrument

A survey questionnaire used in gathering data on the governance of education during pandemic in Pamibian Integrated School, Division of Zambales.The survey questionnaire has two (2) parts. The first part of the questionnaire dealt with the profile of student respondents as to Section, Average grade in Mathematics subject, Economic status of Parents, and Highest Educational Attainment of Parents.

The second part of the questionnaire consists of a series of statements designed to describe the perception of the students on school related factors, social factors, family factors, and media and technology factors.

### Data Analysis

The Statistical Package for Social Sciences (SPSS) computer software and MS Excel were used for the computations and interpretations of data. The statistical tools in the analysis and interpretation of data and hypotheses testing included the Percentage, Mean, Person R, and Analysis of Variance.

## RESULTS AND DISCUSSIONS

### Profile of the Students

Table 1 shows the frequency and percentage of distribution of the students' profile. The average grade in Mathematics of the 200 respondents is distributed as follows: majority or 107 (53.50 %) obtained an average of 75-77; 93 (or 46.50%) obtained an average of 78-80; and none (or 0.00 %) obtained an average of 74 and below. Overall, the mean grade in Mathematics was 77.40 described as Developing.

**Table 1: Frequency and Percentage Distribution of the Students' Profile**

| **Section** | **Frequency** | **Percent** |
|---|---|---|
| Archimedes | 9 | 4.50 |
| Euclid | 18 | 9.00 |
| Euler | 10 | 5.00 |
| Pythagoras | 17 | 8.50 |
| Einstein | 6 | 3.00 |
| Galilei | 10 | 5.00 |
| Mendel | 5 | 2.50 |
| Newton | 2 | 1.00 |
| Pasteur | 13 | 6.50 |
| Aristotle | 14 | 7.00 |
| Confucius | 22 | 11.00 |
| Plato | 12 | 6.00 |
| Homer | 12 | 6.00 |
| Milton | 8 | 4.00 |
| Twain | 4 | 2.00 |
| Humss 11 | 6 | 3.00 |
| Luna | 32 | 16.00 |
| Total | 200 | 100.00 |
| **Average Grade in Mathematics** | **Frequency** | **Percent** |
| 74 and below | 0 | 0.00 |
| 75-79 | 163 | 81.50 |
| 80-84 | 37 | 18.5 |
| Total | 200 | 100.00 |
| **Mean = 77.93** | | |

These results are similar to the findings of Patena and Dinglasan (2013) where most students recorded poor performance in Math I (Algebra) while few obtained grades within the 96–100 bracket described as highly proficient. Students recorded a performance below 83 in the Math I examination that was reported to fall under the "Not Met" category. The result implies that students find hard time in learning and applying mathematical concepts.

Table 2 shows the frequency and percentage distribution of the students' profile in terms of economic status and highest educational attainment of parents.

**Table 2: Frequency and Percentage Distribution of the Students' Profile (continuation)**

| **Economic Status of Parents** | **Frequency** | **Percent** |
|---|---|---|
| 5000 and below | 69 | 34.50 |
| 5001-10 000 | 93 | 46.50 |
| 10 001-20 000 | 32 | 16.00 |
| 20 001-30 000 | 3 | 1.50 |

| | | |
|---|---|---|
| 30 001 and above | 3 | 1.50 |
| **Total** | **200** | **100.00** |
| **Mean = 7,650.50** | | |
| **Highest Educational Attainment of Parents** | **Frequency** | **Percent** |
| Elementary Graduate | 32 | 16.00 |
| High School Graduate | 149 | 74.50 |
| College Graduate | 19 | 9.50 |
| Masteral Graduate | 0 | 0.00 |
| Doctoral Graduate | 0 | 0.00 |
| **Total** | **200** | **100.00** |

The economic status of parents refers to the gross monthly income. The monthly income ranged from PHP 5,000 and below to PHP 30,001 and above. The parents' income of most respondents (93 or 46.50 %) ranged from PHP 5,001-10,000, followed by PHP 5,000 and below (69 or 34.50 %), PHP 10,001-20,000 (32 or 16.00 %), PHP 20,001-30,000 (3 or 1.50 %) and PHP 30,001 and above (3 or 1.50 %). The average monthly income of parents was PHP 7,650.50. The Family Income and Expenditure Survey by the Philippine Statistics Authority (PSA) shows that majority (58.4%) of Filipinos belong to the low-income class, while the middle class comprises around 40% of the population. Only 1.4% fall in the high-income class (PIDS Policy Notes, 2018). The current official poverty threshold in the Philippines is PHP 10,481, which is the minimum amount a family of five needs in a month to buy their basic food and non-food items (Philippine Statistics Authority, 2020). The result in this study shows that the average family income reported at PHP 7,60.50 is lower than the official national poverty threshold at PHP 10.481.00 in the Philippines.

