FACTORS AFFECTING THE FAILURE RATE IN MATHEMATICS: THE CASE OF VISAYAS STATE UNIVERSITY (VSU)

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In teaching and learning mathematics, there are shortcomings and negative factors that result in the failure of students. Hence, this study was conducted to explain the main factors affecting the failure rate in mathematics courses at Visayas State University (VSU). This study uses a random sample of 151 students who failed mathematics courses such as College Algebra, Trigonometry, and Calculus. The different factors affecting the failure rate in mathematics were identified using a structured questionnaire. The students' perception of learning mathematics and the students' perception of a mathematics teacher were measured using a developed students' perception questionnaire. Median and quartile variation were used to summarize the perception scores. Chi-square goodness of fit was used to describe the different factors if it follows a uniform distribution. The Chi-square test for independence was also used to determine the relationship between student's perceptions and the factors affecting the failure rate. Results revealed that there were five main factors affecting the failure rate in mathematics that does not follow a uniform distribution namely: poor study habits (51%), negative learning attitudes (22.5%), social environment (13.9%), emotional problem (7.3%) and financial problem (5.3%). The study shows that these students were interested in learning mathematics, but the quartile variation reveals that these responses were not consistent. On average, their mathematics teacher was rated as very satisfactory in terms of teaching strategies and the result was consistent with the quartile variation. Furthermore, results show that there is no relationship between the factors affecting the failure rate and students' perception of learning mathematics. Also, no relationship is found between factors affecting the failure rate and students' perception of a mathematics teacher.

Keywords: factors affecting failure rate, perception to mathematics, perception to mathematics teacher, chi-square test

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1. INTRODUCTION

Mathematics does not only empower society with the capacity to control lives, especially in the modern era, but also provides knowledge with a firm foundation for effective theories; it also guarantees society a vigorous and improving economy (Steen, 2001). According to Khan (2001), in many universities, there are a lot of students fail mathematics because of bad experiences. It is not uncommon to hear students say that they hate math. Because of this reason, the failure rate is increasing in mathematics during college days (Maree et al., 2006). The importance of having a solid background in mathematics is well recognized as it serves as a gateway to future professions in a variety of fields (Tella, 2008). The concept attribution describes the cognitive process by which a person perceives the cause of what has happened to him/her, either as caused by himself/herself or by others (Asonibare, 1986). Math avoidance has become a very popular sport in the educational system. There are several studies have shown that factors such as motivation and study habits have impacted on students' academic performance in mathematics (Bamisaiye and Williams, 1971; Cole and Levine, 2000; Durojaiye, 1997).

The study of Tachie and Chireshe (2013) concluded that learners mostly attribute their failure to external factors that they cannot control. As a result, students develop strategies and plans to avoid math. They are more inclined to enroll in a program if it requires fewer mathematics or no math qualification at all. These students are excluding themselves from promising and well-paying careers. The truth is, students cannot access health sciences & medical school, business school, or engineering school to cite a few without proof of basic knowledge of math and a good command of math. In any school system, students can be evaluated through their academic performance. In many cases at the Visayas State University (VSU), students were failing mathematics subject and failed to finish the degree program on time. This case is highly associated with different factors affecting the focus of students in their studies. The problems that beset the students greatly affect their academic performance in mathematics. Studies in education have shown that there exists a wide variation among learners (Schuman, 2000). Some causes of these variations are the environmental influences such as poor home background, lack of proper nutrition, low economic status, and low cultural level that affect the readiness of an individual to learn mathematics (Perlmann and McCann, 2002). Because of the widespread social belief, as a student, maybe content with a poor performance in math and think it is all right to fail math. Most of the students don't like mathematics because of the nature

that it is difficult to work with. That's why most likely, students have a negative belief.

This study aims to analyze and explain the factors affecting the failure rate in mathematics courses at VSU. The specific objectives are the following: (1) to identify the different factors affecting the failure rate of the students in mathematics; (2) to estimate the students' perception in learning mathematics and perception towards mathematics teacher; (3) to determine if there is a significant association between students' perception in learning mathematics and the factors affecting the failure rate of students in mathematics; and (4) to determine if there is a significant association between students' perception towards mathematics teacher and the factors affecting the failure rate of students in mathematics.

