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Psychosocial Factors Influencing Grade 7 Learners' Performance in Mathematics Classes: A Focus on Primary Schools in the Northern Cape, South Africa

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ABSTRACT

This study explored the psychosocial factors influencing Grade 7 learners' performance in mathematics classes at primary schools in Frances Baard District in the Northern Cape Province of South Africa. The study adopted a qualitative interpretive approach infused with a multiple-case study design. The thematic results showed that some learners were not fully engaged in the mathematics classes despite having the necessary resources, including qualified teachers. The study revealed that family and community issues affect learners' academic performance in mathematics classes. It further found that some learners struggle to comprehend mathematical concepts taught in English, their second language. Furthermore, it highlighted why learner engagement is so weak in the intermediate-phase mathematics classroom. The reasons why learners' mathematics marks declined in Grade 7 have also been discussed in this study. The study found that the socio-economic factors that affect learners in South African schools can be eliminated if we enlist the support of social services available to South African learners. The study recommends that teachers enhance their pedagogical approaches to fit learners' home languages, locations, and socioeconomic circumstances. This study supports the notion that more learner-centered approaches be used in the mathematics classroom and adds to existing literature on the subject.

Keywords: *Mathematics Teachers, Academic Performance, Mathematics Classes, Primary Schools*

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INTRODUCTION

Researchers are increasingly interested in investigating learners' academic performance in mathematics classes. High performance in mathematics is depicted as a fundamental part of human knowledge and a central pillar in the modern technological revolution.[1] Similarly, understanding mathematics is a crucial component of human life, as it effectively builds mental development and encourages logical reasoning and critical thinking skills.[2] This suggests that mathematics plays a significant role in education and the

[1] P. Ernest, "Why Teach Mathematics? The Aims, Outcomes and Opportunities Afforded by Its Teaching and Learning ," in *Why Learn Maths*, ed. J. White and S. Bramall (London: London University Institute of Education, 2000).
[2] Alberto López-López, Mario Sánchez Aguilar, and Apolo Castaneda, "Why Teach Mathematics? – A Study with Preservice Teachers on Myths around the Justification Problem in Mathematics Education," *International Journal of Mathematical Education in Science and Technology* 53, no. 8 (September 14, 2022): 2102–14, https://doi.org/10.1080/0020739X.2020.1864489.

nation's socioeconomic development. This role explains how education helps individuals enhance their quality of life and improve their living standards.[3] If society does not get the education of the youth right, studying mathematics will remain an unrealistic dream for many.

Jojo has argued that educational reform in South Africa has generally been politically driven.[4] Consequently, the past 20 years have reduced education to serving economic ends, coupled with the conflation of mathematical prowess and problem-solving skills for the knowledge economy.[5] Attempts to redress the situation sought to ensure that all learners are exposed to mathematics at school before completing their matric. Poor academic performance in mathematics has attracted much attention among concerned stakeholders in South Africa. Despite many curricula reforms by the South African Department of Basic Education, learners still struggle to pass mathematics. South Africa recently adopted the CAPS document as the education policy, which is constructivist, meaning that we are moving away from a theoretical underpinning of teaching mathematics towards a more practical way of teaching it.

Learners still experience challenges with the subject, especially when transitioning from primary to high school. Other studies have recently focused on factors contributing to poor learner performance in mathematics at selected schools in Mpumalanga Province in South Africa.[6] Similarly, Ajimudin and Mukuna studied the psychological challenges of grade 7 learners in mathematics classes at schools in the Frances Baard district, Northern Cape.[7] Extant literature reveals the negative attitudes embedded in the teaching methods and the negative attitudes of pupils, teachers, and parents towards mathematics and related subjects.[8] Other scholars reported that mathematics teachers' poor experience and inadequate resources were the causes of poor performance in the subject.[9] Chand et al. found an ineffective mathematics curriculum to be the main reason for poor secondary school performance in the subject.[10]

Similarly, Suleiman and Hammed explored the perceived causes of learners' failure in mathematics at junior secondary schools.[11] The study found that transferring mathematics teachers, learners' poor socioeconomic circumstances or backgrounds, flawed teaching methodology, inappropriate periods allocated for mathematics, and overcrowded classrooms caused poor mathematics performance among learners. Owan indicated that private primary school pupils perform better in mathematics than public school colleagues.[12] Michael found poor teaching environments, poorly managed mathematics departments, inadequate self-practice, and learners' poor backgrounds contributed to low grades obtained in mathematics.[13]

Literature has shown that learners showed disengagement in the class despite having what they needed in the mathematics classroom.[14] A study confirmed that schools must move away from teacher-

[3] Omoniyi Oginni, "Comparative Studies Of Students' Psychosocial Factors and Performance in Mathematics," *International Journal of Educational Research Review* 6, no. 4 (October 1, 2021): 338–44, https://doi.org/10.24331/ijere.950285.
[4] Zingiswa Jojo, "Mathematics Education System in South Africa," in *Education Systems Around the World* (IntechOpen, 2020), https://doi.org/10.5772/intechopen.85325.
[5] Jojo, "Mathematics Education System in South Africa."
[6] Isack. Michael, "Factors Leading to Poor Performance in Mathematics Subject in Kibaha Secondary Schools" (The Open University of Tanzania, 2015); Nomsa Mabena, Patricia Namayammu Mokgosi, and Selina Serole Ramapela, "Factors Contributing To Poor Learner Performance In Mathematics: A Case Of Selected Schools In Mpumalanga Province, South Africa," *Problems of Education in the 21st Century* 79, no. 3 (June 15, 2021): 451–66, https://doi.org/10.33225/pec/21.79.451.
[7] Fatima Ajimudin and Kananga Robert Mukuna, "Psychological Challenges Facing Grade 7 Learners in Mathematics Classes at Schools in the Frances Baard District, Northern Cape," *International Journal of Studies in Psychology* 3, no. 2 (2023): 53–62.
[8] Paula VaraidzaiMakondo and Davison Makondo, "Causes of Poor Academic Performance in Mathematics at Ordinary Level: A Case of Mavuzani High School, Zimbabwe," *International Journal of Humanities and Social Science Invention (IJHSSI)* 9, no. 1 (2020): 10–18; Samlesh Chand et al., "Perceived Causes of Students' Poor Performance in Mathematics: A Case Study at Ba and Tavua Secondary Schools," *Frontiers in Applied Mathematics and Statistics* 7 (April 23, 2021), https://doi.org/10.3389/fams.2021.614408.
[9] Yusuf Suleiman and Araba Hammed, "Perceived Causes of Students' Failure in Mathematics in Kwara State Junior Secondary Schools: Implication for Educational Managers," *International Journal of Educational Studies in Mathematics* 6, no. 1 (2019): 19–33; VaraidzaiMakondo and Makondo, "Causes of Poor Academic Performance in Mathematics at Ordinary Level..."
[10] Chand et al., "Perceived Causes of Students' Poor Performance in Mathematics: A Case Study at Ba and Tavua Secondary Schools."
[11] Suleiman and Hammed, "Perceived Causes of Students' Failure in Mathematics in Kwara State Junior Secondary Schools..."
[12] Valentine Joseph Owan, "Some Causes of Poor Performance Of Pupils in Primary School Mathematics. A Case Study in Akamkpa Local Government Area of Cross River State, Nigeria.," *SSRN Electronic Journal*, 2012, https://doi.org/10.2139/ssrn.3221784.
[13] Michael, "Factors Leading to Poor Performance in Mathematics Subject in Kibaha Secondary Schools."
[14] Sooryadev Purdasseea, "Student Engagement in Mathematics Lessons and Tasks during Transition from Primary to Secondary School" (University of Brighton, 2022).

