



DETERMINANTS TO THE PERFORMANCE IN MATHEMATICS OF GRADE 7 STUDENTS

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ABSTRACT

The main purpose of this study is to describe the determinants to the performance in Mathematics of Grade 7 students in school. This study attempts to identify factors that act as determinants to elevate academic performance specifically in Mathematics subject. It presents the challenges faced by pedagogues in bringing changes in students' academic performance of Mathematics (International Journal of Education and Practice, v8 n4 p638-651 2020). The results of the study will help students determine their weaknesses in Mathematics subjects enabling them to perform without fear and begin to love the subject without fear.

KeyWords

Determinants, Factor, Grade 7, Mathematics, Performance, Students, Learners, Educators.

1 INTRODUCTION

Mathematics is used in our everyday lives. It is used everywhere, in schools, office, home, business, market, grocery, and many more others you may think of. Academically, it is integrated with. Around us. Mathematics is a necessity. It provides correct thinking ability. Mathematics profession engage a great career worldwide. Learners, must adept in Mathematics even at least the basic one. One must be knowledgeable enough with the basic of Mathematics skills from at least the early part of primary level of education. This is helpful towards the next level of learning from Grade 4 to 6. Grade 7 level of learning is a bit challenging to learners. In this level, Grade 7, Mathematics is introduce with symbols. As defined by Puspitarani and H Retnawati (2020), Mathematics is the science of number and their operations, interrelations, combinations, abstractions, and space configurations. Learners become unable to relate with the lesson and started to have lack interest. Educators find ways of introducing the subject to learners that might, hopefully, see them learn the topics. In spite of all the strategies applied, only a few can cope up with the lessons. Educators is finding the reason of lack of interest in Mathematics and confidence in class. Students outcomes in terms of learning in Mathematics is shameful. It is a fact that majority of learners' performance in Mathematics are unfortunate. The one to be blame is always the educator. The educator's exerted effort of delivering his lesson at its best are not perceived by parents. It is given that educators are learned enough and highly capable of teaching in their field of preference. There is a need to identify the determinants to the performance in Mathematics of students in spite of the endeavor of teachers in improving their performance in class. The fear of Mathematics subject is encompass it all. Hence, the interest in the subject never arise. To top it all, they feel nervous and unable to perform effectively.

1.1 Statement of the Problem

The research study examined to arise at a solution to the problem that may determine the factors that affect the performance of Grade 7 learners in Mathematics in school. The questions that comes up into my mind are:

- What motivates you to learn Mathematics?
- Is your environment affects your interest to learn Mathematics?
- What is your background experience about Mathematics that most lead you to keep on learning Mathematics?

2 Literature Review / Theoretical Framework

Educators are always reflected on the students' performance in school. Disregarding that the family is also one contributor in the child's academic output. On the contrary, we may never tell that, although the teacher performance in delivering his lesson in appropriate or shall we say excellent and as well as the family is very much nurturing, the learner is itself is the cause of the problem. Our main focus of the research is to tell the determinants to the performance in Mathematics subject of Grade 7 students in school. Considering that the Educators in Mathematics subject are well enough to teach and the parents and the rest of the family are supportive for the child's education.

Factors that can be considered as determinants to the performance of the learners in school are motivation,

2.1 Motivation

Let us consider the four components related to motivational constructs listed by Tywoniw_Crossley, Ocumpaugh, Karumbaiah, Baker 2020. Namely, mood, outcomes, attitude, and identity.

2.1a Mood

Mood is a a conscious state of mind or predominant emotion : feeling (Merriam-Webster). The learner who is interested in a certain area of learning, he is considered in a good mood. He feels excited and motivated to listen to lessons given by teachers. He don't feel sleepy even if it is late afternoon. He is focused in class. Whereas, on the other side, if he is not in the mood, he don't understand even the simplest explanation. Students feel tense and anxious when presented with numbers in a mathematics class or when asked to perform a mathematical calculation (Brewster, Barbara Jane Melissa; Miller, Tess). If students can positively reappraise their negative responses associated with mathematics anxiety, then they may be able to view mathematics as a challenge and not something to be avoided (Barbara Jane Melissa Brewster 1* , Tess Miller 2020).

2.1b Outcomes

Students tend to lose interest to study, most especially in Mathematics subjects, when their test result is a failing grade. However, if the scores they received is accepted, they feel more excited, focused, happy, and able to perform positively in class. Cognitive training can be beneficial for children; individual differences should be taken into account in future trials (MLA van der Donk... - Journal of attention ..., 2020 - journals.sagepub.com).

2.1c Attitude

Attitude is a relatively enduring organization of beliefs around an object or situation predisposing one to respond in some preferential manner (Encyclopedia.com). The modern concept of attitude in sociology, wherein attitudes came to be recognized as the psychological representations of societal, cultural influence, and personality (Mzomwe Yahya Mazana 1,2* , Calkin Suero Montero 2, Respicius Olifage Casmir 1 2019).

