

Behind the Love and Stories: Rural Learners' Reasons and Motivations for Learning Mathematics

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Abstract: Research on learners within rural areas and rural schools in South Africa has been consistently overlooked by researchers in the field of mathematics education. If the education landscape in rural areas differs from that of urban areas, which has been extensively researched since the end of apartheid. In that case, it becomes evident that the research on mathematics education in South Africa has not adequately addressed issues of social justice. To address the lack of research on mathematics education in rural contexts in South Africa, this study focuses on exploring the experiences and attitudes of Grade 10 rural mathematics learners. A qualitative multiple case study design was used, involving 12 learners from two different school sites. Data was collected through semi-structured individual interviews and unstructured classroom observations. Fairclough's Critical Discourse Analysis, in conjunction with Anderson's concept of imagination, was employed to analyse the data. The findings revealed that learners anticipate and aspire for

mathematics to enhance their opportunities for post-secondary education and employment, which instils a sense of hopefulness and motivates them to better understand mathematical concepts.

Keywords: Employability, mathematics learning, motivation, rural learners, love and stories.

1. Introduction

In most studies, mathematics learning is understood as the process through which learners develop an identity as mathematics learners (Anderson, 2007; Grootenboer & Zevenbergen, 2008; Paussigere, 2014). Other studies also argue that learners' views of mathematics play a significant role in shaping their identity as mathematics learners, as well as their attitudes towards learning mathematics (e.g., Anderson et al., 2006; Anderson, 2007). While learners' identity is not the central focus of the current study, I do acknowledge that how learners perceive themselves and are perceived by others as mathematics learners is one factor that influences their experiences and attitudes towards learning mathematics. Sfard and Prusak (2005) define identity as the stories individuals tell about themselves or that are told by others, which are valued and accepted. Similarly, Wenger (1998) defines identity as the way we see ourselves as individuals and how others in our immediate social environment define us. What is crucial in this view of individuals' identities is that they are formed through social interactions with others in the immediate social environment. In this paper, I understand mathematical identity as the stories learners tell about why they learn mathematics, their need to succeed in the subject, their positionality, confidence, and determination with mathematics. This aligns with the concept of creative imagination, which involves combining experiences to create new images that are aimed at specific goals or aiding in problem-solving (Degu, 2020, p. 193). In this study, rural learners reflected on their experiences of learning mathematics and their anticipated use of mathematics in the future as reasons for learning the subject, which serves as the specific goals that drive them to excel in the subject.

The discussion above suggests that mathematics learners not only gain the necessary skills and understanding of mathematical concepts, but the process of learning and their reasons for learning

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mathematics also shape their identities as mathematics learners (Anderson, 2007). Of concern in the current study is the lack of research in mathematics education that documents learners' stories regarding why they choose mathematics as one of their subjects at school, as well as the reasons for their determination to learn and perform well in mathematics, especially within rural schools. Therefore, the current study aims to explore and understand the experiences and attitudes of Grade 10 mathematics learners within rural schools. The study seeks to answer the following research question:

- What are Grade 10 rural learners' experiences and attitudes of learning mathematics?

The current study significantly contributes to addressing the lack of research in mathematics education in South Africa by focusing on the learning of rural learners. By exploring rural learners' understanding, meanings, and motivations related to mathematics and its learning, this research sheds light on an area that has been overlooked by education researchers in South Africa (Nkambule, 2022). The findings emphasise the importance of conducting research with rural learners to gain insights into their perspectives on learning and succeeding in mathematics. By highlighting the significance of understanding rural learners' attitudes towards mathematics, the research not only fills a gap in the existing literature but also underscores the need for more inclusive and diverse research approaches in the field of mathematics education in South Africa (Omodan & Khanare, 2021).

Fifteen years ago, some of the leading scholars in South African and international mathematics and science education acknowledged that:

“Little of the research is being done in rural schools is problematic given that the majority of South African learners are educated in these contexts, and also given the evidence – some of it available within our sample of articles – of large classes, lack of resources, low levels of teacher education, and increased language demands in rural areas.” (Venkat et al., 2009, p. 11).