Majority (149 or 74.50 %) of the respondents reported that their parents were high school graduates. The parents of 32 (or 16.00 %) of the respondents were elementary school graduates. For 19 (or 9.50 %) of the respondents, their parents were college graduates while no one (or 0.00 %) of the respondents indicated that their parents were masteral or doctoral graduate. In the 2010 Census of Population and Housing (2010 CPH), the highest educational attainment was asked for persons aged 5 years old and over. The household population in this age bracket was recorded at 81.9 million, comprising 88.9 percent of the total household population in the country. Of the total household population aged five years and over, 19.1 percent had finished at most high school, 11.7 percent completed at most elementary education, 10.1 percent were academic degree holders, and 2.7 percent were post-secondary graduates. The educational attainment of the population in the country had improved since year 2000. The proportions of graduates of both secondary and tertiary (college) levels had increased from 2000 to 2010. In 2010, high school graduates accounted for 19.1 percent compared to only 12.9 percent in 2000. College graduates increased from 4.3 percent in 2000 to 10.1 percent in 2010. On the other hand, the proportion of those with no grade completed had decreased from 8.3 percent to 4.0 percent (Philippine Statistics Authority, 2013)

Table 3 shows the summary of the descriptive statistics on the level of agreement on the factors contributing to students' poor performance in Mathematics.

**Table 3: Summary of the Factors Contributing to Students' Poor Performance in Mathematics**

| Factors Contributing to Students' Poor Performance in Mathematics | Overall Weighted Mean | Qualitative rating | Rank |
|---|---|---|---|
| School Related factors | 3.98 | Agree | 1 |
| Social Factors | 3.76 | Agree | 3 |
| Family Factors | 3.94 | Agree | 2 |
| Media and Technology Factors | 3.68 | Agree | 4 |
| **Grand Mean** | **3.84** | **Agree** | |

The school related factors recorded the highest overall weighted mean of 3.98, followed by family factors (WM=3.94), social factors (WM=3.76), while media and technology factors recorded the lowest overall weighted mean of 3.68. These results showed that the students of Pamibian Integrated School Agree that school related factors, family factors, social factors and media and technology factors contribute to students' poor performance in Mathematics.

## ANALYSIS OF VARIANCE ON THE DIFFERENCE AMONG THE FACTORS PERCEIVED AFFECTING STUDENTS' POOR PERFORMANCE IN MATHEMATICS

Table 4 shows the test of difference among the factors perceived affecting students' poor performance in mathematics.

**Table 4: Difference Among the Factors Perceived Affecting Students' Poor Performance in Mathematics**

| Source of Variation | Sum of Squares | df | Mean Square | F | Sig. | Interpretation |
|---|---|---|---|---|---|---|
| Between Groups | 12.59 | 3 | 4.20 | 8.50 | 0.00 | Ho is rejected Significant |
| Within Groups | 393.30 | 796 | 0.49 | | | |
| Total | 405.89 | 799 | | | | |

There was a significant difference found among the four factors perceived to affect students' poor performance in Mathematics based on the computed significance value (Sig=0.00) that was less than 0.05 alpha level of significance. This revealed that the hypothesis is rejected. The data in Table 8 confirm that the significant difference was manifested in the students' perception that poor performance in Mathematics was most affected by school related factors, followed by family factors, social factors, and was least affected by media and technology factors.

## RELATIONSHIP BETWEEN FACTORS CONTRIBUTING TO STUDENTS' POOR PERFORMANCE IN MATHEMATICS AND AVERAGE GRADE

Table 5 shows the relationship between the school related factors affecting students' poor performance and average grade in Mathematics.

