International Journal of Social Science and Human Research

ISSN (print): 2644-0679, ISSN (online): 2644-0695

Volume 08 Issue 02 February 2025

DOI: 10.47191/ijsshr/v8-i2-49, Impact factor- 8.007

Page No: 1198-1206

Learning Barriers of the Grade 10 Students and Its Correlation to Their Conceptual Understanding in Mathematics

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ABSTRACT: The study aimed at determining the learning barriers and its correlation to the conceptual understanding in mathematics of the 133 selected Grade10 students of the Mindanao State University – University Training Center. The research utilized a researcher-made questionnaire for conceptual understanding which underwent face and content validity with Cronbach alpha of 0.85. Also, an adapted questionnaire was used to measure the learning barriers of the students. Finding showed that from 133 students, 28.6% are male and 71.4% are female with majority, 75.9%, were in the age group between 16 – 17 years old, Meranao in ethnicity and 33.1% has a monthly family income ranging from 16,000 to 20,000. The level of the student's mathematics competency in arithmetic, algebra and mathematics is not mastered. Conceptual understanding level of the students were in approaching proficiency level. The analysis of data revealed that peer pressure contributes significantly to the learning barriers of the students. However, academic demands and financial and family problems remain undecided. Furthermore, peer pressure, financial and family problems and academic demands associate negatively to the conceptual understanding and grades of the students. Also, learning barriers of the students differs significantly across sex.

KEYWORDS: Academic demands, conceptual understanding, financial and family problems, learning barriers and peer pressure.

1. INTRODUCTION

The 2-year Covid-19 pandemic has become the world's health crisis and has resulted major impacts in different sectors (WHO; UNESCO, 2020). In education system, it leads to a major shift from the traditional face-to-face to distance learning through modular learning and online learning to help reduce the spread of COVID-19. However, these changes have also affected educational processes in formal and informal learning environments. Public institutions such as childcare settings, schools, universities, and further education providers ceased onsite teaching and moved to distance and blended learning. As a result, learning and teaching processes have faced several challenges during the pandemic (Crawford et al., 2020). These challenges are termed as learning barriers (Schoepp, 2005; Becker, Newton and Sawang, 2013).

Schoepp (2005) defined barriers as "any condition that makes it difficult to make progress or to achieve an objective". According to the Oxford Dictionary (2015), a barrier is "a fence or an obstacle that prevents movement or access". In this study, Schoepp's (2005) definition of the barrier was adapted.

One of these barriers is the peer pressure. Koc et. al (2018) cited Aktug (2006) the definition of Clasen and Brown (1985) of peer pressure as pressure from peers, whether or not they want to, or avoiding doing something or doing something. Also, as cited by Adegboyega et. al. (2019) peer pressure is the influence on an individual who gets encouraged to follow others by changing their attitudes, values or behavior to conform with those of the influencing group or individual either positively or negatively. A peer could be any one you look up to in behavior or someone who you would think is equal to your age or ability (Hardcastle, 2012). On the other hand, the term pressure implies the process that influence people to do something that they might not otherwise choose to do. Children try to get in touch with their peers as early as the age of seven (Muratore, 2008).

There was a contradicting result of peer pressure in relation to the academic performance of the students. The study of Zao (2021) revealed a positive relationship between the level of peer pressure and the student learning outcome. Students exposed to a higher level of peer pressure demonstrated higher and stabler grades. His findings further suggest peer pressure works as a "social magnet" to attract students to progress together. However, Toraman and Burak (2019) asserted a negative and significant relationship.

Financial and family problem also contributes to the learning barriers of the students conceptual understanding. Dean et. al. (2020) found that students who felt greater parent-financial influence and experienced fewer effects of economic pressure, achieved higher grade point averages and children from economically disadvantaged homes face greater barriers to achieve positive

academic performance (Lam, 2014; Sirin, 2005). Family income has been suggested as the primary cause of dropping out, although parent financial resources do seem to have significant impacts (Crisp, Doran, & Salis Reyes, 2018; Ishitani & DesJardins, 2002; Kim & Kim, 2018).