centred approaches and adopt more learner-centred approaches to teaching.[15] The situation remains the same in various schools in many districts in South Africa. Literature shows that the parents or caregivers of learners must have a good social relationship with schools if learners' academic performance is to improve.[16] Furthermore, positive attitudes and emotions should be fostered among learners in the classroom when teaching and learning mathematics.[17] Some scholars highlighted that learners' involvement, learner-learner interactions, teacher-learner interaction, satisfaction, task orientation, competition, order and organisation, teacher control, and innovation could be pertinent psychosocial factors that affect the teaching and learning of mathematics in Nigerian schools.[18]

Poor performance in mathematics in junior high school is not an isolated issue but a far-reaching one worldwide. Some scholars reported that mathematics self-efficacy, mathematics anxiety, motivation, parental influences, adequate teacher support, teachers' competencies, and classroom instruction could influence poor mathematics performance.[19]

In South Africa, many studies have focused on factors contributing to poor learner performance in mathematics.[20] However, insufficient attention has been paid to psychosocial factors or non-structural problems such as resilience, anxiety, and language barriers, among others. Therefore, this study explores the psychosocial factors influencing Grade 7 learners' academic performance in mathematics classrooms in Frances Baard District in the Northern Cape, South Africa. This will bridge the gap in the existing literature, particularly in the context of South African high schools and the world at large, because the factors vary from one location or institution to another.

METHODOLOGY

This study adopted a qualitative research approach to explore the phenomenon of losing momentum in learning in its natural surroundings.[21] It employed an interpretive paradigm, which helps participants to share their ideas while maintaining integrity.[22] A multiple case study design was suitable for this study since it allows the researchers to isolate and define an issue in its actual setting while yielding genuine and authentic data and allowing for an in-depth interpretation of findings.[23] The participants in this study were mathematics teachers.

Participants

This study's participants were six mathematics teachers in Frances Baard District in Kimberley, Northern Cape Province, South Africa. These teachers came from six schools, three of which were urban, well-resourced, and maintained, with a functioning School Governing Body (SGB). The other schools were moderately maintained and situated in regions of lower socioeconomic status, with SGBs that were not functional. The researchers invited all participants and explained the purpose of participating in this study based on their availability. It was believed that these participants could provide enough knowledge and experience of the psychological, social, and academic factors that influence Grade 7 learners in mathematics classes. The participants had at least five years of experience teaching mathematics in Grade 7. Their race, gender, highest qualifications, home language, residential area, and teaching subjects were considered in this study.

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[15] Caleb Imbova Mackatiani, Musembi Nungu Joseph and Gakunga Daniel Komo, "Learning Achievement: Illusions of Teacher-Centered Approaches in Primary Schools in Kenya," *Learning* 9, no. 18 (2018).
[16] Candice Alexis Jimmyns and Anna Meyer-Weitz, "The Influence of School Contextual Factors on Caregivers' Involvement in Four Schools in Durban, South Africa," *Child & Youth Services* 42, no. 1 (2, 2021): 80–106, https://doi.org/10.1080/0145935X.2020.1836955.
[17] López-López, Aguilar, and Castaneda, "Why Teach Mathematics?..."
[18] Anthony Oyetunde Oyenuga and John Oladipupo Lopez, "Psycho-Social Factors Affecting the Teaching and Learning of Introductory Technology in Junior Secondary Schools in Ijebu-Ode Local Government of Ogun State, Nigeria," *Journal of Psychology* 3, no. 2 (December 2012): 113–20, https://doi.org/10.1080/09764224.2012.11885485.
[19] Jarise Kaskens et al., "Impact of Children's Math Self-Concept, Math Self-Efficacy, Math Anxiety, and Teacher Competencies on Math Development," *Teaching and Teacher Education* 94 (August 2020): 103096, https://doi.org/10.1016/j.tate.2020.103096.
[20] Mabena, Mokgosi, and Ramapela, "Factors Contributing To Poor Learner Performance In Mathematics..."
[21] James A Athanasou et al., *Complete Your Thesis or Dissertation Successfully: Practical Guidelines* (Juta, 2012).
[22] John W Creswell and J David Creswell, *Research Design: Qualitative, Quantitative,and Mixed Methods Approaches* (Sage publications, 2017).
[23] Malin Karlsson, *Research Methods for Operations Management*, ed.Christer Karlsson (London: Routledge, 2016), https://doi.org/10.4324/9781315671420.

Instrument

This study used semi-structured interviews with mathematics teachers for data collection. Although time-consuming, semi-structured interviews allowed researchers to elicit valuable data from the participants, with a rich tapestry of information. This instrument comprised open-ended questions about the psychological and social factors influencing Grade 7 learners' performance in mathematics.

Data Analysis

Data was analysed using the thematic analysis technique, which helps to organise and give meaning to data.[24] There is no risk of contaminating the data during this analysis, making it a safe data analysis method.[25] This technique was chosen for its flexibility, allowing researchers to determine the recurring themes that emerged.[26] The researchers refined the data by recognising the essential themes related to psychological, social, and academic factors that emerged; the recurring themes became the main themes. Regarding the trustworthiness and credibility of the data, all data collected for this study was scrutinized and transcribed by an electronic device. The confirmed data was then protected, providing dependability to the study.[27]

Ethical Considerations

Permission to conduct the study was sought from the Ethics Committee at the University of the Free State. The Department of Basic Education in the Northern Cape Province approved the research conducted at the selected schools. The interviews lasted between forty-five minutes and an hour each.