## SCHOOL RELATED FACTORS AND AVERAGE GRADE

**Table 5: Relationship between School Related Factor and Average Grade**

| | |
|---|---|
| Pearson Correlation | -0.006 |
| Sig. (2-tailed) | 0.931 |
| N | 200 |
| Interpretation | Very low negative correlation |

| | |
|---|---|
| | Ho is accepted |
| | Not Significant |

There was a very low positive correlation between school related factors and average grade with the computed Pearson r = 0.011. The computed significance value (Sig,=0.876) that is greater than 0.05 alpha level of significance indicates that the null hypothesis that there is no significant relationship between school related factors and average grade in Mathematics is accepted. These results are contrary to the findings of Akey (2006) who concluded that the class environment where teachers who students see as supportive promote student feelings of control and confidence in their ability to succeed. Maat and Zakaria (2010) found that the way students perceive teacher characteristics will affect their attitudes towards Mathemcatics. A significant relationship exists between learning environment and attitude towards mathematics (Maat & Zakaria, 2010; Vaughan, 2002).

**SOCIAL FACTOR AND AVERAGE GRADE**

Table 6 shows the relationship between social factors affecting students' poor performance and average grade in Mathematics

**Table 6: Relationship between Social Factor and Average Grade**

| | |
|---|---|
| Pearson Correlation | -0.088 |
| Sig. (2-tailed) | 0.214 |
| N | 200 |
| Interpretation | Very low negative correlation |
| | Ho is accepted |
| | Significant |
| ** Correlation is significant at the 0.01 level (2-tailed). | |

There was a very low negative correlation between social factors and average grade with the computed Pearson r = -0.183. The computed significance value (Sig,=0.010) that is less than 0.05 alpha level of significance indicates that the null hypothesis that there is no significant relationship between social factors and average grade in Mathematics is rejected. This implies that an increased level of perception on social factors corresponded to a decrease in the average grade in Mathematics. These findings were not in agreement with the results that high-ability students perform best when associating with other highability peers, while lower-ability students benefit from interaction with students in the middle of the ability distribution (Burke & Sass, 2011). Fraser and Kahle (2007) have highlighted that learning environments within the peer group accounted for a significant amount of variance in student attitudes and had a significant impact on the scores achieved by students for these attitudes.

**FAMILY FACTOR AND AVERAGE GRADE**

**Table 7: Relationship between Family Factor and Average Grade**

| | |
|---|---|
| Pearson Correlation | -0.054 |
| Sig. (2-tailed) | 0.449 |
| N | 200 |
| Interpretation | Very low negative correlation |

| | |
|---|---|
| | Ho is accepted |
| | Not Significant |

Table 7 shows the relationship between family factors affecting students' poor performance and average grade in Mathematics.

There was a very low negative correlation between family factors and average grade with the computed Pearson r = -0.118. The computed significance value (Sig,=0.095) that is greater than 0.05 alpha level of significance indicates that the null hypothesis that there is no significant relationship between family factors and average grade in Mathematics is accepted. Study carried out by Mok and Flynn (2008) to examine the achievement of students showed that parent's level of education made a significant contribution to achievement. The consensus among researchers is that parents can exert a positive influence on their children's mathematical performance (Mji & Makgato, 2006; Wamala, Kizito & Jjemba, 2013).

**MEDIA AND TECHNOLOGY FACTOR AND AVERAGE GRADE**

**Table 8: Relationship between Media and Technology Factor and Average Grade**

| | |
|---|---|
| Pearson Correlation | 0.043 |
| Sig. (2-tailed) | 0.542 |
| N | 200 |
| Interpretation | Very low positive correlation |
| | Ho is accepted |
| | Not Significant |

Table 8 shows the relationship between the media and technology factors contributing to students' poor performance and average grade in Mathematics. There was a very low negative correlation between media and technology factors and average grade with the computed Pearson r = -0.120. The computed significance value (Sig,=0.092) that is greater than 0.05 alpha level of significance indicates that the null hypothesis that there is no significant relationship between media and technology factors and average grade in Mathematics is accepted.

These findings are contrary to the reports about many positive effects of integrating technology into mathematics education that enable educators to create powerful collaborative learning experiences to support problem solving and flexible thinking. Li and Ma (2010) reported that the use of technology is seen as a useful tool for promoting mathematics learning. The use of educational technologies generally has a positive effect on mathematics achievement in comparison to traditional methods, where the most remarkable effect has been experienced with the application of computer-assisted instructions (Cheung & Slavin, 2013).