Of concern is that, even after acknowledging the need for research within rural areas and schools, the authors continued to locate their studies within township and urban areas, leaving the mathematics learning and teaching experiences of rural teachers and learners unexplored and undocumented. I always ask the question: Why have these leading scholars in the field been biased in terms of research locale for mathematics education? What are the reasons for the scarcity of mathematics education research located within rural and farm schools in South Africa? Whatever the answers may be, I argue that if we are serious about addressing issues of social justice, equity, and inclusion 30 years post-democracy, we need to expand the research locale for mathematics education to include rural areas and schools. Researching with rural mathematics learners is particularly important, as the information generated can aid understanding relating to the ways they learn the subject, their successes, and their difficulties. This understanding can, in turn, allow us to develop strategies for effective learning and teaching in those contexts.

1.1 Conceptual framing: Imagination of what mathematics is

Mathematics, its nature, and benefits are perceived differently by different individuals in different contexts. The statement below captures how I viewed mathematics and the perceived benefits I held as a learner who attended school within a rural context:

My interest in researching mathematics education was motivated by reflecting on my mathematics learning trajectory, which was compounded by various challenges and learning moments. I grew up in a beautiful rural village called Jimmy Jones in Malamulele, Limpopo Province of South Africa. Back in secondary school, I viewed

mathematics as the only subject that was going to help me escape the poverty I observed in my family and around the village. This was because growing up in a community where success in learning mathematics was conceived of as a 'ticket to Johannesburg', 'The City of Gold', which is considered a place where dreams are turned into reality. Although there were many occasions in which I did not understand mathematics, I had no choice but to love the only subject I considered 'my ticket' out of abject poverty. This became a normalised conception of mathematics in my village, and I presumed this to be similar to other rural contexts.

This statement represents how I viewed mathematics and its inherent benefits in alleviating poverty and ensuring social upliftment 15 years ago when I was just a learner in a rural area and school. I related to the stories told by the learners in the current study about mathematics and its learning. Engaging in conversations with the participating learners made me reminisce about the time I used to imagine how mathematics was going to move me from abject poverty.

To Anderson (2007), imagination of what mathematics is about shapes learners' identities as learners of mathematics. That is, learners' imagination of how the mathematical tasks that they engage with relate to other spheres of their lives motivates them to learn the subject with positive attitudes. What becomes important from this suggestion is that learners' engagement with mathematical tasks may be shaped by how they see the tasks fitting in their lives, in the present time and the future. Given that in the South African context, learners choose their subjects of specialisation when they reach Grade 10, and learners may choose to do mathematics based on how they see mathematics fitting into their future activities. This includes the kind of careers that the learners plan to pursue once they leave school, for which mathematics may be one of the prerequisites. Thus, imagination refers to the mental images that learners construct about who they are in relation to mathematical contents and how they see the learning of mathematics fitting into their broader experiences of life (Wenger, 1998 as cited in Anderson, 2007). Learning mathematics for future use was a dominant discourse underpinning learners' reasons for choosing mathematics and ensuring that they performed well in it.

It is my contention in this paper that within the South African context, learners mainly start to see clearly how mathematics fits into other activities in their lives when they reach Grade 10. This claim is based on the idea that in this grade, they start to specialise in their respective subjects based on how they envisage them fitting with aspects such as career paths. This influences learners' imagination of what mathematics is and how they subsequently engage with the subject. This resonates with Anderson's (2007) stipulations that learners' imagination of who they are in relation to mathematics is most prominent at the secondary school level as learners in high school "... become more aware of their place in the world and begin to make decisions for their future" (p.9). What Anderson (2007) also seems to suggest is that the immediate social context in which learners reside influences their imagination of how the mathematics they learn in school fits into their broader life activities such as choosing further fields of study once they leave school.

Anderson (2007) further states that, "students may pursue careers that are available in their geographical locale or similar to those of their parents or other community members" (p. 9). This becomes interesting as most parents in Acornhoek, where the current study was located, work on farms. So, would this then mean that through their imagination they aspire to work on farms? Also, Anderson seems to limit the concept of imagination since learners may 'imagine beyond' the available careers in their immediate social contexts. What I would concur with would be if Anderson posited that exposure or lack thereof to various career options that learners may pursue could either enhance or constrain their imagination of the kind of careers they wish to pursue once they complete their secondary education. Perhaps, this may be one of the aspects that makes rural learners' experiences of learning mathematics peculiar compared to their urban counterparts who are close to

long-standing universities and colleges. Unlike rural learners, urban learners may easily access the information associated with career paths since they can easily access these institutions given the distance and accessibility. Additionally, Anderson (2007) also posits that learners who fail to see how mathematics fits into their present and future broader life activities may not develop identities as mathematics learners. Thus, I employ the concept of imagination to explore and understand rural mathematics learners' experiences and positionality regarding mathematics and the reasons they want to excel in the subject.