The result of the study will be used to improve the teaching strategy of the mathematics teacher in teaching any math course in any universities to be effective. Because according to Millman (1981), a good teacher is considered the most important element in the learner's educational environment. Also, this study is useful for mathematics educators to understand the nature of variation of the students in terms of learning mathematics. Furthermore, this research study can be used for self-assessment by the students to further improve their mathematical effectiveness to eradicate the failure rate in mathematics. This will also give information to avoid the factors in failing mathematics and help students understand the ways that will help them in surviving college life.

2.   METHODOLOGY

The Research Design

The useful lists of students who fail mathematics courses were provided by the office of the Department of Mathematics, Physics and Statistics, Visayas State University. The selected mathematics courses involved in this study are the following: College Algebra, Trigonometry and Calculus. Primary data on main factors affecting failure rate in mathematics and students' perception of mathematics and corresponding teachers were gathered using a developed structured questionnaire which is based on the study of Tachie and Chireshe (2013) and Tella (2008). Descriptive statistics was computed, test for goodness-of-fit and test for independence or association were undertaken (Conover, 1980; Walpole, 1982)

The Participants and Ethical Considerations

All students who failed the following mathematics courses during the conduct of the study comprised the population of interest. The population of interest must be officially enrolled at Visayas State University during the second semester of School Year 2013-2014. The sample students were chosen using simple random sampling method. Slovin's Formula was used in determining the sample size by setting the margin of error to 5% and computed as follows (Cochran, 1953):

$$n = \frac{N}{1 + Ne^2} \qquad (1)$$

where n – is the sample size
  N – is the population size; and
  e – is the margin of error.

Before the survey was conducted, the students were educated that the participation of the study is voluntary. Furthermore, it was assured that the data gathered will be treated with utmost confidentiality. Table 1 shows the sample size percentage.

Table 1. Sample size used in the study

Number of Students who failed Mathematics Courses (N)	Sample Size (n)	Percentage (%)
243	151	62.14

Identification of the Factors Affecting the Failure Rate in Mathematics

In the study of Sangcap (2010), it is revealed that demographic profile such as age, gender, birthplace, and the likes were significant factors of academic performance in mathematics. However, this study does not focus on the exogenous factors but rather on the socio-economic factors, health and learning behavior of students towards mathematics. The purpose of this questionnaire is to examine the deeper factors of failure rate so that it might be improved by students and teachers. The developed questionnaire for factors affecting the failure rate in mathematics was based on the study of Cole and Levine (2000), and Mushtaq and Khan (2012). The identification of the factors affecting the failure rate in mathematics by the students was undertaken through the first part of the structured questionnaire. Each student was asked to identify the main factor which influences the most in failing a mathematics course. The qualitative

responses were coded and were analyzed by chi-square goodness-of-fit with the aid of SPSS Windows V.17.0 if the data follows a uniform distribution (Fraser, 1957). And the frequency table with corresponding percentages of each factor was computed and constructed for describing these responses.

Determination of Students' Perceptions in Learning Mathematics and Towards Mathematics Teacher

The second part of the structured questionnaire was constructed to obtain the students' perceptions in learning mathematics and towards mathematics teachers. Each student in the sample was asked to answer all ten (10) items in the questionnaire. Each item used a 4-point rating scale and followed a uniform coding to yield a meaningful response for each student, namely: 1 – strongly disagree, 2 – disagree, 3 – agree, and 4 – strongly agree. For the interpretation of perception scores, it is derived from the concept of Likert-type scale. Also, the calculation is supported by the study of Warmbrod (2014) that in the multiple items on the instrument, the students' perception score on the scale is summed. The highest possible perception score is then 40. The higher the perception score of a student, the more favorable is the students in learning mathematics and towards mathematics teacher. Negative perception in learning mathematics and towards a mathematics teacher will be indicated by low perception scores. Descriptive statistics were used to summarize the perception scores using SPSS Windows V.17.0. To determine if the perception scores in a class are consistent, the coefficient of quartile variation was computed. The rule of thumb for a consistent response is that a quartile variation is lesser than 10%. The sample coefficient of quartile variation for the perception scores was computed as follows:

$$V_Q = \frac{Q_3 - Q_1}{Q_3 + Q_1} \times 100 \qquad (2)$$

where:

Q_1 - first quartile of the perception scores in a class; and
Q_3 - third quartile of the perception scores in a class.

Tables 2 and 3 show the different range of values that the median of the perception scores of students will possibly fall, the overall response of students and its corresponding description.

