

Research Article

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Reframing Parental Involvement: A Non-Deficit Perspective in Rural South African Mathematics Education

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Abstract

Background/purpose. The main problem addressed in this study is the persistent deficit framing of rural parents in South Africa as uninvolved or incapable of contributing meaningfully to their children's mathematics education. This research was conducted to challenge such assumptions and to explore how rural parents actively participate in mathematics learning despite socio-economic and educational constraints. The primary purpose of the study was to critically examine the nature and experiences of parental involvement in mathematics education in rural schools, highlighting the diverse, contextually grounded ways in which parents support their children and advocating for more inclusive and responsive educational practices.

Materials/methods. The main method used in this research was a qualitative approach, specifically employing semi-structured interviews to gather in-depth insights from rural parents about their involvement in their children's mathematics education. This method allowed participants to freely express their experiences, strategies, and perceptions, enabling the researcher to capture rich, nuanced data that reflects the contextual realities and diverse forms of parental engagement in rural South African schools.

Results. The main findings of the study reveal that rural parents in South Africa are actively and meaningfully involved in their children's mathematics education through diverse, context-specific practices. Despite limited formal education and systemic barriers, parents support learning by assisting with homework, revising topics independently, engaging with teachers, and mobilising community resources—demonstrating agency, commitment, and a deep understanding of the value of mathematics education.

Conclusion. The implications of this study highlight the urgent need to reconceptualise parental involvement in mathematics education, particularly within rural South African contexts.



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1. Introduction

Globally, education is widely recognised as a powerful lever for socio-economic advancements, wealth creation, and improved quality of life (Statistics South Africa, 2011; Okeke, 2014). In this context, parents play a pivotal role in shaping their children's educational outcomes and expanding opportunities for them. South Africa's first democratic president, Nelson Mandela, famously stated that "education is the most powerful weapon which you can use to change the world" (Mandela, July, 2003, n.d). While teachers are often positioned as the primary agents of educational transformation, this view risks overlooking the critical contributions of families and communities—particularly in rural contexts where systemic challenges persist.

The dominant discourse in education often privileges formal school-based involvement and frames rural parents through a deficit lens, portraying them as uninformed, disengaged, or incapable of supporting their children's learning (Ahmed et al., 2021). This paper challenges such assumptions by foregrounding the lived experiences and agency of rural parents in South Africa, particularly in the domain of mathematics education. It aligns with the view that meaningful partnerships between schools and homes are essential for effective mathematics teaching and learning (Yaro, 2015), and it supports Kainuwa and Yusuf's (2013) assertion that parents play a primary and influential role in shaping learners' attitudes, motivation, and educational engagement. Despite this recognition, research on rural parental involvement in South Africa remains limited and often fails to capture the nuanced, context-specific ways in which parents contribute to their children's mathematics education. This study seeks to fill that gap by exploring how rural parents engage with mathematics education and how their involvement—often informal and non-traditional—is both meaningful and impactful. The following research questions guide the inquiry:

- *What is the nature of parental involvement in mathematics education in rural South African schools?*

- *What are rural parents' experiences of parental involvement in the mathematics education of their children?*

The study is grounded in the understanding that collaborative relationships between schools and families can enhance learners' academic and social outcomes (Simweleba et al., 2020). According to Ashim and Ahmed (2018, p. 276), "there exists a strong positive reciprocal influence between parents' mathematics value and students' mathematics achievement at the school level. Accordingly, this paper adopts a strengths-based perspective that recognises rural parents' resourcefulness, commitment, and deep concern for their children's success in mathematics learning. The findings reveal that parents actively participate in their children's mathematics education in diverse ways, often outside the formal structures typically acknowledged by schools. Their voices demonstrate a clear understanding of the value of mathematics education and a desire to support their children's learning, particularly in mathematics—a subject often perceived as difficult and inaccessible.

A 'de-apartheidisation' approach, therefore, necessitates reconfiguring school–community relationships to foster inclusive, reciprocal partnerships that honor the voices and contributions of rural parents. I use the term 'de-apartheidisation' to refer to the deliberate process of dismantling the structural, epistemic, and relational legacies of apartheid within educational systems and practices. It involves reconfiguring school–community relationships, curriculum content, and pedagogical approaches to promote equity, inclusion, and recognition of historically marginalised voices—particularly those of Black, rural, and working-class communities. In the context of this study, de-apartheidisation entails rejecting deficit-based assumptions about rural parents and affirming their agency and contributions to mathematics education.