Lastly, academic demands. Research on postsecondary learning has documented that students often struggle with the academic literacy demands. Nussbeck et.al (2021) found that academic demands were positively related to school burnout. Also, Holschuh (2019) stated that academic literacy tasks are the subset of all academic tasks that involve reading and writing and are rooted within larger cultural practices. These demands are challenging, complex, and varied, so students need help. However, Goodboy (2020) asserted that academic demands produced a negative indirect effect on academic performance.

In consequence, with the gaps and contradicting results found in the previous study, this study dwelled on the learning barriers of the Grade 10 students and its correlation to their conceptual understanding in mathematics.

1.1 Research Problem

This study focused on the learning barriers of the Grade 10 students and its correlation to their conceptual understanding in mathematics. Specifically, this sought to address the following:

1. What is the demographic profile of the students in terms of
    a. Age
    b. Sex
    c. Family monthly income
    d. Grade in mathematics
2. What the proficiency level of the students in conceptual understanding?
3. What is the mastery level of the students' competency in Mathematics?
4. What is level of the learning barriers of the students in terms of:
    a. Peer pressure
    b. Family and financial problems
    c. Academic demands
5. Is there a significant relationship between the learning barriers of the students to their proficiency level in conceptual understanding and grade?
6. Does the conceptual understanding and learning barriers of the students differs across sex?

With a 0.05 level of significance, the following null hypothesis will be tested:

1. There is no significant relationship between the learning barriers of the students to their proficiency level in conceptual understanding and grade?
2. There is no significant difference between the male and female conceptual understanding and learning barriers.

1.2 Significance of the Study

The outcomes of this study may have local and national implications for the enhancement of mathematics education in terms of learning barriers of the students in relation to their conceptual understanding in mathematics. In addition to that, the results of this study provided inputs to students, teachers, curriculum makers, school administration future researchers. This provided ideas and encouragements to further study this research and the existing problem of students' conceptual understanding in relation to some learning barriers.. Furthermore, this also served and provided an additional related study on the related problems for future researches that will be undertaken. To this end, the data that was collected and was presented was extremely relevant as baseline materials for comparative purposes in the future. The data can be used as a point of reference increasing students' conceptual understanding to eventually elevate and develop proficiency in the use of some other mathematical instructions.

1.3 Limitation of the Study

This study focused on the learning barriers of the Grade 10 Students and its correlation to their conceptual understanding in Mathematics. Thus, this study used purposive sampling to distribute the questionnaires to the selected one hundred thirty-three (133) students of the Mindanao State University – University Training Center who are officially enrolled in the Academic Year 2022 - 2023 due to the time constraints. The respondents of the study are limited only on the students who are officially enrolled in the school where the study will be conducted. One limitation of the study was that the conceptual understanding of the students focused only on the 25 – item self-made questionnaire of the students which covered only some basic concepts on mathematics. Future research may include necessary topic in mathematics. Furthermore, the results of the study were limited because the research sample was restricted to a small group of students and the findings may not be transferable beyond the subjects in the study. This study also only determined relationship between the learning barriers as peer pressure, academic demands and financial and family problems on the conceptual understanding of the students, thus, did not deal on its effects on the said variable. It would also be interesting to look for causality and used experimental designs to determine significantly the effect of these barriers to their conceptual understanding and explore some other barriers.

2. METHODOLOGY

The study used quantitative descriptive survey approach. The subjects of the study were the selected 133 Grade 10 students of the Mindanao State University – University Training Center officially enrolled in the Academic Year 2022 – 2023. These students were from the three (3) sections of the school namely Diamond, Sapphire and Ruby. Table 1 below presents the distribution of the students according sex and section.