Table 2. Students' perception in learning mathematics based on the median
         perception score

Range of Median Perception Score	Overall Response	Description
10 - 17	Strongly disagrees	Not Interested
18 - 25	Disagrees	Moderately Interested
26 - 33	Agrees	Interested
34 – 40	Strongly Agrees	Very Interested

Table 3. Students' perception of a mathematics teacher based on the median
         perception score

Range of Median Perception Score	Overall Response	Rating
10 - 17	Strongly disagrees	Poor
18 - 25	Disagrees	Satisfactory
26 - 33	Agrees	Very Satisfactory
34 – 40	Strongly Agrees	Outstanding

The students' level of perception in learning mathematics was categorized by the following: not interested, moderately interested, interested and very interested. On the other hand, students' overall perception towards mathematics teacher were categorized as follows: poor, satisfactory, very satisfactory and outstanding. These different categories were tested by chi-square goodness-of-fit test if it follows a uniform distribution in terms of frequency of students.

Determination of Relationship between Student's Perception in Learning Mathematics and Towards Mathematics Teacher in Relation to the Factors Affecting the Failure Rate in Mathematics

In determining the relationship of students' perception in learning mathematics and students' perception towards a mathematics teacher in relation to the factors affecting the failure rate in mathematics, the students' perceptions and factors were tabulated into a multidimensional contingency table. The rows of the table consist of the factors affecting the failure rate in mathematics, namely: poor study habits, negative learning attitudes, social environment, emotional problems, and financial problems. The columns of the table consist of the perceptions of students in learning mathematics which was categorized as follows: not interested, moderately interested, interested and very interested. Another contingency table was constructed for the perception of students to a mathematics teacher which were categorized into poor, satisfactory, very satisfactory and

outstanding. The significance of the relationship was tested under the following hypotheses.

Ho: The students' perception of learning mathematics is independent of the factors affecting the failure rate of students.

Ha: The students' perception of learning mathematics and factors affecting the failure rate in mathematics are related.

Ho: The students' perception towards mathematics teachers is independent of the factors affecting the failure rate of students.

Ha: The students' perception towards mathematics teachers and factors affecting the failure rate in mathematics are related.

The test statistic was computed as follows:

$$\chi_c^2 = \sum_{i=1}^{r} \sum_{j=1}^{k} \frac{(o_{ij} - e_{ij})^2}{e_{ij}} \qquad (3)$$

where:

o_{ij} = observed frequency in the $(i, j)th$ cell

e_{ij} = expected frequency in the $(i, j)th$ cell under *Ho* (i.e., if the two factors are independent)

$e_{ij} = \frac{(r_i)(k_j)}{n}$, $r_i = ith$ row total, $k_j = jth$ column total, $n =$ total number of observations.

The critical region and decision rule on *Ho* is given by

$$Reject\ Ho\ if\ \chi_c^2 \geq \chi_{\alpha,\ df=(r-1)(k-1)}^2$$

For the computation, SPSS v.17.0 was used for the calculation of the Chi-square computed value and tested for significance.

3. RESULTS AND DISCUSSION

The different factors affecting the failure rate of students in mathematics at the Visayas State University (VSU) were identified through a questionnaire of randomly selected students who has a failing grade in any mathematics courses and analyzed using percentages and Chi-square test for uniformity. The students' perceptions of learning mathematics and towards a mathematics teacher were also

determined and analyzed through descriptive measures. The relationships between the said perceptions of students and the main factors in failing mathematics were assessed using Chi-square test for independence and tested for significance.

Factors Affecting the Failure Rate of Students in Mathematics

There are five main factors that affect the failure rate in mathematics at VSU (Table 4). Firstly, about 51% of the students who failed the mathematics course have poor study habits. A study habit is crucial in mathematics and math is learned by doing problems. That is why students with poor study habits will not survive in math. Negative learning attitudes came second (22.5%). A student who does not understand mathematics easily and does not value knowledge are those who have negative learning attitudes. The social environment came third of about 13.9% of these are students who are affected by peer pressure, parents and other people in their respective places. Emotional problem can also affect their studies in math (7.3%). Some students cannot focus because their emotions control them. Lastly, financial problem (5.3%) will also affect their learning in math. Students are sometimes absent in their class or out of focus because of financial assistance problems that are essential for school requirements, foods, transportation and etc. Students cannot buy enough food to satisfy their stomach which leads to lower attention spans during class discussion.