While the existing literature on parental involvement in education has predominantly addressed broad themes, scant attention has been paid to the specific and nuanced ways in which parents in rural South Africa engage with mathematics education. This study distinguishes itself by emphasising the informal, embedded practices of parental support that are often overlooked in dominant educational narratives. By prioritising the perspectives and lived experiences of rural parents, it fills a pivotal gap in the existing literature and highlights the need to acknowledge diverse involvement practices that counter deficit-oriented perspectives, thereby promoting the de-apartheidisation approach I propose in this paper. Such an endeavor is crucial for promoting inclusive and equitable approaches to mathematics education, particularly within historically marginalised communities, thus fostering educational settings that respect local contexts and enhance learner outcomes.

2. Literature Review

2.1. Understanding rural education and parental involvement in mathematics learning

Parental involvement in education—particularly in mathematics learning—has long been recognised as a key contributor to learners’ academic success (Clark, 2020). However, dominant narratives often frame rural parents through a deficit lens, emphasising their socio-economic limitations and lack of formal mathematics education as barriers to meaningful engagement (Moletsane, 2012; Mbhiza, 2025). This paper challenges such assumptions by drawing on recent scholarship that foregrounds the agency, resourcefulness, and contextual knowledge of rural parents in South Africa. Recent studies show that rural parents actively contribute to their children’s mathematics learning, albeit in ways that are often overlooked by formal schooling structures. Mbhiza (2025) found that rural families in Acornhoek, South Africa, play diverse roles in supporting mathematics learning, including acting as motivators and informal content advisors at home. These findings disrupt the notion that rural parents are disengaged or incapable, and instead highlight their strategic involvement that reflects their lived realities.

Despite systemic challenges—such as long working hours, unemployment, and limited formal education, which are often cited—rural parents demonstrate a strong commitment to their children’s education (Simweleba et al., 2020). Chauke et al. (2025) report that while parents with formal education tend to be more visibly involved in school activities, many illiterate parents still express a desire to support their children, albeit through less conventional means. This highlights the need for schools to recognise and validate diverse forms of parental involvement, rather than measuring engagement solely through attendance at meetings or assistance with homework.

Teachers’ perceptions of parental involvement also shape the nature of school–home partnerships. Seleka and Masoabi (2024) found that teachers in rural Limpopo schools often view parental involvement as inadequate, yet acknowledge that parents’ lack of participation is partly due to feelings of exclusion and intimidation by school staff. This points to a critical need for schools to foster inclusive environments that empower parents—especially those with limited formal education—to engage confidently in their children’s learning.

Furthermore, Mbhiza and Nkambule (2023) argue that rural schools often fail to establish reciprocal relationships with parents, instead positioning them as outsiders to the educational process. Mbhiza and Nkambule reveal that parents perceive schools as inaccessible spaces, and that communication between schools and families is often one-directional and formalistic. This reinforces power imbalances and perpetuates deficit narratives, rather than cultivating collaborative partnerships.

From a learner-centered perspective, Mafugu (2025) highlights that learners’ enjoyment of mathematics and belief in their ability to succeed are strongly correlated with academic performance. These motivational factors are influenced not only by classroom practices but also by the emotional

and academic support learners receive at home. Thus, parental involvement—regardless of its form—plays a crucial role in shaping learners’ attitudes and participation in learning mathematics.

Taken together, the studies reviewed in this section advocate a shift toward a non-deficit perspective that recognises rural parents as active agents in their children’s education, with mathematics education as the current study. Rather than focusing on what rural parents lack, educational stakeholders must engage with what they offer—contextual knowledge, emotional support, and a deep commitment to their children’s success. Schools must move beyond tokenistic involvement and co-create inclusive strategies that reflect the realities of rural life and honor the voices of rural families, especially in mathematics education, where the majority were historically excluded from participation. The following section details the theorisation of parental involvement, offering a nuanced perspective on parental involvement in mathematics learning.