1.2 Literature review: Understanding rurality and rural education

According to Mukeredzi (2013), "devising a clear and objective definition of 'rural' presents a conceptual problem" (p. 2). Chikoko (2011) defines rurality as "synonymous with the remote area and refers to an underclass model describing a notion of rurality in social development" (p. 92). Balfour (2012) argues that many assumptions are made about rural contexts and education, such as viewing them narrowly as backward, disadvantaged, depopulated, conservative, exclusive, and isolated. While these features may be apparent in some rural areas, it is important to conceptualise these areas in terms of their differences rather than deficit descriptions and discourses. According to Gardiner (2008, p. 8), the meanings of "the terms urban and rural have a complicated history in South Africa" as it remains unclear what formally constitutes a rural area and differentiates rural areas from urban and township areas.

Balfour et al. (2008) contend that the understanding of rurality in South Africa has been constructed on common sense compassion, meaning the understanding of rural areas has been in negative terms, whereby "isolation, disease, poverty, corruption, traditionalism, conservatism, and entropy are all synonymous with rural places" (Masinire, 2015, p. 3). Although dated, similarly, Atkin (2003, p. 515) argued, "it is as if rural society is judged in terms of a deficit discourse (dominated by the desire to make them like us) rather than a diversity discourse (recognition and value of difference)". This biased perception of rurality has overlooked that people in rural areas are not merely subject to the environments in which they live (Halfacree, 2007; Moletsane, 2012), but "make use of time, space, and resources differently to transform an environment" (Balfour, 2012, p. 2). This is also demonstrated in how learners in the current study position themselves as mathematics learners within rural communities and schools. This discussion calls for a move beyond representing rurality with a deficit paradigm (Moletsane, 2012) and seeing it as dynamic and generative (Balfour et al., 2008). Considering that education does not take place in a vacuum, there are also underlying socioeconomic, political, educational, and cultural factors that shape learners' engagement with learning in rural contexts, leading to different performances in mathematics (Adedeji & Olaniyan, 2011).

2. Research design and approach

This study employed a multiple case study design, which enabled me to explore and understand learners' reasons and motivations for learning mathematics within rural schools. "The case study method "explores a real-life, contemporary bounded system (a case) or multiple bounded systems (cases) over time, through detailed, in-depth data collection involving multiple sources of information... and reports a case description and case themes" (Creswell, 2013, p. 97). In the current study, the bounded systems were 12 learners from 2 different rural school sites, forming multiple cases and the bounded activity was learners' reasons and motivations for learning mathematics within rural areas and schools. In terms of the research approach, I used a qualitative approach. Tenny et al. (2022) assert that participants' lived experiences, perceptions, and behavioural patterns are best studied using a qualitative approach. Accordingly, using the qualitative approach, I was able to gain insight into learners' reasons and motivations for learning mathematics and ensuring that they perform well in the subject.

2.1 Participants in the Study

In this study, I employed purposive sampling to choose 12 Grade 10 rural learners from two secondary schools. These learners were able to engage with the research questions and reflect on their mathematics learning within rural contexts and schools. To select the participants, I utilised the learners' quarterly performance in mathematics. I identified and selected two learners who performed above average (at least 60%), two learners who performed at an average level (at most 50%), and two learners who performed below average (30% and below) from each participating school. This resulted in a total of six learners from each school. By including participants with varying levels of performance in mathematics, I was able to gather diverse and in-depth information about the learners' experiences with math and their attitudes towards it. When presenting and discussing the excerpts from the information provided by the learners, I will use pseudonyms to protect their true identities and the names of the schools.