Table 4. Frequency of factors affecting the failure rate in mathematics and its corresponding percentages (n = 151).

Factors	Frequency	Percent of Total (%)
Poor Study Habits	77	51.0
Negative Learning Attitudes	34	22.5
Social Environment	21	13.9
Emotional Problem	11	7.3
Financial Problem	8	5.3
Total	**151**	**100.0**

Note: Students has chosen only one factor which influences the most in failing math course.

The factors affecting the failure rate in mathematics in Visayas State University are not uniformly distributed in terms of the number of students using Chi-square goodness of fit test (Table 5). There is a strong evidence (p-value<0.001) to say that the five main factors do not equally affect the students who fail

mathematics but some of these factors influence dominantly. This result is parallel to the study of Mushtaq and khan (2012).

Table 5. Chi-square goodness of fit test for different factors affecting failure rate in mathematics (n = 151).

Test Statistic	Value	df	p – value
Chi-square test	104.331**	4	<0.001

Note: ** - Highly significant at the 0.01 level (two-tailed).

Student's Perceptions of Learning Mathematics

About 42.4% of the students are interested in learning mathematics; they appreciate the usefulness and the nature of math (Table 6). But this appreciation is not directed well and still fail a mathematics course. There are 41.7% of the students have a moderate interest. They treat math as a requirement of the degree program that is why they cultivate interest to it. There are also students who have a natural interest in mathematics (9.3%). These are students who are very interested in learning math, and treated it as their hobby but still, fail because of bad study habits. Lastly, students with no interest (6.6%) in mathematics will never survive college life since they do not put effort into learning. These are students who do not appreciate the value of mathematics.

Table 6. Frequency of students' overall response in the level of perception in learning mathematics and its corresponding percentages (n = 151).

Description	Frequency	Percent of Total (%)
Not interested	10	6.6
Moderately interested	63	41.7
Interested	64	42.4
Very Interested	14	9.3
Total	**151**	**100.0**

Note: See Table 1 for details.

The overall responses of the students' perception of learning mathematics in the University are not uniformly distributed using Chi-square goodness of fit test (Table 7). It means that students have significantly different (*p*-value<0.001) backgrounds and learning experiences which directly contribute to their differences in learning attitudes in mathematics and level of perception towards learning mathematics.

Table 7. Chi-square goodness of fit test for students' overall response in the level of perception in learning mathematics (n = 151).

Test Statistic	Value	df	p-value
Chi-square test	70.483**	3	<0.001

Note: **-High significant at the 0.01 level (two-tailed).

The median students' perceptions score in learning mathematics is 26 (Table 8). This means that there are 50% of students that have perception scores below 26 and the remaining half with above 26 perception scores. It implies that, on average, students are eager to learn and they have an interest in learning mathematics. This result is consistent with the study of Casinillo and Aure (2018) that deal with perceptions of mathematics and academic performance. This motivation is because mathematics is part of their curriculum and must be passed to graduate in college. But since the learning of these students were affected by some factors, still their academic performance in mathematics was relatively low. Furthermore, Table 8 reveals that the quartile variation is more than 10%; hence, the students' responses are not consistent. This implies that the responses of the students in their perception of learning mathematics are changeable given a different classroom setting.

Table 8. The median perception score in learning mathematics, quartile variation and its corresponding description (n = 151).

Median perception score	Quartile Variation (%)	Overall Response	Description
26	11.53846	Agrees	Interested

Note: See Table 1 for details.

Students' Perception of a Mathematics Teacher

Most (61.6%) of the students believe that a mathematics teacher explained the ideas well in math and rated very satisfactory (Table 9). About 19.2% who rated outstanding are students who loved to listen to the discussion of a mathematics teacher because they understand the lesson, even complex ideas. There are 16.6% of students that rated satisfactory. They are those who are just forced to listen even when they do not appreciate the discussion for the sake of getting ideas because math is part of their curriculum. But these cause them stress and negative exposure to the concepts of learning mathematics. There are 2.6% of students who do not want to listen or appreciate a mathematics teacher. This could be because the concepts in math may not be presented well and they find a hard time

understanding the ideas presented to them. These students were not having fun in learning and facing negative experiences in mathematics.

Table 9. Frequency of students' perception of learning mathematics and its corresponding percentages (n = 151).