3. Theorisation of parental involvement

While numerous frameworks exist to conceptualise parental involvement in education, this study draws on Epstein’s typology, which offers a comprehensive, widely validated framework (Epstein, 1992; Epstein & Sanders, 2000, 2002). Epstein’s typology delineates six distinct types of parental involvement: parenting, communicating, volunteering, learning at home, decision-making, and collaborating with the community. These categories offer a structured lens through which schools can design inclusive programmes that facilitate meaningful engagement between families and educational institutions. This study adopts a de-apartheidisation approach by critically engaging with Epstein’s framework while simultaneously foregrounding the voices and practices of rural parents. Rather than imposing normative expectations of involvement, the study seeks to understand how parents navigate structural barriers and contribute to their children’s mathematics education in contextually relevant ways. By doing so, it challenges the exclusionary tendencies of traditional models and advocates a reconfiguration of parental involvement responsive to the socio-political and cultural realities of rural South African communities.

In this paper, the six types of parental involvement conceptualised through Epstein’s framework are operationalised with sensitivity to the socio-cultural and historical realities of rural South African communities, guided by a de-apartheidisation lens. Parenting is understood not merely as caregiving, but as the transmission of values and aspirations that shape learners’ attitudes toward mathematics. Communicating involves informal, often oral exchanges between parents and teachers, which may occur outside formal school settings due to accessibility constraints. Volunteering is reconceptualised to include community-based support and informal contributions to school activities, rather than unstructured participation. Learning at home encompasses parental efforts to motivate and supervise learners, even when parents lack formal mathematical knowledge. Decision-making is viewed through the lens of advocacy and informal influence, where parents assert their educational priorities despite systemic exclusion from formal governance structures. Lastly, collaborating with the community reflects the collective efforts of families and local networks to support learners’ educational journeys. This operationalisation resists deficit assumptions and affirms the legitimacy of rural parental involvement as contextually grounded and educationally significant (Mbhiza & Nkambule, 2023).

4. Methodology

4.1. Research Design

This study employed a qualitative research design, specifically utilising a phenomenological approach, to explore rural parents’ involvement in their children’s mathematics education. The phenomenological design was selected because it aims to capture individuals’ lived experiences, providing deep insights into the participants’ unique contexts and perspectives (Balding et al., 2023).

This design was critical to understanding how rural parents perceive their roles and contributions to their children's educational experiences, particularly in mathematics. The phenomenological approach enabled me to set aside personal biases and preconceptions about rurality and mathematics education, focusing instead on the participants' narratives and meanings that emerged from their interview responses (Alhazmi & Kaufmann, 2022).

4.2. Sample

The sample consisted of 4 parents selected through convenience sampling, a non-probability sampling technique that prioritises the accessibility and availability of participants (Babbie & Mouton, 2007). The selection process was facilitated by school principals, who possessed contextual knowledge regarding which parents were most likely to be available and willing to participate in the study. Although gender was not a selection criterion, the final sample comprised three males and one female. These participants were identified as suitable due to their proximity to the school and their availability (Creswell & Creswell, 2017). They were either unemployed, flexible in attending the schools, or not engaged in full-time work, thereby eliminating the need for transportation and minimising logistical barriers to participation.

The use of convenience sampling was particularly appropriate given the socio-economic and geographic constraints of the study setting—Acornhoek, a rural area surrounded by commercial farms. Many parents in the region are employed in precarious agricultural work, often requiring long hours and travel over considerable distances, limiting their availability to participate. The selected participants, by contrast, resided in close proximity to the schools and thus could participate in the research process without incurring additional costs or disrupting their daily routines. This sampling approach enabled me to gather rich, contextually grounded data while remaining sensitive to the lived realities of rural parents.