2.2 Ethical considerations

Before commencing the study, I obtained ethical clearance from the Mpumalanga Department of Education and was granted access to the schools, classrooms, and learners. Additionally, I obtained institutional ethical clearance from the Ethics Committee of the University of the Witwatersrand. I wrote letters to the school principals requesting access to their schools, classrooms, and the opportunity to conduct research with their learners. Since the participating learners were Grade 10 students, most of whom are considered minors in the South African context, their parents or guardians signed consent forms to allow them to participate in the study. According to Creswell (2007), participants are more likely to share information openly and honestly when they feel comfortable in the research environment. Therefore, I conducted all the interviews within the schools, assuming that the participants would feel at ease and be more willing to engage in open and honest conversations. This approach was chosen to ensure that the interviews took place in a familiar setting, with trusted individuals present, such as their teachers. It also provided assurance that the learners had the right to withdraw from the study without facing any form of victimisation.

2.3 Data collection methods

To explore and understand rural learners' mathematics learning within a qualitative research approach, I employed semi-structured individual face-to-face interviews. This allowed me to engage in flexible conversations with the learners and identify their experiences of learning mathematics within rural schools, as well as the meanings they attach to the subject and its learning. Semi-structured interviews "enable research participants, including a researcher, to discuss their interpretations of the world in which they live and to express how they regard situations from their own point of view" (Cresswell, 2003, p. 18). During the conversations with the learners, I was able to tailor subsequent questions based on their responses. In cases where they required clarity in my questions, they were able to interject for clarification. The interviews lasted approximately 45 minutes to 1 hour, and the actual duration for each participant was determined by their level of familiarity with their learning experiences, as well as the number of subsequent questions tailored during the conversations. To ensure that all the information provided by each learner was captured, I used audiotapes to record the interviews. This allowed me to repeatedly listen to the learners' responses and create meanings from their experiences of learning mathematics.

2.4 Data analysis technique

To analyse the semi-structured interviews, I employed Fairclough's (1993) Critical Discourse Analysis (CDA), specifically focusing on three dimensions of analysis: description (text analysis), interpretation (processing analysis), and explanation (social analysis) in relation to Anderson's (2007)

concept of the imagination of mathematics discussed earlier. In the description phase, my focus was on segmenting the raw information provided by the learners during the interviews and uncovering the hidden meanings in their statements about their experiences with learning mathematics. The processing phase involved interpreting, reproducing, and transforming the texts produced during the segmentation stage to explore and understand the meanings embedded in the learners' ways of discussing mathematics (Fairclough, 1993). This stage of analysis allowed me to examine how the learners talked about their experiences with learning mathematics. The final stage, social analysis, involves paying attention to the "signifiers that make up the text, the specific linguistic choices and their juxtaposition, sequencing, and layout" (Janks, 2010, p. 1). The focus on the learners' choice of words as they described their learning experiences reflects their thoughts and intentions regarding how they engage with mathematical content and form various relationships (Riasati & Rahimi, 2011).

Furthermore, using textual analysis, the study examined the explicit sociopolitical stance of discourse analysts and focused on dominance relations conveyed through text and conversation (Fairclough, 2013). The analysis of discourse practices involved interpreting how social realities, such as motivations for learning mathematics, are constructed and legitimised within the discourse (Shin, 2023). Lastly, the analysis of social practices delved into the broader societal implications of rural learners' engagement with mathematics, particularly in relation to future prestige and employability (Fairclough, 2013). By employing this three-dimensional framework, I uncovered the intricate motivations driving rural learners to invest in learning mathematics. The textual analysis revealed the societal value placed on mathematical knowledge as a pathway to higher education and success, highlighting the symbolic importance of mastering mathematics within the community (Fairclough, 2013). The analysis of discourse practices shed light on the practical reasons behind rural learners' engagement with mathematics, emphasising the increasing importance of mathematical skills for securing employment and improving career prospects (Shin, 2023). Lastly, the analysis of social practices provided insights into how aspirations for prestige and practical considerations intersect to shape rural learners' attitudes towards learning mathematics, offering a nuanced understanding of the complex dynamics at play (Fairclough, 2013).

The following section presents, analyses, and discusses the information provided by the learners, revealing the reasons why they are committed to learning and understanding the content, even in cases where they may encounter difficulties in learning the subject.