PRESENTATION OF FINDINGS

The diagram in Figure 1 explains factors influencing Grade 7 learners' performance in the mathematics classroom. Three types of factors are involved: psychological, social, and academic. Psychological factors included strong learners despite their difficulties and enthusiasm for mathematics. Some were, however, disengaged despite having what they needed to succeed. Social factors influencing learners' performance included issues like good relationships with teachers and friends and family and community issues in the immediate environment where learners live, which could affect their performance. Academic factors are related to the teaching and learning issues that Grade 7 learners experience. Some have continuous difficulties with mathematics, meaning they have a learning problem; some must re-learn the basics of mathematics so they do not perform optimally. Comprehension of concepts refers to learners sometimes missing and not fully understanding the concepts of mathematics when they reach Grade 7.

[24] Albert J Mills, Gabrielle Durepos, and Elden Wiebe, *Encyclopaedia of Case Study Research* (Sage publications, 2009).
[25] Alan Bryman, "Sampling in Qualitative Research ," *Social Research Methods* 4, no. 1 (2012): 415–29.
[26] Janice E Hawkins, "The Practical Utility and Suitability of Email Interviews in Qualitative Research," *The Qualitative Report* 23, no. 2 (2018).
[27] K. Maree and J. Pietersen, " Sampling," in *First Steps in Research*, ed. K. Maree, vol.3 (Hatfield: Van Schaik Publishers, 2020), 213–24.

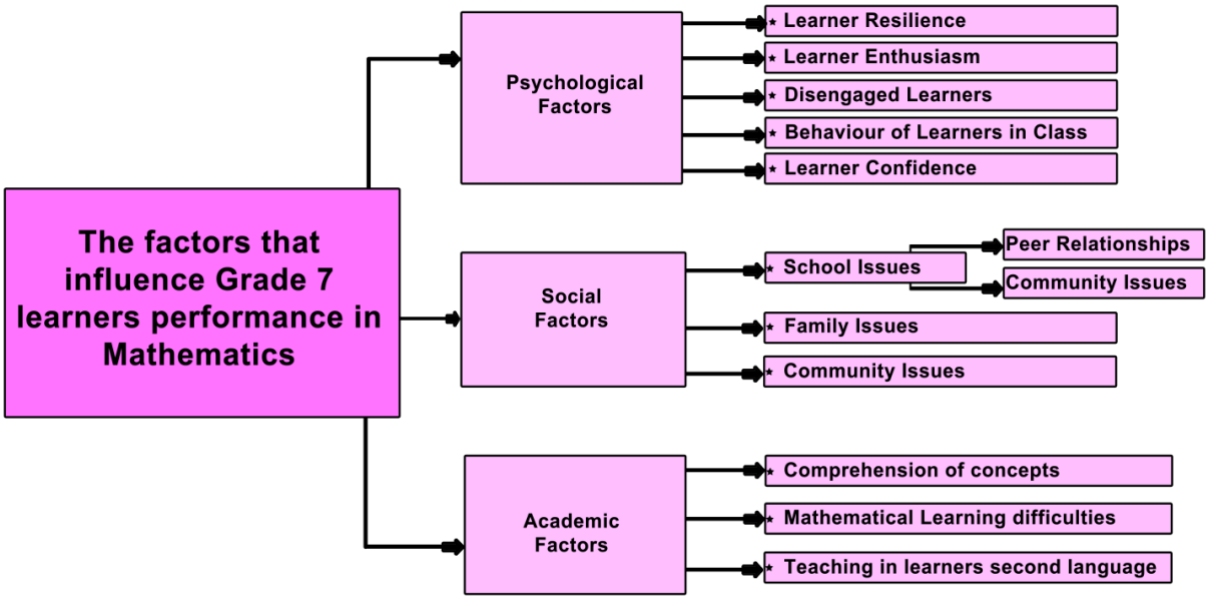

Figure 1: Psychosocial factors influencing Grade 7 learners' academic performance in mathematics classrooms.[28]

Psychological Factors

This study found that resilience, enthusiasm, disengagement, teacher attributes, anxiety, learners' demeanor, and confidence are among the psychological factors influencing the performance of Grade 7 learners at selected primary schools in the Frances Baard District.

Resilience

This study found resilience to be a psychological factor influencing the academic performance of Grade 7 learners in mathematics classrooms at the selected primary schools. Some teachers highlighted that learners must cope with negative situations, especially during COVID-19 when schools were on lockdown.

Resilience occurs when learners persist in a task till they have mastered it. (Teacher 2)

Learners show resilience by bouncing back and remaining on their feet when faced with a complicated situation. Despite the difficulty that learners experience with mathematics, they can still do their work and be productive individuals. However, because they are young, they may be able to develop greater resilience in the face of adverse situations. The participants stated as follows:

Learners' emotional situations make them either strong or weak. (Teacher 1)

Despite experiencing difficulties, learners still do well. (Teacher 2)

Learners are even more resilient than we give them credit for. We need to come down to their level. The way I teach makes them resilient. (Teacher 5)

Teachers from the selected South African schools expressed various opinions regarding the resilience of their learners. Some learners were reportedly resilient because of their challenging circumstances, while others were said to be struggling; hence, their resilience was still questionable despite the support they received from teachers.

[28] Fatima Ajimudin, "Exploring Factors Influencing Grade 7 Learners' Performance in Mathematics in the Frances Baard District " (University of the Free State, 2021).

Enthusiasm

The teachers interviewed stated that in the mathematics class, the learners' feelings determine the level of their satisfaction and success. Similarly, learners' enjoyment and attention in class signify their happiness. Their willingness to attend school regularly and participate in their lessons indicates their happiness. Learners' level of engagement within the mathematics class signifies learner satisfaction:

> *If a child is working in class, they are comfortable in that space, which makes them prosper*. (Teacher 2)

> *Nothing breeds success like success itself. Mathematical thinkers are good at it, and this breeds enthusiasm*. (Teacher 6)

Enthusiasm is a major psychological factor that influences learners' success in mathematics. The successes they experience motivate the learners to put in the effort needed to attain their ultimate success.

Disengagement

The teachers interviewed mentioned that learners did not openly declare their unhappiness in a class; they reportedly displayed it as disengagement. They exhibit a disruptive and inattentive disposition towards the teachers and adopt a lackadaisical approach to their work. Learners display anger by becoming violent toward others and the environment. Another expressed her concern over learner disengagement, which manifests in their results. Ultimately, the learners' emotional instability manifests in their dissatisfaction with classroom activities:

> *Learners hardly show dissatisfaction; they display disinterest and are not focused. This manifests in their low marks. Sometimes, learners show dissatisfaction by displaying anger.* (Teacher 6)

> *They do not show dissatisfaction with our thoughts but act out their dissatisfaction*. (Teacher 5)

Learners display disengagement from the classroom by showing weakened results. This impedes learners' success.