Table 1. Distribution of the students according to section and gender

Section	Male	Female	Total
Diamond	8	37	45
Sapphire	14	31	45
Ruby	16	27	43
Total	**38**	**95**	**133**

The researcher asked permission to the designated authorities before to the conduct of the study. Upon its approval, a written consent form was given to the students to ensure maximum participation of the conduct of the study. A twenty-five (25) item self-made questionnaire which undergone face and content validity was also given to the students to measure their level of conceptual understanding. This self-made questionnaire for conceptual understanding has a Cronbach Alpha of 0.85. Furthermore, an adapted and modified questionnaire was distributed to the students to determine their learning barriers in terms of peer pressure, financial and family problem and academic demands. This is a Likert scale questions comprises of a twenty (20) items statement ranging from (1) Strongly Disagree, (2) Disagree, (3) Undecided, (4) Agree and (5) Strongly Agree. After all the information from the students were gathered, the researcher tabulated the data for interpretation. Ultimately, the findings and results served as the basis for conclusions.

2.1 Ethical Consideration

Consideration of significant research ethics were observed in the gathering of data. Students were informed of the voluntary nature of the study and were given consent before the conduct of the study. Students were given the freedom to participate or withdraw on the study and were not coerced or given any special attention and consideration. Privacy of the information obtained is guaranteed to be utilized for research purposes only. Lastly, the students were informed on the purpose of the study.

3. RESULTS AND DISCUSSION

This part deals with the presentation, analysis, and interpretation of the results of the different statistical treatments of data gathered in this study. For a clearer presentation and better analyses and interpretation of statistical results, presentations are explained based on the order of the statement of the problem.

Table 2. Frequency and percentage distribution of the students' age.

Age	**Frequency**	**Percentage**
14 - 15	16	12.0%
16 – 17	101	75.9%
18 – 19	12	9.0%
20 and above	4	3.0%
Total	133	100.0%

Table 2 shows the frequency and percentage distribution of the student's age. It can be seen that majority of the student's age are in the class interval 16 – 17 which comprise 101 or 75.9% from the total students. In addition to that, 16 or 12.0% are 14 – 14 years old and 12 or 9.0% are 18 to 19. Meanwhile, 4 or 3.0% are 20 years old and above. This implies that majority of the grade 10 students aged 16 to 17 years old which is an ideal age group for a grade 10 (Bation and Sabaldana, 2018).

Table 3. Frequency and percentage distribution of the students' sex.

Sex	**Frequency**	**Percentage**
Male	38	28.6%
Female	95	71.4%
Total	**133**	100%

Sex is categorized into two (2) categories with the corresponding frequency and percentage distribution as shown in Table 3. Among the 133 students, 95 or 71.4% are females and only 38 or 28.6% are males. This implies that majority of the students are female.

Table 4. Frequency and percentage distribution of the students' family monthly income.

Family Monthly Income	Frequency	Percentage
5, 000 and below	19	14.3%
6,000 – 10, 0000	29	21.8%
11, 000 – 15, 000	23	17.3%
16, 000 – 20, 000	44	33.1%
21, 000 and above	18	13.5%
Total	**133**	100%

The frequency and percentage distribution of the student's family monthly income is presented in Table 4. The monthly income is categorized into four class intervals ranging from below 5,000 to above 21,000. In ascending manner, 18 or 13.5% has 21,000 and above, 19 or 5,000 and below comprises 19 or 14.3% of the students, 23 or 17.3% has monthly family income of 11,000 – 15,000. Moreover, 29 or 21.8% has 6,000 – 10,000 and 44 or 33.1% has 16,000 – 20,000 monthly family income. The table implies that most of the students has stable financial family income ranging from 16,000 to 20,000.