3. Findings and Discussion

In this section, I delve into the intricate motivations and reasons that drive rural learners to engage with mathematics learning. The major theme, learning mathematics for future prestige, sheds light on primary motivations relating to why the participants learn mathematics with positive attitudes. From the analysis of the information provided by the participants, two sub-themes were identified: using mathematics for university entry and learning mathematics for employability. The first sub-theme, as articulated by one participant, "when you go to varsity, mathematics is the first thing they want," highlights the societal value placed on mathematical knowledge as a gateway to higher education and success. This sub-theme underscores the perception that mastering mathematics not only opens doors to academic opportunities but also symbolises intellectual prowess and achievement in the eyes of the community. The second sub-theme, "Learning mathematics for employability," underscores the pragmatic rationale behind rural learners' engagement with mathematics. In a rapidly evolving job market, mathematical skills are increasingly viewed as essential for securing employment and advancing career prospects. Participants in the study expressed a keen awareness of the link between mathematical proficiency and employability, recognising mathematics as a foundational skill that enhances their competitiveness in the job market, which in turn will help them fight abject poverty they live under within rural areas.

Drawing on the theme and sub-themes, the findings of this study illuminate the multifaceted motivations that drive rural learners to invest time and effort in learning mathematics and performing well in the subject. By focusing on the interplay between aspirations for prestige and practical considerations related to employability, the current study offers valuable insights into the complex dynamics shaping rural learners' attitudes towards mathematics and its learning.

3.1. Learning mathematics for future prestige

The information provided by learners during the interviews demonstrates that all twelve participating learners in the current study perceived that learning mathematics would enhance opportunities for post-secondary education and/or future job prospects. This is a dominant discourse in the community, school, and media, considering the status that is predominantly accorded to mathematics and its learning. The first sub-theme, *"when you go to university, mathematics is the first thing that they want"*, focuses on learners' views that the prerequisite for admission into institutions of higher learning is having some level of mathematical proficiency. The second sub-theme, *"learning mathematics for employability"*, also addresses learners' projections of how mathematics fits closely with their future job prospects. The learners believe that for them to be admitted to their preferred fields of study so they can, in turn, do their preferred jobs in the future, it requires that they perform well in the subject. These two sub-themes address a dimension of introjected regulation (Ryan & Deci, 2017). The findings suggest that rural learners' future anticipations can help us better understand their positionality and attitudes towards learning mathematics within those contexts. The findings also highlight why some learners demonstrate a sense of optimism and persistence to learn mathematics even though they may be faced with challenges in learning the subject (Engler, 2007). Learners' future anticipations and aspirations of how mathematics will help enhance opportunities to access post-secondary education and/or employability, including hopefulness, instil sanguinity to thrive to understand the contents of mathematics.

3.1.1 "When you go to university, mathematics is the first thing that they want".

When learners in the current study talked about the primary reasons they learn mathematics, they usually referred to the use of mathematics for enhancing opportunities for admission into university studies, particularly those that require some level of mathematical background and performance as a prerequisite. While the findings might be considered expected, it should be noted that for learners in rural areas, these stories not only capture their anticipatory use of the subject for university entrance but also address how succeeding in the subject can help them escape abject poverty. Below are some of the learners' responses that represent this sub-theme:

"Mathematics is a very important subject in life ... when you go to university, mathematics is the first thing that they want". "Maths always gets higher time ... because I want the government to take me and give me a bursary when I pass very well. "I want to pass mathematics very well and the other subjects and then go to varsity ... I want to get a bursary" (Musa).

"I took mathematics since I knew about studies, I just knew for myself that I want to be a scientist, so sometimes my other opinion is I just want to be an engineer or a mathematician ... when I get hundred percent in mathematics, and the other subjects above average, I know that every company will be looking at me left and right, so that's where I can get the opportunity to change my background" (Brilliant).

The above-mentioned responses clearly demonstrate that these learners learn mathematics and strive to attain good grades because of the projected links they appear to have made between mathematics and their future studies. Interestingly, an overview of the learners' responses uncovers that although they are learning the subject so that they can primarily meet the requirements set by institutions of

higher learning for the degrees they want to pursue, the distinguishing characteristics of the learners' responses is the intensity of how they talked about learning mathematics for tertiary studies. Learners' purposes in learning mathematics mainly refer to their anticipated use of mathematics to enhance access to tertiary institutions, which is part of their foregrounds. While this is the case, it is equally noted that learners' backgrounds play a vital role in shaping their anticipated use of mathematics for future studies.