Anxiety

Teachers stated that Grade 7 learners experience fear in the classroom, and this anxiety precipitates learners' poor performance. The anxiety that the learners experience is usually expressed as fear, as some were reportedly afraid of talking to teachers. In extreme cases, anxiety can cause sickness in learners. Friends often exacerbate learners' anxiety, thus pressuring them into specific behaviours. A teacher expressed regret at not having enough opportunity to show concern for the learners' situations. Another said that some learners' anxiety emanated from the nature of the subject:

> *Learners experience anxiety. However, this is not obvious as they do not openly show it. They can only show it when they have an opportunity. I have not given them enough opportunity to express their issues.* (Teacher 6)

> *Some of the learners do experience anxiety. One girl constantly faints in class, which sometimes adversely affects her performance, including that of other learners*. (Teacher 4)

Learner anxiety often manifests in their behaviours and attitudes toward classroom activities. Some learners present with physical signs of anxiety, such as fainting and being sick when the subject content of geometrical and algebraical mathematics quantity (numbers), structure, space, and change are covered. A group of learners also presented with anxiety emanating from aspects of the subject, which evolved through abstraction and logical reasoning from counting, calculation, measurement, and the systematic study of the shapes and motions of physical objects.

Misbehaviour

Teachers said that learners' demeanor determines their poor performance in mathematics classes. Learners who behave well and engage with the teacher perform well in their schoolwork. Teachers expressed that

learners' performance signifies their behaviours in class and that a culture of learning in the school positively impacts learners' performance.

> *Learners are just not interested in what we teach them*. (Teacher 5).

> *Some learners sit in the hall, but even those in the classrooms are not well-behaved. More than half are battling concepts*. (Teacher 4)

> *They are given rules right at the beginning and know what is expected of them. Learners will only misbehave when the teachers permit them to do so* (Teacher 4).

The learners' classroom behaviours largely depend on the teachers' ability to instill discipline and respect by applying rules and regulations. Teachers who can control learners do not experience these disciplinary issues in their classes and pre-empt misbehaviours by keeping students engaged when learners are not following classroom or school rules. Learners sometimes present with disciplinary issues because they do not listen to the lessons and prevent other learners from learning. Teachers reiterated the need to control the behaviour of the learners:

> *During COVID-19, the classes were made smaller; hence, we should keep a finger on the pulse. The learners will struggle when they all return*. (Teacher 2)

> *I do not experience disciplinary problems in my classes. My learners are generally well-behaved and rarely give me problems*. (Teacher 1)

Learners who experienced COVID-19 conditions in the classroom behaved better as the classes were smaller. However, the general behaviours of learners constitute a significant factor determining learners' success in the mathematics classroom.

Confidence

Learners display confidence in class when they are sure of themselves and not afraid of making mistakes. They often demonstrate confidence when they receive adequate support from their teachers and parents and have grasped the concepts. When learners' self-esteem is boosted, they feel it is necessary to raise their performance in the mathematics classroom. Learners' success leads to their confidence in the classroom; their confidence will wane if they struggle academically. Learners who understand their work in class will have confidence, enhancing their mathematics performance:

> *Their confidence grows when they succeed academically. They even feel superior about their work. (*Teacher 6)

> *Learners' confidence in mathematics varies according to their ability. When they know the concepts, they exhibit more confidence*. (Teacher 5)

Learners' confidence stems from their knowledge and ability to navigate the subject. The most confident learners are those who succeed in mathematics.

Social Factors

This study demonstrated that the social factors that influence the performance of Grade 7 mathematics learners in the Frances Baard District seem to replicate themselves in the school, family, and community.

Learner-Learner Relationships

Thus, learners' relationships with each other impact their performance:

> *Our school's interactions are subdued, as the school is small and there are no major social issues*. (Teacher 4)

> *Girls form groups and some want to be worse than others. Maybe this is hormonal, and such learners are problematic. They agitate each other to be complicated.* (Teacher 5)

Learners in a group model and emulate each other; this benefits problematic learners and the rest of the class. (Teacher 2)

Despite these adverse situations, the learners can still perform well. The groups in mathematics classes motivate each other:

They can perform well despite the friendly situation prevailing in the class. (Teacher 1)

The culture in our school ensures that most learners will learn because their groups are competitive and want to compete for the best position. (Teacher 6)

Learner-learner social interactions determine learners' success in the mathematics classroom. This interaction determines how learners interact with the learning material.

Learner-Teacher Relationship

The teachers' attributes directly affect how learners cope and perform. If the teacher is too strict, the learners fear expressing themselves and will not be responsive in class. Learners' performance will be raised when teachers know their content and are enthusiastic about teaching. The teacher is the main driving force behind classroom performance, as they are responsible for the atmosphere that prevails in the classroom, which impacts learning. Learners need encouragement because they are young and vulnerable. The teachers believed that if educators presented the lessons enthusiastically, learners would keep up their interest, significantly enhancing the classroom climate. Teachers who use positive reinforcement encourage learners to work hard:

Teachers' ought to consider the learner's situation. They need to care for the children's needs, looking at the situation from their perspective. (Teacher 3)

The teachers' attitude communicates a lot to the learners; when they are confident, they will capitalize on that and be convinced. (Teacher 5)

Teachers' relationship with their learners hugely impacts the learners' attitudes and how they learn. This also adds to the enjoyment they experience in class.

Family Issues

The teachers mentioned that they knew of the family-related social issues their learners experienced, such as living with grandmothers and having parents working away from home. Learners may live with older siblings, which means they do not always have the support of strong family relationships. Some teachers felt that their learners were getting the psychosocial support they needed, and thus, family structural issues should not be a problem. Many teachers attested that their learners remained strong despite these difficulties. The parents' economic situation profoundly affects the learners' social background.

One teacher mentioned that the on-site social worker cares for the learners grappling with adverse social situations the school cannot handle. When learners from poorer homes come to school, they are more likely to be affected by the situation at home than their peers from wealthier families. Teachers lamented situations where parents only take responsibility for their children's physical needs, leaving the rest to the educator. Five teachers declared they witnessed little or no parental involvement in their child's schooling. If parents were perhaps more involved, this would instill accountability among the learners. As three participants noted:

The family situation either positively or negatively affects learners. (Teacher 5)

Many learners face social issues at home, often negatively impacting their schooling. Such issues are not always evident but do come up often. (Teacher 4)

Parents feel that once the learner is in school, they cease to be their responsibility. They avoid taking care of their children. (Teacher 1)

Learners come to school with certain feelings, depending on their origins. This stems from their relationship with their families. Learners residing in the Frances Baard District often live with other family members, which determines how learners feel at school.