Table 5. Mastery level of the students' competency in Mathematics

Field	Competency	Percentage of Correct Answer	Mean Percentage	Qualitative Description
Arithmetic	Performs fundamental operations on integers.	69.92%	46.08%	Not Mastered
	Adds and subtracts simple fractions and mixed numbers without or with regrouping.	36.47%		
	Solves routine or non-routine problems involving division without or with any of the other operations on integers using appropriate problem-solving strategies and tools	36.09%		
	Subtracts simple rational numbers without or with regrouping.	53.76%		
Algebra	Illustrates and differentiates related terms in algebra: algebraic expressions, terms and polynomials	71.43%	43.68%	Not Mastered
	Evaluates algebraic expressions for given values of the variables	31.58%		
	Derives the laws of exponent.	45.11%		
	Characterizes the roots of a quadratic equation using the discriminant.	30.08%		
	Transforms the quadratic function defined by y = ax2 + bx + c into the form y = a (x – h)^2 + k	35.34%		
	Performs operations on systems of linear equation.	27.08%		
	Evaluates imaginary numbers.	49.62%		
Geometry	Illustrates a linear function and its slope	54.51%	42.86%	Not Mastered

	Application of distance formula to real life problem.	37.59%		
	Solve problems involving Pythagorean Theorem.	38.35%		
	Derives inductively the relations among chords, arcs, central angles, and inscribed angles.	31.58%		
	Proves theorems related to chords, arcs, central angles, inscribed angles, secants, tangents and segments	45.86%		
Overall Mean Percentage			**42.21%**	**Not Mastered**

Legend: 75 – 100 Mastered; 51 – 75 Least Mastered; 50 and below Not mastered

Shown in Table 5 is the mastery level of the students' mathematics competency. With the overall mean percentage of 42.21%, the students have no mastery on the most essential learning competencies in mathematics, only 46.08% in arithmetic, 43.68% in algebra and 42.86% in geometry. Specifically, in arithmetic, the least mastered competencies are fundamental operations on integers and rational numbers while operation on fractions and solving word problems involving rational numbers were nor mastered at all. Competencies which are not mastered includes fractions and solving word problems. In Algebra, only illustration and differentiation of related terms in algebra particularly in algebraic expressions, terms and polynomials is the least mastered competency and the students display no mastery on evaluation of algebraic expressions, laws of exponents, roots of quadratic equation and transformation, operations on rational expressions and imaginary numbers. Similarly, illustration of linear function and slope in geometry. The students also have no mastery in solving word problems involving distance and Pythagorean theorem.

The study of Sillorequez and Remelo (2013) and Mojica (2019) also revealed that fractions and solving problems are the least mastered competencies in mathematics. Moreover, Benavides and Ereno (2022) disclosed the least mastered competencies involves proving theorems and problems in circles. This implies that students do not have the necessary skills in these competencies which result to their poor performance in mathematics. This result is consistent to the level of conceptual understanding of the students which falls on the approaching proficiency level.

Table 6. Frequency and percentage distribution of the students' proficiency level

Proficiency Level	**Conceptual Understanding**		**Grade**	
	Frequency	**Percentage**	**Frequency**	**Percentage**
Beginning	0	0.0%	14	10.5%
Developing	8	6.0%	24	18.0%
Approaching Proficiency	51	38.3%	35	26.3%
Proficient	59	44.4%	34	25.6%
Advanced	15	11.3%	26	19.5%
Mean	**15.79**	**Approaching Proficiency**	**84. 49**	**Approaching Proficiency**

Table 6 presents the frequency and percentage distribution of the students' proficiency level. Generally, the students conceptual understanding and grade in mathematics are in the approaching proficiency level with a mean of 15.79 and 84.49 respectively. Specifically, in the students conceptual understanding in mathematics, it can be seen that most of them, 59 or 44.4% are proficient, 51 or 38.3% are approaching proficiency, 15 or 11.3% are advanced, 8 or 6.0% are developing and none are in the beginning level. Similarly, with respect to their grades, 35 or 26.3% are approaching proficiency, 34 or 25.6% are proficient, 26 or 19.5% are advanced, 24 or 18.0% are developing ang 14 or 10.5% are beginning. This means that the students were not proficient enough to understanding mathematical concepts.

Table 7. Peer pressure as learning barrier of the students with mean and standard deviation.