Rating	Frequency	Percent of Total (%)
Poor	4	2.6
Satisfactory	25	16.6
Very Satisfactory	93	61.6
Outstanding	29	19.2
Total	151	100.0

Note: See Table 2 for details.

The overall perception of the students towards their mathematics teacher was not uniformly distributed as per the Chi-square goodness of fit test (Table 10). Students have different (p-value<0.001) points of view in their mathematics teachers in delivering the lessons. Table 9 shows that the majority of these students rated positively and few of them do not.

Table 10. Chi-square goodness of fit test for students' overall rating towards mathematics teacher (n = 151).

Test Statistic	Value	df	p-value
Chi-square test	117.371**	3	<0.001

Note: **-High significant at the 0.01 level (two-tailed).

On average, students' perception score is 30 (Table 11). Further, there are 50% of students' perceptions score are below 30 and 50% are above. This result implies that students believe that a mathematics teacher presented the topics well and they can grasp the concepts and ideas during the discussion because students' learning are appropriately guided by the teacher. Nevertheless, the reason why they fail is that they don't have the right study habits to remember the lessons during the examinations. And most of these students have negative learning attitudes towards mathematics. This is consistent with the study of Adeyemo (2005) that deals with test anxiety and academic performance.

Table 11. The median perception score in mathematics teacher, and its corresponding description, and the quartile variation (n = 151).

Median perception score	Quartile Variation (%)	Overall Response	Description
30	8.474576	Agrees	Very Satisfactory

Note: See Table 2 for details.

Since the quartile variation is less than 10%, the students' perceptions towards a mathematics teacher are consistent. This implies that if a student believes that a mathematics teacher always presented the lesson clearly and systematically, then this belief is strong and not changeable in the classroom environment.

Relationship between Students' Perception in Learning Mathematics and Factors Affecting the Failure Rate in Mathematics

Most of the students who fail mathematics have a good perception of learning this subject. However, these students do not have appropriate study habits and there learning attitudes towards mathematics were negative (Table 12). Students might be interested in learning the subject because they need to pass mathematics as part of the requirement of the curriculum in their respective degree programs. Also, some students perceived learning mathematics but grounded by the negative effect of their social environment. This implies that the learning environment is not conducive and comfortable for the students. Furthermore, Table 12 shows that there were also a few of these students with great interest in learning math but affected by emotional problems. It also shows that students with financial problems do not appreciate mathematics.

However, students' perception of learning mathematics and factors affecting the failure rate in mathematics courses in VSU has no association using the chi-square test for independence (Table 13).

This result implies that the level of interest of students in mathematics is not influenced by the said factors. Students may or may not positively perceived mathematics, even if they fail or experience some negative factors during the learning process. This result is similar to the study of Casinillo and Guarte (2018).

Table 12. Cross-tabulation between the students' perception in learning mathematics and factors affecting the failure rate in mathematics.

Factors in Failing Mathematics	Level of perception towards learning Mathematics				Total
	Not interested	Moderately interested	Interested	Very interested	
Poor study Habits	5	27	38	7	**77**
Negative learning attitudes	4	16	11	3	**34**
Social environment	0	10	9	2	**21**
Emotional problem	0	5	4	2	**11**
Financial problem	1	5	2	0	**8**
Total	**10**	**63**	**64**	**14**	**151**

Note: Students has chosen only one factor which influences the most in failing math course.

Table 13. Test for independence between students' perception in learning mathematics and factors affecting the failure rate in mathematics

Test Statistic	χ_c^2	df	p-value
Chi-square test	10.035 ns	12	0.613

Note: ns – not significant (two-tailed).

Relationship between Students' Perception towards a Mathematics Teacher and Factors Affecting the Failure Rate in Mathematics

Mostly, mathematics teachers were rated very satisfactory by the students (Table 14). In the same manner, students who positively perceived mathematics teachers in their strategies and capability were students with poor study habits and negative learning behavior. This lends insight that teachers presented the lesson well in the classroom environment, and students were motivated to learn. Unfortunately, this type of student has no retention skills due to the factors intervention and still fails to pass the exams. Some students rated very satisfactorily and outstanding to their teachers (Table 14). These students were grounded by the social environment, emotional and financial problems as their reason for failing mathematics courses.

Table 14. Cross-tabulation between the students' perception towards mathematics teacher and factors affecting the failure rate in mathematics (n = 151).