One way of interpreting Brilliant's passion to learn mathematics and his projections to achieve good grades in the subject may be by taking heed of his hopes and anticipations for the future: "*I know that every company will be looking at me left and right to fund my education, so that's where I can get the opportunity to change my background*". Brilliant's positive disposition to learn mathematics seems to be shaped by the need to perform outstandingly in mathematics so that he can get sponsorship to further his studies, with the aim of changing his background, emphasising the discourse of using mathematics to improve the family socio-economic condition. This relates to what I call the rural learner's 'identity of what comes next after school?' Similarly, Musa's choice of words reinforces this: "*I want to pass mathematics very well and the other subjects and then go to varsity ... I want to get a bursary or else my family won't afford it*". One way of interpreting this statement is that not performing well in mathematics for Musa is also not an option because should he not perform well, he will not attract funding for his post-secondary education. Relating to learners' foregrounds, Anderson (2007) suggested that learners' intentions to use mathematics in post-secondary education shape their imagination of what mathematics is, and in turn, their attitudes towards learning the subject, which ultimately shapes the way they learn the subject matter contents.

In addition, learners' compelling attraction to learn mathematics as well as the promise of opportunities such as bursaries, becoming agents of socio-economic change in their families, broadens the literature on the links between mathematics and learners' prospects. That is, while other studies primarily focused on and overemphasised either the role of learners' backgrounds or their foregrounds in learning mathematics (Awang & Ismail, 2006; Letsoalo, 2017), this study's findings propose that there is a relationship between learners' backgrounds and their foregrounds, and both aspects need to be factored into studies of learners' experiences and dispositions towards learning mathematics.

Moreover, the learners' choice of words demonstrates the dominant discourses within the larger social context of promoting Mathematics, Science, and Technology (MST) subjects in South Africa and the world in general. Another phrase that represents this discourse is from Brilliant's response: "*when I get a hundred percent in mathematics, and the other subjects above average, I can still get a bursary.*" Although it is unclear what Brilliant means by "other subjects above average," it is clear that mathematics is treated as 'the king' among the school subjects, able to open doors for opportunities that other subjects are not perceived capable of. In South Africa since 1994, the government's discourse places much focus on the need to redress "the disparities in mathematics education which represent a history of unjust social arrangements" (Khuzwayo, 2005, p.310). Thus, the overemphasis by both the government and the private sector to fund learners who pursue degrees in Science, Technology, Engineering, and Mathematics (STEM) could be attributed to learners' positive dispositions to learn and perform well in mathematics. Of concern, as suggested by the learners' choice of words, is that spending too much time on mathematics could limit their learning in other subjects, as they do not seem to receive adequate attention compared to mathematics. I argue that learners can and should give mathematics the attention it deserves and apply their efforts to learn the subject. However, these learners should also be made aware that other subjects in their school curriculum need to be given as much time as mathematics since access to higher education institutions is also determined by performances in other subjects, which accumulate to the Admission Points Score (APS). The following section addresses learners' utterances relating to using mathematics for employability.

3.1.2 Learning mathematics for employability

As emerged in the previous section, learners learn mathematics primarily to gain access to universities, which is closely linked to their future job prospects. This section discusses learners' anticipated use of mathematics for employability in the marketplace as one of the factors that shapes their experiences and positionality towards learning mathematics. The participants have developed positive attitudes towards learning mathematics as they see themselves as mathematics learners because they need it for their future careers. The discourse of opportunities for employability regularly arises in most of the participants' responses as another reason why they learn mathematics and consistently strive to ensure their understanding of the subject matter:

"Mathematics is a big thing ... it is going to help me to achieve my goals because when I look in the future, mathematics is something that is wanted everywhere, to have a degree of it, you need it for a high-paying job. This is why I give it my all, I can't fail mathematics because if I do, I won't be able to do the job that is going to pay me well" (Tsan'wisi).