Statement	**Mean**	**Standard Deviation**	**Description**
My classmates influenced me to go out without my parents' consent.	4.07	0.93	Agree
I prefer to hang out with my friends than to stay at home.	3.52	1.06	Agree

Whenever my friends call me while I'm doing my requirements and projects, I stop doing it and join them.	3.52	0.95	Agree
I prefer to join my peers outside than attending class.	3.49	0.89	Agree
It's hard for me to raise my concerns during class because I am afraid that my peers will criticize me for asking such questions.	3.82	1.01	Agree
It's hard for me to admit that I have lack of understanding on our class because I am afraid that my peers will criticize me	3.72	1.05	Agree
Grand Mean	**3.16**	**0.55**	**High**

Legend: 1.0 – 1.79 Ver Low; 1.80 – 2.59 Low; 2.60 – 3.39 Fair; 3.40 – 4.19 High; 4.20 -5.00 Very high

Presented in Table 7 is the mean and standard deviation of the students learning barrier in terms of peer pressure. Generally, with a grand mean and standard deviation of 3.16 and 0.55 respectively, it can be seen that peer pressure contributes as one of the learning barriers in the conceptual understanding on the students. Specifically, the students "agree" that they prefer to join their peers ($\bar{x} = 3.49$; SD = 0.89) to go out without their parents' consent ($\bar{x} = 4.07$; SD = 0.93) and hang out with them than to stay at home ($\bar{x} = 3.52$; SD = 1.06). Also, whenever their friends call them while their doing their requirements and projects, they tend to stop doing it and join them ($\bar{x} = 3.52$; SD = 0.95). Furthermore, the students find it hard for them to raise concerns during class ($\bar{x} = 3.82$; SD = 1.01) and admit that they have lack of understanding in the class ($\bar{x} = 3.72$; SD = 1.05) because they are afraid that their peers will criticize them. Zao (2021) supported this result asserting that students were exposed to a higher level of peer pressure.

Table 8. Financial and Family problems as learning barrier of the students with mean and standard deviation.

Statement	**Mean**	**Standard Deviation**	**Description**
I always blame my parents when they cannot support me financially.	3.52	0.95	Agree
The reason I cannot do my activities is because I don't have an enough money to make one.	3.49	0.89	Agree
I come to class late because I have no enough money for transportation.	3.82	1.01	Agree
I feel so depressed when my parents fight in front of me	3.72	1.04	Agree
I need to work for my family to survive	3.17	1.09	Undecided
I feel humiliated because of my family background.	2.42	1.19	Disagree
I feel depressed because of the behaviors of my family members.	2.61	1.18	Undecided
Grand Mean	3.25	0.47	**Fair**

Legend: 1.0 – 1.79 Ver Low; 1.80 – 2.59 Low; 2.60 – 3.39 Fair; 3.40 – 4.19 High; 4.20 -5.00 Very high

Table 8 is the mean and standard deviation of the students' learning barrier in terms of financial and family problems. It can be seen that the students "agree" that they always blame their parents when they cannot support them financially ($\bar{x} = 3.52$; SD = 0.95) which is one reason why they cannot do their activities ($\bar{x} = 3.49$; SD = 0.89) and they come to class late because they have no enough money for transportation ($\bar{x} = 3.82$; SD = 1.01). In addition to that, they feel so depressed when their parents fight in front of them ($\bar{x} = 3.72$; SD = 1.04). However, they don't feel any humiliation because of their family background ($\bar{x} = 2.42$; SD = 1.19). Meanwhile, they are "undecided" on whether they feel depressed because of the behaviors of their family members ($\bar{x} = 2.61$; SD = 1.18) and whether they need to work for their family to survive ($\bar{x} = 3.17$; SD = 1.09). Generally, family and financial problems is perceived "fair" as learning barriers in the students conceptual understanding with a mean of 3.25 and standard deviation of 0.47. This means that, financial and family problems of the students do not necessarily contribute to the learning barriers of the students. This is evident in the status of the family monthly income of the students wherein most are in 16,000 to 20,000 range. This result is contrary to the study of Northen et. al (2010) that financial and family problem has been a reason of numerous adverse effects on the academics of the students likewise in the study of Harding (2011) disclosing that this can brought poor performance of the students. Also, Gevavia et. al. (2019) said that family problems are the contributing factor in the performance of the students which bring impacts to students' attendance and compliance with school requirements and activities.