Community Issues

The school is a microcosm of the larger community, and those social ills that are prevalent in the community permeate into the school system. The areas that some learners come from have a stigma attached to them, and learners are often affected by that reality. Most schools provide learners with food; however, this is not the only social issue that learners face. The poverty that the community experiences influences learners' performance in class. One educator mentioned that the different factions learners subscribe to result in learners discriminating against each other despite their minor differences. There were various factions in one of the schools, and these groups came into the same school and disturbed its harmonious functioning:

> *My learners are affected by the community they come from; some of them come from impoverished communities, a situation that negatively affects them. They come from rough areas.* (Teacher 1)

> *Some learners are indoctrinated into joining gangs early, and this accompanies them to school. This has become a serious problem these days*. (Teacher 3)

Violence has always prevailed in South Africa, as communities are riddled with gangsterism and social ills. This issue hugely impacts learners' performance. Learners from these areas are mentally and emotionally affected by their surroundings.

Academic Factors

The academic factors that influence Grade 7 learners' performance in mathematics classes include the inability to comprehend concepts, mathematical learning difficulties, the language barrier, and the lack of appropriate mathematical resources.

Inability to comprehend Mathematical Concepts

Teachers opined that the inability to comprehend concepts is believed to be the commonest challenge, as this is the inner nature of mathematics; thus, the retention of facts can always be learned, though learners will get to use a calculator later. Mathematics requires learners to analyse and solve complex problems.[29] Understanding mathematical concepts becomes easy if learners' conceptualisation of the content is strong. Teachers think that if learners' foundation is not strong, they struggle to grasp mathematical concepts. Mathematical concepts are what learners need to learn in the lower primary grades; if their number of concepts were adequately consolidated, they would not have this problem. If they know the relationship between numbers, their understanding will be enhanced:

> *The retention of facts is problematic to learners, as they hardly apply themselves enough*. *They can understand everything, though they do not clearly understand the concepts*. (Teacher 1)

> *The retention of facts and concepts is balanced in difficulty, some retention and others concepts. They know what numbers are. It does not have to be difficult*. (Teacher 2)

Two major factors affect mathematics learners: the retention of facts and the understanding of concepts. Learners with these two attributes are less likely to struggle during mathematics classes.

Difficulties with Learning Mathematics

Educators expressed issues with mathematical difficulties, some of which are prevalent because the learners do not know the basics of mathematics. Some teachers advocated adopting and modifying

[29] Janina Krawitz et al., "The Role of Reading Comprehension in Mathematical Modelling: Improving the Construction of a Real-World Model and Interest in Germany and Taiwan," *Educational Studies in Mathematics* 109, no. 2 (February 20, 2022): 337–59, https://doi.org/10.1007/s10649-021-10058-9.

teaching strategies to overcome this problem. These teachers felt that there were no difficulties in learning mathematics, arguing that everyone was capable and they just had to apply themselves. The Grade 7 curriculum vastly differs from the previous grades in that fractions, for example, jump from looking at a fraction wall in Grade 6 to no use of the wall in Grade 7. The teachers mentioned that concrete manipulatives should be used, but consecutive numbers were mentioned as problematic.

Learners struggle to understand specific topics, such as fractions and geometry, which must be concretised to enhance their understanding and mastery of mathematics. In geometry, the learner must be pre-exposed to certain educational games. Some teachers mentioned that geometry is challenging for learners with developmental difficulties. If learners are not at the expected developmental stage, where they can understand how these shapes can be manipulated, they will face difficulty in understanding three-dimensional (3D) shapes. Two teachers said that the teaching strategies that should be used have to be adapted to the learners' level. Learners do not always understand what they are reading, which becomes a problem:

> *Learners have not been taught well in the earlier years; hence, they struggle.* (Teacher 5)

> *Consecutive numbers are a problem, but when learners eventually get the concept, it will be too late, and the concepts will be complex at that stage*. (Teacher 4)

One crucial factor that could contribute to learners' success in the mathematics classroom is having a solid foundation of the subject in terms of number concepts and number sense. This is because mathematics is a scaffolded subject, meaning that what is learned early on is essential for learners' later success.

Teaching Mathematics in the Learners' Second Language

The participants reported that teaching mathematics in the Grade 7 learners' second language is an academic factor influencing their academic performance in mathematics at primary school. Teachers reported that teaching and learning mathematics is a complex issue, and when learners are taught in their second language, this becomes a barrier. It is important to note that the language of school instruction differs from the learners' home languages. The vernacular language of learners in the Frances Baard District differs from the medium of instruction, which may negatively impact their teaching and learning. Some teachers expressed the desire to know more about their learners and thought that if they did, they could reach out to more of them:

> *There is a language barrier, as learners do not understand me. Language is a significant barrier.* (Teacher 4)

> *Learners are not taught in their home language, which is a huge problem. I am not familiar with their culture. I could have contacted more learners if I had known more about them.* (Teacher 6)

> *If we could teach them in their home language, it would be a great advantage for us and the learners*. (Teacher 3)

One educator felt there was no need for culture and considered it an issue that should be excluded from the class.

DISCUSSION

The findings present the factors that influence the academic performance of Grade 7 learners in mathematics classes. The factors were divided into psychological, social, and academic categories. Psychological factors include learner resilience, learner enthusiasm, learner disengagement, learner anxiety, and learners' behaviours and confidence in the classroom. The social factors included school, family, and community issues. School issues fall into two categories: peer relations and learner-teacher relationships. Academic factors included a lack of comprehension of mathematical concepts, mathematical learning difficulties, and teaching mathematics in the learners' second language.

This study demonstrated resilience as a psychological factor influencing the performance of Grade 7 learners in mathematics at the selected primary schools. They worked hard and accepted responsibility for their learning. Learners were happy in the class and displayed this by doing what was expected of them. Teachers professed that despite learners' difficulties during COVID-19, they remained positive and maintained their psychological balance. Despite harrowing conditions, resilience has been conceptualised as learners' ability to succeed.[30] A resilient learner can persist through complex mathematical issues.[31] The teachers who participated in this study said that learners persisted with a problem until they had mastered a particular mathematical concept taught in the classroom.

The learners' enthusiasm during classroom activities reflects how successful they are. A learner who fully engages in class activities displays enthusiasm. A study in Tanzania established that learners' enthusiasm can be enhanced when they are interested in using technology.[32] Iranian research supports that the classroom environment determines learner enthusiasm.[33]

They act out by obtaining substandard results. Some learners sit passively throughout the lesson and then ask a friend for help. Such learners seldom misbehave. Thus, teachers should be able to control learners' behaviours.[34]

Several factors can be attributed to learners' confidence in the classroom, including academic success, personal history, and individual differences.[35] The link between what learners think of themselves and their performance is a factor that highly affects their performance in mathematics. Learner confidence increases when they have adopted the skills needed in the classroom.[36] This study found that learners' mindset distinctly affects their confidence level in the classroom.