**ANALYSIS OF VARIANCE ON THE DIFFERENCE IN THE PERCEIVED FACTORS AFFECTING POOR PERFORMANCE IN MATHEMATICS WHEN GROUPED ACCORDING TO PROFILE VARIABLES**

Table 9 shows the analysis of variance to test the difference in the school related factors affecting the poor performance in mathematics when grouped according to profile variables. There was a significant difference found in the perceived level of agreement on school related factors affecting poor performance in mathematics when grouped according to students' section and economic

status of parents. The computed significance value for section (Sig.=0.00), economic status of parents (Sig. =0.01), and highest educational attainment of parents (Sig.=0.05) are all less than or equal to 0.05 alpha level of significance, indicating that the null hypothesis is rejected.

**SCHOOL RELATED FACTOR**

**Table 9: Difference in the School Related Factor Affecting Poor Performance in Mathematics when Grouped according to Profile Variables**

| Profile Variables | Source of Variation | Sum of Squares | df | Mean Square | F | Sig. | Interpretation |
|---|---|---|---|---|---|---|---|
| Section | Between Groups | 25.428 | 16 | 1.589 | 3.991 | 0.000 | Ho is rejected Significant |
| | Within Groups | 72.867 | 183 | 0.398 | | | |
| | Total | 98.295 | 199 | | | | |
| Average Grade in Mathematics | Between Groups | 0.004 | 1 | 0.004 | 0.007 | 0.931 | Ho is accepted Not Significant |
| | Within Groups | 98.292 | 198 | 0.496 | | | |
| | Total | 98.295 | 199 | | | | |
| Economic Status of Parents | Between Groups | 6.084 | 4 | 1.521 | 3.217 | 0.014 | Ho is rejected Significant |
| | Within Groups | 92.211 | 195 | 0.473 | | | |
| | Total | 98.295 | 199 | | | | |
| Highest Educational Attainment of Parents | Between Groups | 2.891 | 2 | 1.445 | 2.984 | 0.053 | Ho is accepted Not Significant |
| | Within Groups | 95.405 | 197 | 0.484 | | | |
| | Total | 98.295 | 199 | | | | |

A post-hoc analysis was further done to describe the effect of section and economic status of parents that caused significant difference on the perceptions in school related factors affecting students' poor performance in mathematics. The level of agreement on the indicators of school related factors was highest at 4.65 among students in Grade 8 Sections Einstein and Newton while Grade 8 section Mendel gave the lowest rating at 2.96. The students whose family earns a monthly income from PHP 30,001 and above reported the lowest level of agreement at 2.77, while the highest rating of 4.12 was given by students from a family earning a monthly income from PHP 10,001-20,000. These results indicate that the rating given by students from the lower income group was higher than the rating given by students from the higher income group.

There was no significant difference found in the perceived level of agreement on school related factors affecting poor performance in mathematics when grouped according to students' average grade in mathematics. The computed significance value for average grade in Mathematics (Sig.=0.93) is greater than 0.05 alpha level of significance, indicating that the null hypothesis is accepted. The rating on the level of school related factors affecting poor performance was similar regardless of the students' reported average grade in Mathematics.

**SOCIAL FACTOR**

Table 10 shows the analysis of variance to test the difference in the social factors affecting the poor performance in mathematics when grouped according to profile variables.

**Table 10: Difference in the Social Factor Affecting Poor Performance in Mathematics when Grouped according to Profile Variables**

| Profile Variables | Source of Variation | Sum of Squares | df | Mean Square | F | Sig. | Interpretation |
|---|---|---|---|---|---|---|---|
| Section | Between Groups | 20.484 | 16 | 1.280 | 2.978 | 0.000 | Ho is rejected Significant |
| | Within Groups | 78.675 | 183 | 0.430 | | | |
| | Total | 99.159 | 199 | | | | |
| Average Grade in Mathematics | Between Groups | 0.772 | 1 | 0.772 | 1.553 | 0.214 | Ho is accepted Not Significant |
| | Within Groups | 98.387 | 198 | 0.497 | | | |
| | Total | 99.159 | 199 | | | | |
| Economic Status of Parents | Between Groups | 3.688 | 4 | 0.922 | 1.883 | 0.115 | Ho is accepted Not Significant |
| | Within Groups | 95.472 | 195 | 0.490 | | | |
| | Total | 99.159 | 199 | | | | |
| Highest Educational Attainment of Parents | Between Groups | 0.512 | 2 | 0.256 | 0.511 | 0.601 | Ho is accepted Not Significant |
| | Within Groups | 98.647 | 197 | 0.501 | | | |
| | Total | 99.159 | 199 | | | | |