Table 9. Academic demands as learning barrier of the students with mean and standard deviation.

Statement	Mean	Standard Deviation	Description
I cannot concentrate doing my requirements because of the household chores	3.82	1.01	Agree
I cannot focus on my exams because of the noise when my family having conversations.	3.72	1.05	Agree
Sometimes, I don't comply to my requirements when it is pressuring me.	3.17	1.09	Undecided
I don't do my requirements on time anymore when the deadline is the same as the others subject's requirements.	2.42	1.19	Disagree
I cannot easily manage the schedule of my classes.	2.61	1.18	Undecided
I feel depressed because I cannot reach the cutoff score in the subject.	3.65	1.09	Agree
I feel depressed when the results of my exams and requirements are poor	3.66	1.14	Agree
Grand Mean	3.29	0.58	**Fair**

Legend: 1.0 – 1.79 Ver Low; 1.80 – 2.59 Low; 2.60 – 3.39 Fair; 3.40 – 4.19 High; 4.20 -5.00 Very high

Table 9 is the mean and standard deviation of the students' learning barrier in terms of academic demands. It can be gleaned in the table that the students "agree" that they cannot concentrate and focus doing their requirements and exams because of the household chores ($\bar{x} = 3.82$; SD = 1.01) and the noise when their family are having conversations ($\bar{x} = 3.72$; SD = 1.05). Moreover, they feel depressed because they cannot reach the cutoff score ($\bar{x} = 3.65$; SD = 1.09) and the results of their exams and requirements are poor ($\bar{x} = 3.66$; SD = 1.14). in addition to that, they do their requirements on time ($\bar{x} = 2.42$; SD = 1.19). Meanwhile, the students are "undecided" whether they comply to the requirements when it is pressuring them ($\bar{x} = 3.17$; SD = 1.09) or whether they can easily manage the schedule of their classes ($\bar{x} = 2.61$; SD = 1.18). Overall, the students were still "undecided" on whether their academic demands contribute as learning barriers to their learning. This implies that, academic demands of the students do not necessarily contribute to the learning barriers of the students. However, Apo et. al (2015) emphasized that academic demands beget a decline on the general well-being of the students. On the contrary, according to Schlesser (2014), students who has more academic extra activities manifested a higher-grade point average. As also cited by Apo et. al (2015) from the study of Osgood et. al (1996), when students work together for these academic demands, they create an atmosphere wherein they may encourage the other to be positively involved.

Table 10. Significant relationship between the students learning barriers to their conceptual understanding and grades.

Variable	Conceptual Understanding		Grades	
	Correlation coefficient	Sig. (2-tailed)	Correlation coefficient	Sig. (2-tailed)
Peer Pressure	**-.290****	.001	**-.269****	.002
Financial and family problems	**-.193****	.026	-.165	.058
Academic demands	**-.266****	.002	**-.214****	.013

**. Correlation is significant at the 0.05 level (Sig. 2-tailed).

All correlations are tested at .05 (**) level of significance (α = .05). So, if the significance result (Sig 2-tailed) is lesser than or equal to 0.05, then the established relationship is determined significant. But if the significant result is greater than the set level of significance (Sig. (2-tailed)) > 0.05), then the established relationship is not significant. As presented in Table 10, it emphasizes on the significant relationship between the students' learning barriers to their conceptual understanding and grades. It can be seen that, at 0.05 level of significance or 95% level of confidence, there exist a "significant" association between conceptual understanding and peer pressure (r = -0.290; α = 0.001), financial and family problems (r = -0.193; α = 0.026) and academic demands (r = -0.266; α = 0.002). On the same way, there also exist a significance association between the students grades to peer pressure (r = -0.269; α = 0.002) and academic demands (r = -0.214; α = 0.013). However, there is no significant relationship exists in grades and financial and family problems (r = -0.165; α = 0.058). Furthermore, a negative correlation exists among the variables. Negative