These relationships contribute directly to learners' engagement with the content and knowledge of the subject in classrooms.[37] The literature demonstrates that teachers' relationships with their learners enhance learners' academic performance and achievement.[38] Teaching new concepts with great enthusiasm and confidence could improve the learners' preparedness and confidence to work hard and prosper. As the teacher-learner relationship impacts learners' performance, teachers need sufficient support and must acquire the required skills to support their learners.[39]

Family issues were also a social factor that possibly influenced the Grade 7 learners' performance in mathematics at primary school. The family unit is essential, as it shapes the holistic well-being of learners. When the family structure protects a child, it becomes easier for that child to navigate worldly problems. It affords them some sort of security. Parents' working hours do not allow them to interact with their children and give them emotional support. The literature depicts learners with family support as more capable of achieving higher academic scores than those without it.[40]

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[30] A J B Hutauruk and N Priatna, "Mathematical Resilience of Mathematics Education Students," in *Journal of Physics: Conference Series*, vol. 895 (IOP Publishing, 2017), 012067.

[31] M Hafiz and J A Dahlan, "Comparison of Mathematical Resilience among Students with Problem Based Learning and Guided Discovery Learning Model," in *Journal of Physics: Conference Series*, vol. 895 (IOP Publishing, 2017), 012098.

[32] Judith Uchidiuno et al., "Learning from African Classroom Pedagogy to Increase Student Engagement in Education Technologies," in *Proceedings of the 2nd ACM SIGCAS Conference on Computing and Sustainable Societies* (New York, NY, USA: ACM, 2019), 99–110, https://doi.org/10.1145/3314344.3332501.

[33] Gholam Hassan Khajavy, Peter D. MacIntyre, and Elyas Barabadi, "Role Of The Emotions And Classroom Environment In Willingness To Communicate," *Studies in Second Language Acquisition* 40, no. 3 (September 2, 2018): 605–24, https://doi.org/10.1017/S0272263117000304.

[34] Van Dat Tran, "Effects of Gender on Teachers' Perceptions of School Environment, Teaching Efficacy, Stress and Job Satisfaction," *International Journal of Higher Education* 4, no. 4 (September 25, 2015), https://doi.org/10.5430/ijhe.v4n4p147.

[35] K. R. Wentzel and D. B. Miele, " Self-Efficacy Theory in Education ," in *Handbook of Motivation at School*, ed. K. R. Wentzel and A. Wigfield (London: Routledge, 2016), 46–66.

[36] Carolina Bernales, "Conflicting Pathways to Participation in the FL Classroom: L2 Speech Production vs. L2 Thought Processes," *Foreign Language Annals* 49, no. 2 (June 2016): 367–83, https://doi.org/10.1111/flan.12200.

[37] Yuan QIU, Xiaotao LU, and Taisheng FU, "The Cultivation of Approaches to Learning, so That Children Lifelong Benefits-Reading the Feel of Enthusiastic and Engaged Learners: Approaches to Learning in the Early Childhood Classroom," *Canadian Social Science* 14, no. 12 (2018): 47–53.

[38] Elien Sneyers, Jan Vanhoof, and Paul Mahieu, "Primary Teachers' Perceptions That Impact upon Track Recommendations Regarding Pupils' Enrolment in Secondary Education: A Path Analysis," *Social Psychology of Education* 21, no. 5 (November 30, 2018): 1153–73, https://doi.org/10.1007/s11218-018-9458-6.

[39] Joyce L Albright et al., "What Factors Impact Why Novice Middle School Teachers in a Large Midwestern Urban School District Leave after Their Initial Year of Teaching.," *International Journal of Educational Leadership Preparation* 12, no. 1 (2017): n1.

[40] Salomé Schulze and Eleanor Lemmer, "Family Experiences, the Motivation for Science Learning and Science Achievement of Different Learner Groups," *South African Journal of Education* 37, no. 1 (February 28, 2017): 1–9, https://doi.org/10.15700/saje.v37n1a1276.

This study found that community issues are a social factor determining Grade 7 learners' performance in the mathematics classroom at primary school. The social ills that a society experiences spill into the school system because the learners come from the same community. Learners who reside in socially unfavourable conditions struggle at school because they constantly fight for survival.[41]

The Grade 7 learners' lack of comprehension of concepts was found to be an academic factor influencing their performance in the mathematics classroom at primary school. Learners may be able to learn retention of mathematical facts, but failing to comprehend the concepts means that they cannot understand what is being taught. It would be excellent if teachers tried different strategies to get learners to understand that fractions and geometry are more complicated.[42] The conceptual foundation has not been adequately laid down, so the learners struggle with mathematics in this phase.

This study found mathematics-related learning difficulties to be another academic factor that influences Grade 7 learners' performance in the mathematics classroom. Mathematical learning difficulties are prevalent among learners because teachers might use ineffective mathematical teaching strategies. An African study supports the idea that upgrading technology will foster educational enhancement in Africa.[43] Learning needs to be differentiated, as it gradually becomes abstract, taking advantage of what learners know and introducing what is not known.[44] Teachers must adapt and modify their strategies to match learners' learning needs.

It was also found that teaching mathematics in the Grade 7 learners' second language is an academic factor that could influence their performance in mathematics at primary schools in South Africa. According to Choi et al., learners should receive intervention in the second language early to enhance their mathematical ability later in their schooling careers.[45] Most of the learners in this study spoke English as their second language.

RECOMMENDATIONS

Based on the findings from this study, it is recommended that mathematics teachers create a conducive and stimulating atmosphere at their schools, regardless of learners' backgrounds, ethnicities, languages, locations, and gender. Mathematics teachers should consider increasing their interaction with learners who perform poorly in the subject and recommend them for involvement in make-up classes, tutorial classes, or special coaching. Teachers should encourage learners who personally want to enhance their achievements through questioning, better interpersonal relationships, and giving them special attention. Schools also need to seek assistance from social services to alleviate some of the social ills plaguing learners in the district. The academic difficulties that learners struggle with can be atoned with supplementary mathematics classes. Teachers could upgrade their teaching strategies to align with the ongoing trends in the province.