Factors in Failing Mathematics	Level of perception towards a Mathematics Teacher				Total
	Poor	Satisfactory	Very satisfactory	Outstanding	
Poor study habits	2	9	51	15	**77**
Negative learning attitudes	1	10	18	5	**34**
Social environment	0	3	14	4	**21**
Emotional problem	0	3	6	2	**11**
Financial problem	1	0	4	3	**8**
Total	**4**	**25**	**93**	**29**	**151**

Note: Students has chosen only one factor which influences the most in failing math course.

Students' perceptions towards a mathematics teacher and factors affecting the failure rate in mathematics courses in VSU are independent of each other using the chi-square test for independence (Table 15). This means that the perception of students towards a mathematics teacher is not affected by the different factors in their students' life. They may or may not favor the teacher but this belief is not associated with the students' constraints.

Table 15. Test for independence between students' perception towards mathematics teacher and factors affecting the failure rate (n = 151).

Test Statistic	χ_c^2	df	p-value
Chi-square test	13.234 ns	12	0.352

Note: ns – not significant (two-taileded).

The math teacher is considered the most important variable in the learner's educational environment. And teachers make considerable efforts to provide various forms of support (Weindling et al., 1987). The students might believe that a mathematics teacher presented the topic well and understand the concepts regardless of the different factors that they are dealing with a students' life. In the study of Lysynchuck et al. (1990), students follow their teachers in many teaching activities and take their teachers' reading comprehension strategies as models. But still, students' study habits and learning attitudes to retain the concepts of mathematics are the problem. On the other hand, it is also possible that

the students might believe that a mathematics teacher does not deliver the lessons clearly and systematically, perhaps they don't understand the ideas in math, but still, this belief has no association with the different factors that might affect the learning of students.

4. CONCLUSION

In VSU, there are different factors affecting the failure rate in mathematics, namely, poor study habits, negative learning attitudes, social environment, emotional problem and financial problem which does not follow a uniform distribution. The results revealed that the main factor affecting the failure rate is the study habits of students. These factors are the main reason why students cannot graduate on time on their respective degree programs because the following factors influence their learning in mathematics courses in their curriculum. Based on the instrument used, the perception scores of the students indicated that, on average, they are interested in learning mathematics and they favored a mathematics teacher. But based on the quartile variation, these perceptions are not consistent. No significant association was found between the factors affecting the failure rate and student's perception of learning mathematics and student's perception towards a mathematics teacher.

The study lends understanding to the belief that factors affecting the failure rate in mathematics are challenges in the learning process, but it is still up to the students to get passing grades by proper motivation. The students may still favor or interested in learning mathematics even if they are affected by the different factors, but they may still not perform well in class. They may not be striving hard also enough if they are interested in mathematics because the factors are the barrier in the learning process. The student's performance may remain to be limited by his effort, study habits, and capability, among others, despite the teaching strategy of a mathematics teacher. The math teacher has always been expected to prepare young people to become useful, upright, and active citizens in the community (Cruz et al., 1988), but the student must also do his/her part to learn. Students may favor the mathematics teacher, which helps mathematics to be understandable, but students are just passive and not doing the responsibility as a student who is consistent with the results of the study of Casinillo and Guarte (2018). Thus, these factors put together have more effect on the students' performance than the nature of the mathematics courses and the teaching strategy used by the mathematics teacher.

5.   RECOMMENDATIONS

It is strongly recommended that students must focus on basic concepts in math, in particular, must focus on College Algebra. If the student knows the basic concepts, it is easy for them to understand higher topics in mathematics. Students must develop discipline on study habits, take responsibility for doing the assignments, and attend the class regularly and the like. In this aspect, the teacher can definitely directly influence the students' learning mathematics. Studying mathematics is different from other subjects, mathematics is learned by doing, and therefore, students must develop a habit of doing mathematics regularly and disregard the different factors. Also, the teacher can foster a more stimulating class atmosphere to encourage all students better to participate in class discussions and class activities. It will certainly help if the teacher has a positive attitude towards the students, good personal qualities, and excellent teaching style, too, which will surely have a positive impact on students' performance and eradicate the failure rate in mathematics at any University.

Furthermore, to have a better understanding of the failure rate in mathematics at any University, a similar study should be conducted. Also, a periodic study in the performance in mathematics can help the students improve their level of achievement. At the same time, the students must also be motivated to learn and do their best in each mathematics course by encouraging them regardless of the factors affecting it.

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