linear relationship means "an increase on one variable equates decrease on the correlated variable". This means that the better the conceptual understanding and grades of the students the lesser the learning barriers would have effects on their learning. That is, lesser peer pressure, lesser financial and family problems and lesser academic demands of the students, the better their conceptual understanding and grades. This result was supported by the results of the study of Goodboy (2020), Toraman and Burak (2019), Lam (2014) and Sirin (2005).

Table 11. Significant difference between the students learning barriers and conceptual understanding in terms of sex.

Variable	Sex	Mean	t	Sig. (2-tailed)	Qualitative description
Conceptual Understanding	Male	15.34	0.90	0.368	**Not significant**
	Female	15.97			
Peer Pressure	Male	2.92	3.29	0.001	**Significant**
	Female	3.26			
Financial and family problems	Male	3.05	3.21	0.002	**Significant**
	Female	3.33			
Academic demands	Male	3.05	3.20	0.002	**Significant**
	Female	3.39			

**. Correlation is significant at the 0.05 level (Sig. 2-tailed).

It can be seen in Table 11 that at 0.05 level of significance, there is a significant difference between the students' level of learning barriers in terms of peer pressure (t = 3.29; $\alpha = 0.001$), financial and family problem (t = 3.21; $\alpha = 0.002$)) and academic demands (t = 3.20; $\alpha = 0.002$). However, no significant difference between exists between their conceptual understanding. This result is supported by the study of Hyde, Fennema and Eamon (1990) as cited by Anjum (2015). They further disclosed that female tend to do better in computation and male for problem solving. On the contrary, the study on Anjum (2015) asserted that a significant difference between male and female conceptual understanding exists.

In terms of peer pressure, the result was supported by Lihan et. al. (2009). He further stipulated that females are more influenced by their friends and close peers whereas males do not. However, McCoy et. al. (2017) asserted that males appear to be more susceptible to peer influences that encourage risk-taking behaviors. Also, women are affected more strongly by family background characteristics than men are (Blaauboer and Mulder, 2010).

4. CONCLUSION

Based from the findings on the study, students have no mastery on the most essential learning competencies in arithmetic, algebra and geometry. In terms of learning barriers, the students peer pressure contributes significantly on the learning barriers in relation to their conceptual understanding. However financial and family problems and academic demands remains undecided. The analysis of data also revealed that a there is a significant association between the students conceptual understanding and grades to the learning barriers in terms of peer pressure, financial and family problems and academic demands. Moreover, a significant difference exists between the learning barriers of the students in terms of sex. Peer pressure is often perceived by adults as a cry of fear. Young people feel comfortable sharing their problems with their peers and feel their peers understand their feelings better than adults (Kiran, 2002). Family support positively impacts academic satisfaction. And academic demands create stressors (Goodboy, 2020) and decline on the general well-being of the students, but with supportive environment, students succeed academically (Kuh, 2001). To this end, the learning barriers of the students will highly depend on the change in attitude towards the subject matter. Further similar studies should be conducted to validate the results of the study and explore other learning barriers of the students. It would also be interesting to look for causality and used experimental designs to determine significantly the effect of these barriers to their conceptual understanding and explore some other barriers.

ACKNOWLEDGEMENTS

This piece of work could not have reached completion without the help of the people who are very supportive to the researcher. It would be impossible to give recognition to all but there are some whom the researcher cannot afford to leave unmentioned. To Dr. Edna B. Nabua, for her deep understanding and encouragements; guidance and services and in sharing her thoughts and great ideas.

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