There was a significant difference found in the perceived level of agreement on social factors affecting poor performance in mathematics when grouped according to students' section. The computed significance value for section (Sig.=0.00) is less than 0.05 alpha level of significance, indicating that the null hypothesis is rejected. A post-hoc analysis was further done to describe the effect of section that caused significant difference on the perceptions in social factors affecting students' poor performance in mathematics. The students who belong to Grade 8 sections Newton and Einstein reported the highest level of agreement at 4.50 and 4.55, respectively, while the lowest rating of 2.90 was given by students from Grade 8 section Mendel. The difference in perceptions on social factors affecting poor performance due to the effect of sections may be attributed to the students' attitude towards mathematics. The results obtained in the study of Grootenber and Lowrie (2002) suggest that the attitude of the towards mathematics was more positive in the third year than the first year. There is also a difference between attitude in the grades 6, 7 and 8 (Köğce et al, 2009). There was no significant difference found in the perceived level of agreement on social factors affecting poor performance in mathematics when grouped according to students' average grade in mathematics, economic status of parents, and highest educational attainment of parents. The computed significance value for average grade in Mathematics (Sig.=0.21), economic status of parents (Sig.=0.12), and highest educational attainment of parents (Sig.=0.60) are all greater than 0.05 alpha level of significance, indicating that the null hypothesis is accepted. The rating on the level of agreement on social factors affecting poor performance was similar regardless of the students' reported average grade in Mathematics, economic status of parents, and highest educational attainment of parents.

**FAMILY FACTOR**

Table 11 shows the analysis of variance to test the difference in the family factors affecting the poor performance in mathematics when grouped according to profile variables.

**Table 11: Difference in the Family Factor Affecting Poor Performance in Mathematics when Grouped according to Profile Variables**

| Profile Variables | Source of Variation | Sum of Squares | df | Mean Square | F | Sig. | Interpretation |
|---|---|---|---|---|---|---|---|
| Section | Between Groups | 21.078 | 16 | 1.317 | 3.996 | 0.000 | Ho is rejected Significant |
| | Within Groups | 60.329 | 183 | 0.330 | | | |
| | Total | 81.406 | 199 | | | | |
| Average Grade in Mathematics | Between Groups | 0.236 | 1 | 0.236 | 0.576 | 0.449 | Ho is accepted Not Significant |
| | Within Groups | 81.170 | 198 | 0.410 | | | |
| | Total | 81.406 | 199 | | | | |
| Economic Status of Parents | Between Groups | 3.487 | 4 | 0.872 | 2.181 | 0.073 | Ho is accepted Not Significant |
| | Within Groups | 77.919 | 195 | 0.400 | | | |
| | Total | 81.406 | 199 | | | | |
| Highest Educational Attainment of Parents | Between Groups | 0.909 | 2 | 0.454 | 1.112 | 0.331 | Ho is accepted Not Significant |
| | Within Groups | 80.498 | 197 | 0.409 | | | |
| | Total | 81.406 | 199 | | | | |

There was a significant difference found in the perceived level of agreement on family factors affecting poor performance in mathematics when grouped according to students' section. The computed significance value for section (Sig.=0.00) was less than 0.05 alpha level of significance, indicating that the null hypothesis is rejected. A post-hoc analysis was further done to describe the effect of section that caused significant difference on the perceptions in family factors affecting students' poor performance in mathematics. The students who belong to Grade 8 section Einstein reported the highest level of agreement at 4.63, while the lowest rating of 3.16 was given by students from Grade 8 section Mendel.

Class composition was found to positively relate to mathematics achievement of students between classes (Van Damme, De Fraine, Op-denakker, Van Landeghem & Onghena, 2000). Research has shown that high-ability students perform best when associating with other high-ability peers, while lower-ability students benefit from interaction with students in the middle of the ability distribution (Burke & Sass, 2011). There was no significant difference found in the perceived level of agreement on family factors affecting poor performance in mathematics when grouped according to students' average grade in mathematics, economic status of parents, and highest educational attainment of parents. The computed significance value for average grade in Mathematics (Sig.=0.45), economic status of parents (Sig.=0.07), and highest educational attainment of parents (Sig.=0.33) are all greater than 0.05 alpha level of significance, indicating that the null hypothesis is accepted. The rating on the level of agreement on family factors affecting poor performance was similar regardless of the students' reported average grade in Mathematics, economic status of parents, and highest educational attainment of parents.

**MEDIA AND TECHNOLOGY FACTOR**

Table 12 shows the Analysis of Variance to test the difference in the media and technology factor

affecting the poor performance in mathematics when group according to profile variable.