CONCLUSION

Learners' performance is always difficult for educational research, even more so in Mathematics. Mathematics plays a significant role in the success of learners worldwide. Thus, this study has explored the reasons for the decline in mathematics success among learners transitioning from Grade 6 to Grade 7 in the Northern Cape, South Africa. The Northern Cape is a province that has the least number of learners, and yet we are a struggling province as far as mathematics results are concerned. This problem is, however, not confined to the Northern Cape; in fact, it is a worldwide issue that touches quite a few countries in the world. This study used a qualitative study method, with the case study, to get the most authentic

[41] Angel Urbina-Garcia, "Preschool Transition in Mexico: Exploring Teachers' Perceptions and Practices," *Teaching and Teacher Education* 85 (2019): 226–34.
[42] Rachel I. Roesslein and Robin S. Codding, "Fraction Interventions for Struggling Elementary Math Learners: A Review of the Literature," *Psychology in the Schools* 56, no. 3 (March 28, 2019): 413–32, https://doi.org/10.1002/pits.22196.
[43] Shanil Samarakoon, Amé Christiansen, and Paul G. Munro, "Equitable and Quality Education for All of Africa? The Challenges of Using Ict in Education," *Perspectives on Global Development and Technology* 16, no. 6 (December 6, 2017): 645–65, https://doi.org/10.1163/15691497-12341454.
[44] N Fitriani, D Suryadi, and D Darhim, "Analysis of Mathematical Abstraction on Concept of a Three Dimensional Figure with Curved Surfaces of Junior High School Students," *Journal of Physics: Conference Series* 1132 (November 2018): 012037, https://doi.org/10.1088/1742-6596/1132/1/012037.
[45] Ji Young Choi, Shinyoung Jeon, and Christine Lippard, "Dual Language Learning, Inhibitory Control, and Math Achievement in Head Start and Kindergarten," *Early Childhood Research Quarterly* 42 (2018): 66–78.

description of the problem at hand in the field of classroom mathematics. The participants were groups of learners and their mathematics teachers. The data was collected through focus group discussions with the learners and teacher interviews. The study yielded results that inform education stakeholders that there is a need for strategy reform in mathematics classes. The results show that psychological, social, and academic factors influence the mathematics results of learners. Some of the results showed that anxiety, disengagement in classes, misbehaviours of learners are some of the factors that influence the results negatively. There are also positive factors that influence the academic outcomes of learners. The social factors that affect learners are economic reasons and the social situation of many learners in the province. The academic factors included the inability of learners to understand mathematical concepts and teachers' outdated teaching strategies. The researcher proposes that more research be conducted in the province and more stem subjects and phases.

STUDY LIMITATIONS

Limitations of this study include the fact that the researchers collected data from six schools, one of which was private, and five public schools, all of which are under the jurisdiction of the State. Thus, the results cannot be generalized to South Africa. The study also focused only on one exit grade, Grade 7, when learners transit from the Intermediate Phase to the Senior Phase, but there are two more: the Foundation Phase (Grade 3) and high school (Grade 9). The study was also only conducted in the Frances Baard District, a relatively more rural province than other provinces in South Africa. The study sample was smaller than required in a qualitative approach, limiting the study's results. This study also focused only on one subject, mathematics, and could have benefitted from exploring more subjects.

RECOMMENDATIONS FOR FURTHER STUDIES

Further studies the author recommends include the reasons for the lack of engagement in mathematics classes in the province. To expand the study further and implement it in a bigger group of participants and geographical area too. Furthermore, the author recommends that exit grades, which are grade three and grade nine, also be included in the study.

BIBLIOGRAPHY

Ajimudin, Fatima. “Exploring Factors Influencing Grade 7 Learners’ Performance in Mathematics in the Frances Baard District .” University of the Free State, 2021.

Ajimudin, Fatima, and Kananga Robert Mukuna. “Psychological Challenges Facing Grade 7 Learners in Mathematics Classes at Schools in the Frances Baard District, Northern Cape.” *International Journal of Studies in Psychology* 3, no. 2 (2023): 53–62.

Albright, Joyce L, L Arthur Safer, Paul A Sims, Angela Tagaris, Denise Glasgow, Kim M Sekulich, and Mary C Zaharis. “What Factors Impact Why Novice Middle School Teachers in a Large Midwestern Urban School District Leave after Their Initial Year of Teaching.” *International Journal of Educational Leadership Preparation* 12, no. 1 (2017): n1.

Athanasou, James A, A Di Fabio, M J Elias, R Ferreira, W D Gitchel, J D Jansen, and E Mpofu. *Complete Your Thesis or Dissertation Successfully: Practical Guidelines*. Juta, 2012.

Bernales, Carolina. “Conflicting Pathways to Participation in the FL Classroom: L2 Speech Production vs. L2 Thought Processes.” *Foreign Language Annals* 49, no. 2 (June 2016): 367–83. https://doi.org/10.1111/flan.12200.

Bryman, Alan. “Sampling in Qualitative Research .” *Social Research Methods* 4, no. 1 (2012): 415–29.

Chand, Samlesh, Kaylash Chaudhary, Avinesh Prasad, and Vishal Chand. “Perceived Causes of Students’ Poor Performance in Mathematics: A Case Study at Ba and Tavua Secondary Schools.” *Frontiers in Applied Mathematics and Statistics* 7 (April 23, 2021). https://doi.org/10.3389/fams.2021.614408.

Choi, Ji Young, Shinyoung Jeon, and Christine Lippard. “Dual Language Learning, Inhibitory Control, and Math Achievement in Head Start and Kindergarten.” *Early Childhood Research Quarterly* 42 (2018): 66–78.

Creswell, John W, and J David Creswell. *Research Design: Qualitative, Quantitative, and Mixed Methods Approaches*. Sage publications, 2017.

Ernest, P. "Why Teach Mathematics? The Aims, Outcomes and Opportunities Afforded by Its Teaching and Learning ." In *Why Learn Maths*, edited by J. White and S. Bramall. London: London University Institute of Education, 2000.

Fitriani, N, D Suryadi, and D Darhim. "Analysis of Mathematical Abstraction on Concept of a Three Dimensional Figure with Curved Surfaces of Junior High School Students." *Journal of Physics: Conference Series* 1132 (November 2018): 012037. https://doi.org/10.1088/1742-6596/1132/1/012037.

Hafiz, M, and J A Dahlan. "Comparison of Mathematical Resilience among Students with Problem Based Learning and Guided Discovery Learning Model." In *Journal of Physics: Conference Series*, 895:012098. IOP Publishing, 2017.

Hawkins, Janice E. "The Practical Utility and Suitability of Email Interviews in Qualitative Research." *The Qualitative Report* 23, no. 2 (2018).

Hutauruk, A J B, and N Priatna. "Mathematical Resilience of Mathematics Education Students." In *Journal of Physics: Conference Series*, 895:012067. IOP Publishing, 2017.

Jimmyns, Candice Alexis, and Anna Meyer-Weitz. "The Influence of School Contextual Factors on Caregivers' Involvement in Four Schools in Durban, South Africa." *Child & Youth Services* 42, no. 1 (January 2, 2021): 80–106. https://doi.org/10.1080/0145935X.2020.1836955.

Jojo, Zingiswa. "Mathematics Education System in South Africa." In *Education Systems Around the World*. IntechOpen, 2020. https://doi.org/10.5772/intechopen.85325.

Karlsson, Malin. *Research Methods for Operations Management*. Edited by Christer Karlsson. London: Routledge, 2016. https://doi.org/10.4324/9781315671420.