"Mathematics is one of the important subjects because it, actually, is something, even if you wanted to, each and everywhere if you are looking for a job they need a CV, and they are going to require mathematics" (James).

"... when you learn mathematics, there is many jobs that want mathematics, so I study it every day to make sure that when I am older, I don't find myself doing low-paying jobs" (Letsatsi).

These responses seem to suggest that the participants' mathematics learning is shaped by their belief that learning mathematics in secondary school will enhance their chances of employability, as many jobs "require" mathematics in the labour market. The learners' responses above are representative of the normalised traditional social dominant discourse that individuals with greater levels of mathematical proficiency fare better in terms of opportunities for employability and higher salaries in the job market. While this is the case, it appears from the learners' responses that this discourse instils a commitment to learning and performing well in mathematics. Kohen and Nitzan (2022) indicate a close relationship between learners' competencies in mathematics and better opportunities for employability and higher wages once employed. Of interest is the usage of words such as "everywhere," "mathematics is a big thing," and "many jobs that want mathematics," which seem to suggest that these learners have developed stereotypical views about mathematics in relation to other subjects in school. The learners' utterances can be interpreted as assumptions that other subjects in the school curriculum are not as important. For example, the word "everywhere" in Tsan'wisi and James' responses illustrates these learners' anticipation of the usefulness of mathematics, largely shaped by an assumption that without mathematics, opportunities to get into high-status and better-paying jobs could be deterred. This means that the learners seem to believe that "all jobs" in the labour market require mathematics, which is misconceived. Nonetheless, the learners' responses suggest that they long for "communities of practice," which Murphey, Chen, and Chen (2005) termed "imagined communities" as proposed by Anderson (2007). These are communities to which these rural learners aspire to belong in the near future. This discussion links closely with Degu's (2020, p. 195) assertion that being imaginative, such as using imagination to think in ways that move us beyond the obvious, the known, and into the unknown. This involves seeing the world from different perspectives and thinking in ways that take us outside of our usual boxes. It leads to the generation of new ideas and novel interpretations.

Of importance to note is that, from the learners' descriptions of their own learning and their intentions in learning mathematics, it appears that the social and political contexts have a major influence on the learners' choices to learn mathematics and, in turn, their engendered dispositions to learn the subject. When critically examined, all the learners' statements presented in this section suggest that "mathematics, as the gatekeeper to a variety of education and career opportunities, is judged to be an important subject of study by society" in general (Anderson et al., 2015, p. 170). Considering this statement alongside the learners' earlier responses, it is discerned that learning is not merely about acquiring knowledge but also about developing into someone in life (Radford, 2008). This is consistent with iterations made by Anderson (2007) that learners' imagination of who they are in relation to mathematics is most prominent at the high school level as they "... become more aware of their place in the world and begin to make decisions for their future" (p. 9). This is reflected in the learners' responses as they are aware of what they want to do once they leave school, especially how they are going to use mathematics in their future studies and jobs.

4. Conclusion

Learners discussed the importance of learning mathematics and constantly practicing to consolidate the content, skills, and processes taught in the classroom in order to enhance opportunities for enrollment into degrees that are regarded as high status in our societies today, as well as their chances of employability in their near future into jobs that are going to pay them well and enhance their standards of living (Murphey et al., 2005; Anderson, 2006). This research revealed that learners are motivated to excel in mathematics due to their aspirations for future academic opportunities in higher education and career prospects in the marketplace. Their commitment to mastering mathematics is driven by the desire to secure a successful future, lead esteemed lives, and contribute positively to society. The values of society are embedded in learners' learning of mathematics, and the overemphasis of doing STEM-related subjects in school curricula seems to drive them to choose mathematics as one of their learning subjects in Grade 10, with the hope that it will enhance their socio-economic backgrounds. This paper contributes to a deeper understanding of the underlying factors influencing rural learners' engagement with mathematics and the implications for educational policy and practice. One of the implications for further practice is encouraging commitment to change. I believe that promoting commitment-to-change strategies can reinforce learning and encourage rural learners to apply their knowledge and skills in practice, leading to sustained improvements in their mathematical abilities.

5. Declarations

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Data availability: Due to ethical standards and the conditions outlined in the consent agreement with participants, the data must remain confidential. However, interested persons may contact the corresponding author for more information.

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