Staying away from school without good reason is one attitude that resulted to poor performance in academic subjects (Sokunrith Pov, Norimune Kawai & Nagako Matsumiya, August 2020). Frequent skipping in class affects greatly the grades of the learners (N. Ayuso 2021). It is the combined efforts of the Parents Teachers Association (PTA) in school to find out the reason behind the learners' absenteeism.

2.1d Identity

Gender differences are a recurrent theme throughout the literature in academic studies in general and in math studies in particular. It is observable that, according to (Ojaleye, O. & Awofala, A.O.A. 2018), gender is often considered a common conception in the field of mathematics and more often than not this academic subject is regarded as a masculine domain. Recent studies show that women are enrolling Science, Technology, Engineering and Mathematics take leaves. In this scenario, the involvement of educational institutions is seminal to change this trend (E. López-Iñesta, C. Botella, S. Rueda, A. Forte and P. Marzal, Aug. 2020). According to the survey made by AA MOHAMMAD - 2017, majority, 86 out of 100 of the respondents don't think gender is a determining factor that affects their Mathematics performance.

2.2 Relationship with Teachers and Peers

The teachers would instill the attitude of never-ending learning in their students which would create more proactive and dynamic students in our society (F Naz, S Rashid - sjesr, 2021). Social cognitive theory highlights that an individual's learning occurs in social environments by observing other beliefs, attitudes, and skills. The teachers also invested significant effort in encouraging students and their families to value mathematics and mathematics education (S Murphy - Mathematics Education Research Journal, 2021). Teachers who are the most important participants in the children's life, when, positively, interact with the learners, there is a likelihood of emerging with the best academic learning outcomes among the children (Nkirete, Thinguri - 2020). The tasks and questions offered and implemented by the teacher are demanding and may challenge or be opposed to students. The teacher engages students in elaboration and discussion and lets them explain their own understanding instead of just going for "right" or "wrong" answers, thus eliciting higher cognitive processes in students (Keller, Neumann, Fischer 2017). The teacher predicts student achievement by means of cognitive activation, and teacher motivation determines students' interest through enthusiastic teaching, teachers' own motivation in fact influence students' interest (Keller, Neumann, Fischer 2017).

What peers say and do (their speech and behaviour) in their daily interaction with friends during mathematics classes can have a direct effect on the level and frequency of mathematics anxiety among individual students, where it can either intensify or minimize mathematics anxiety (Garba, Ismail, Osman, Rameli 2019).

2.3 Self-Esteem

Self-esteem is an independent dimensions of the self (E Brummelman, C Sedikides 2020). It plays an important role in various life outcomes, including academic performance, and refers to the overall emotional evaluation and evaluative factors of the self that includes one's feelings of pride, encouragement and worthiness (T Tamil Chelvam, N Ismail 2020) . Children with high self-esteem have positive but realistic views of themselves (*realism*), strive for self-improvement (*growth*), and feel intrinsically

worthy, even in the face of setbacks (*robustness*) (E Brummelman, C Sedikides 2020). Reducing parenting stress by increasing the parents' positive perception of the value of children can be helpful in maintaining a consistent parenting attitude by parents, which can have a positive effect on self-esteem in children (JW Han, H Lee - Japan Journal of Nursing Science, 2020).

2.4 Background Experiences

As empirical studies have consistently shown, low achievement in mathematics at the secondary level can often be traced to deficits in the understanding of certain basic arithmetic concepts taught in primary school (E Moser Opitz, O Freeseemann... - Journal of learning ... , 2017). Because of this, anxiety in Mathematics subject arise to learners because of their incapacities to learn the subject. Math anxiety has always been the bottom line to the failures of the performance of our learners. Working memory and self-concept could be worth considering when designing interventions aimed at helping students with Math anxiety (Galiano, Puga, Linares, Pelegrina 2017). Helping students learn how to control Math anxiety while in the classroom appear more successful than intensive Math training (A Henslee, B Klein 2017). It was once thought that the math anxiety was due to social stereotypes and tendency to report math anxiety (E Novak, JL Tassell 2017).

Another background experiences that may determine the learners' undesirable performance in Mathematics is their traumatic experiences with regards to the subject. Mathematical trauma is a mental condition of students caused by experiences that make it difficult or emotionally with Mathematics (A Faradillah, L Febriani -2021). One experience that may lead to trauma is when a teacher scolded a learner in front of a class that resulted to an embarrassment. The learners would not want to study or go to school totally.

2.5 Learning Abilities

Every individual is a unique person. Each has its own physical and mental attributes. Personality reveals that each person stands in a unique relation to being by virtue of the acts of intellect and will (Bothur - Studia Elckie, 2020). Each has his own likes and dislikes. Even a small child have their own likes for themselves. They know what they want. They know what they want to be when they grow up. Not all individual have the same intellectual capacity for every thing. Just like in Mathematics. Not all can cope up with flow of every lessons because not everyone have their own individual interest.

Conclusion

This literature review is written for the purpose of stressing the determinants to the performance in Mathematics. It all depends on what, whom, or how you are influenced to keep on going on learning Mathematics. Find out what hindered you from learning especially the Mathematics subject. If you have pinpoint anyone of the determinants listed above, then try to enhanced the positive point of view and disregard the other.

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