**Table 12: Difference in the Media and Technology Factor Affecting Poor Performance in Mathematics when Grouped according to Profile Variables**

| Profile Variables | Source of Variation | Sum of Squares | df | Mean Square | F | Sig. | Interpretation |
|---|---|---|---|---|---|---|---|
| Section | Between Groups | 21.673 | 16 | 1.355 | 2.673 | 0.001 | Ho is rejected Significant |
| | Within Groups | 92.755 | 183 | 0.507 | | | |
| | Total | 114.428 | 199 | | | | |
| Average Grade in Mathematics | Between Groups | 0.215 | 1 | 0.215 | 0.373 | 0.542 | Ho is accepted Not Significant |
| | Within Groups | 114.213 | 198 | 0.577 | | | |
| | Total | 114.428 | 199 | | | | |
| Economic Status of Parents | Between Groups | 5.732 | 4 | 1.433 | 2.571 | 0.039 | Ho is rejected Significant |
| | Within Groups | 108.696 | 195 | 0.557 | | | |
| | Total | 114.428 | 199 | | | | |
| Highest Educational Attainment of Parents | Between Groups | 0.938 | 2 | 0.469 | 0.814 | 0.444 | Ho is accepted Not Significant |
| | Within Groups | 113.490 | 197 | 0.576 | | | |
| | Total | 114.428 | 199 | | | | |

Table 12 shows the analysis of variance to test the difference in the media and technology factors affecting the poor performance in mathematics when grouped according to profile variables. There was a significant difference found in the perceived level of agreement on media and technology factors affecting the poor performance in mathematics when grouped according to section and economic status of parents. The computed significance value for section (Sig.=0.00) and economic status of parents (Sig.=0.04) are all less than 0.05 alpha level of significance, indicating that the null hypothesis is rejected.

A post-hoc analysis was further done to describe the effect of section and economic status of parents that caused significant difference on the perceptions in media and technology factors affecting students' poor performance in mathematics. The students who belong to Grade 8 Section Einstein and Newton reported the highest level of agreement at 4.33 and 4.35, respectively, while the lowest rating of 2.64 was given by students from Grade 8 section Medel. The students whose family earns a monthly income from PHP 20,001 to 30,000 reported the highest level of agreement at 3.87, while the lowest rating of 3.23 was given by students from a family earning a monthly income from PHP 30,001 and above.

A family with high socioeconomic status is often more successful in preparing its young children for school because they typically have access to a wide range of resources to promote and support their development. They are able to provide their young children with high quality child care, books and teaching facilities such as computers, to encourage them in various learning activities at home. This in turn, will affect the students' academic achievement in mathematics Nannyonjo (2007). The

parents with high income might have enough money which can be used to provide the needed materials and support for their children in order to arouse their interest in Mathematics than their counterparts in low income families whose major obligation is to provide shelter and food for the family. These phenomena could be justified by the fact that students of high socio-economic parents enjoy such motivational intervention as extra home coaching, enriched home environment with tutorial disks and programmes available in video, good library and better state of mental health. On the other hand, the students of low socio-economic parents are less fortunate and are highly stressed and exploited at home through engagements in domestic tasks leaving little time for studies which contributes to poor performance (Baliyan, Rao & Baliyan, 2012). There was no significant difference found in the perceived level of agreement on media and technology factors affecting poor performance in mathematics when grouped according to students' average grade in mathematics and highest educational attainment of parents. The computed significance value for average grade in Mathematics (Sig.=0.54), and highest educational attainment of parents (Sig.=0.44) are all greater than 0.05 alpha level of significance, indicating that the null hypothesis is accepted. The rating on the level of agreement on media and technology factors affecting poor performance was similar regardless of the students' reported average grade in Mathematics and highest educational attainment of parents.

**RECOMMENDATION**

In the light of the foregoing findings and conclusions of the study, it is recommended to:

1. Teachers should find ways to motivate and improve the academic performance of the students in Mathematics in spite difficulties in teaching the subject.
2. Mathematics teachers should be given regular training and retraining programs such as seminars and workshops.
3. Parents should follow up the learning inside the house after school.
4. Students can build a learning community that values diversity and develop both good learning skills and social skill by exposing them to a learning setting that requires an active interaction between them, such cooperative learning.
5. It is suggested that further studies be made in order to widen the scope of the study and validate the result obtained.

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