Kaskens, Jarise, Eliane Segers, Sui Lin Goei, Johannes E.H. van Luit, and Ludo Verhoeven. "Impact of Children's Math Self-Concept, Math Self-Efficacy, Math Anxiety, and Teacher Competencies on Math Development." *Teaching and Teacher Education* 94 (August 2020): 103096. https://doi.org/10.1016/j.tate.2020.103096.

Khajavy, Gholam Hassan, Peter D. MacIntyre, and Elyas Barabadi. "Role Of The Emotions And Classroom Environment In Willingness To Communicate." *Studies in Second Language Acquisition* 40, no. 3 (September 2, 2018): 605–24. https://doi.org/10.1017/S0272263117000304.

Krawitz, Janina, Yu-Ping Chang, Kai-Lin Yang, and Stanislaw Schukajlow. "The Role of Reading Comprehension in Mathematical Modelling: Improving the Construction of a Real-World Model and Interest in Germany and Taiwan." *Educational Studies in Mathematics* 109, no. 2 (February 20, 2022): 337–59. https://doi.org/10.1007/s10649-021-10058-9.

López-López, Alberto, Mario Sánchez Aguilar, and Apolo Castaneda. "Why Teach Mathematics? – A Study with Preservice Teachers on Myths around the Justification Problem in Mathematics Education." *International Journal of Mathematical Education in Science and Technology* 53, no. 8 (September 14, 2022): 2102–14. https://doi.org/10.1080/0020739X.2020.1864489.

Mabena, Nomsa, Patricia Namayammu Mokgosi, and Selina Serole Ramapela. "Factors Contributing To Poor Learner Performance In Mathematics: A Case Of Selected Schools In Mpumalanga Province, South Africa." *Problems of Education in the 21st Century* 79, no. 3 (June 15, 2021): 451–66. https://doi.org/10.33225/pec/21.79.451.

Mackatiani, Caleb Imbova, and Musembi Nungu Joseph Gakunga Daniel Komo. "Learning Achievement: Illusions of Teacher-Centered Approaches in Primary Schools in Kenya." *Learning* 9, no. 18 (2018).

Maree, K., and J. Pietersen. " Sampling ." In *First Steps in Research*, edited by K. Maree, 3:213–24. Hatfield: Van Schaik Publishers, 2020.

Michael, Isack. "Factors Leading to Poor Performance in Mathematics Subject in Kibaha Secondary Schools." The Open University of Tanzania, 2015.

Mills, Albert J, Gabrielle Durepos, and Elden Wiebe. *Encyclopaedia of Case Study Research*. Sage publications, 2009.

Oginni, Omoniyi. "Comparative Studies Of Students' Psychosocial Factors and Performance in Mathematics." *International Journal of Educational Research Review* 6, no. 4 (October 1, 2021): 338–44. https://doi.org/10.24331/ijere.950285.

Owan, Valentine Joseph. "Some Causes of Poor Performance Of Pupils in Primary School Mathematics. A Case Study in Akamkpa Local Government Area of Cross River State, Nigeria." *SSRN Electronic Journal*, 2012. https://doi.org/10.2139/ssrn.3221784.

Oyenuga, Anthony Oyetunde, and John Oladipupo Lopez. "Psycho-Social Factors Affecting the Teaching and Learning of Introductory Technology in Junior Secondary Schools in Ijebu-Ode Local Government of Ogun State, Nigeria." *Journal of Psychology* 3, no. 2 (December 2012): 113–20. https://doi.org/10.1080/09764224.2012.11885485.

Purdasseea, Sooryadev. "Student Engagement in Mathematics Lessons and Tasks during Transition from Primary to Secondary School." University of Brighton, 2022.

Qiu, Yuan, Xiaotao Lu, and Taisheng Fu. "The Cultivation of Approaches to Learning, so That Children Lifelong Benefits-Reading the Feel of Enthusiastic and Engaged Learners: Approaches to Learning in the Early Childhood Classroom." *Canadian Social Science* 14, no. 12 (2018): 47–53.

Roesslein, Rachel I., and Robin S. Codding. "Fraction Interventions for Struggling Elementary Math Learners: A Review of the Literature." *Psychology in the Schools* 56, no. 3 (March 28, 2019): 413–32. https://doi.org/10.1002/pits.22196.

Samarakoon, Shanil, Amé Christiansen, and Paul G. Munro. "Equitable and Quality Education for All of Africa? The Challenges of Using Ict in Education." *Perspectives on Global Development and Technology* 16, no. 6 (December 6, 2017): 645–65. https://doi.org/10.1163/15691497-12341454.

Schulze, Salomé, and Eleanor Lemmer. "Family Experiences, the Motivation for Science Learning and Science Achievement of Different Learner Groups." *South African Journal of Education* 37, no. 1 (February 28, 2017): 1–9. https://doi.org/10.15700/saje.v37n1a1276.

Sneyers, Elien, Jan Vanhoof, and Paul Mahieu. "Primary Teachers' Perceptions That Impact upon Track Recommendations Regarding Pupils' Enrolment in Secondary Education: A Path Analysis." *Social Psychology of Education* 21, no. 5 (November 30, 2018): 1153–73. https://doi.org/10.1007/s11218-018-9458-6.

Suleiman, Yusuf, and Araba Hammed. "Perceived Causes of Students' Failure in Mathematics in Kwara State Junior Secondary Schools: Implication for Educational Managers." *International Journal of Educational Studies in Mathematics* 6, no. 1 (2019): 19–33.

Tran, Van Dat. "Effects of Gender on Teachers' Perceptions of School Environment, Teaching Efficacy, Stress and Job Satisfaction." *International Journal of Higher Education* 4, no. 4 (September 25, 2015). https://doi.org/10.5430/ijhe.v4n4p147.

Uchidiuno, Judith, Evelyn Yarzebinski, Emily Keebler, Kenneth Koedinger, and Amy Ogan. "Learning from African Classroom Pedagogy to Increase Student Engagement in Education Technologies." In *Proceedings of the 2nd ACM SIGCAS Conference on Computing and Sustainable Societies*, 99–110. New York, NY, USA: ACM, 2019. https://doi.org/10.1145/3314344.3332501.

Urbina-Garcia, Angel. "Preschool Transition in Mexico: Exploring Teachers' Perceptions and Practices." *Teaching and Teacher Education* 85 (2019): 226–34.

VaraidzaiMakondo, Paula, and Davison Makondo. "Causes of Poor Academic Performance in Mathematics at Ordinary Level: A Case of Mavuzani High School, Zimbabwe." *International Journal of Humanities and Social Science Invention (IJHSSI)* 9, no. 1 (2020): 10–18.

Wentzel, K. R., and D. B. Miele. " Self-Efficacy Theory in Education ." In *Handbook of Motivation at School*, edited by K. R. Wentzel and A. Wigfield, 46–66. London: Routledge, 2016.

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