4.3. Data Collection Tools

Given the qualitative orientation of this study, semi-structured interviews were employed as the primary data collection method. This approach was selected for its capacity to elicit rich, nuanced accounts of participants' lived experiences and perceptions regarding their involvement in their children's mathematics education (Creswell & Creswell, 2017). The semi-structured format allowed for open-ended responses and adaptive questioning, enabling participants to articulate their roles and practices in ways that were meaningful within their specific socio-cultural contexts. The interview questions were designed to be flexible and responsive, allowing me to probe further based on participants' initial responses and thereby capture the complexity of parental involvement in mathematics education in rural schools. That is, the semi-structured interview format facilitated extensive dialogue, allowing participating parents to share their stories and insights in ways that reflected their true experiences of parental involvement in mathematics learning. To ensure the accuracy and completeness of the data, all interviews were audio-recorded with participants' consent. The recordings were subsequently transcribed verbatim and subjected to a systematic coding and categorisation process. I developed the questions in Table 1 based on a review of the literature on parental involvement in mathematics education, particularly in rural contexts.

Table 1. Predetermined Questions Guiding the Semi-Structured Interviews with Parents

Question Number	Interview Question
1	How do you get involved in your children's mathematics education?
2	In what ways does the school create opportunities for you to become involved in your children's mathematics learning?
3	What are some of the challenges you face, if any, in helping your children with their mathematics learning?
4	What other ways do you use to help your children learn mathematics?
5	Are there any rural-specific factors that facilitate and/or limit your involvement in your children's mathematics learning?
6	How do you work or collaborate with teachers and the school in helping your children learn mathematics?

Two research team members reviewed the questions to ensure content validity and appropriateness for the target participating parents. As indicated earlier, the semi-structured format allowed for follow-up questions and probing based on participants' responses to the predetermined questions above.

4.4. Data Analysis

The analysis was guided by Epstein's typology of parental involvement, which provided a structured framework for interpreting the data. However, as highlighted earlier, in line with the study's de-apartheidisation approach, Epstein's model was applied critically and contextually—recognising that rural parents may enact these forms of involvement in ways that diverge from conventional expectations. The framework was thus used not to impose normative standards, but to identify and authenticate the diverse, contextually grounded practices through which rural parents support their children's mathematics learning.

5. Results

Table 2 presents selected extracts from the information parents provided about how they get involved and their experiences of parental involvement in their children's mathematics learning. The data presented in Table 2 addresses both research questions underpinning the current study. To conceal participants' true identities, I use pseudonyms. The statements presented in Table 2 were segmented and selected through thematic coding (Neuendorf, 2018), a central approach in qualitative research using semi-structured interviews.

Table 2. Selected Extracts from Parents' Utterances

Parent's Pseudonym	Verbatim Extract
Jabulani	<i>"I am always involved in tasks that he is not sure of ... tasks that are a little bit complex, he is always inviting me and I am helping because he knows that I know them, just that opportunity to study further for me was not there; we did not have money for school, but I love mathematics and teaching it helps me to not forget how to do it, so for homeworks I help, and even neighbours come and I help them, it helps me to continue knowing it."</i> <i>"You know what, my parents did not do mathematics, so it was difficult for them to help me, but I loved the subject, that is how I passed it in Grade 12. So, I always make sure I am available at home to help my child; it is what I wish my parents could do. Maths would have been so easy. Loko vaku (when they say) homework, va lava ku this child get support from home also."</i>

Lerato	<i>"There are some things that I don't understand, like this topic, Calculus, but ani veri swi teka village ku kurisa n'wana, va kona van'wani (isn't they say it takes a village to raise a child, there are others) who help with topics that are not easy. We have a guy who works at the church, he is good, so he also assists.</i> <i>"Each time she arrives home, I assist her, and I expect her to do the Maths activities honestly... I must assist her with her maths activities... Since I was a child, I have loved Mathematics, so we have maths time at home where we go through the topic and discuss it. When she was in primary school, it was easier to explain. In Grade 11, I had to study the topic mina (myself) and loko ni heta (when I finish). I explain to her."</i> <i>"I went to the school to ask if I could sit in class to learn and assist the learners, but the teacher was not happy to do that; he said it would make learners not focus, so I took time to learn the maths topics at home so I could teach my child. Remember, it is revision for me, so I take time to revise the topics. She tells me the topic they are doing in class, then I learn it and teach her. That is how I involve myself."</i> <i>"Yes, since the teacher did not allow me to join the class, when I don't understand some difficult maths topics, I go to him and say, 'When you are free, I want you to explain something to me. So he is teaching my child in class and also explaining it to me, because he didn't want me to learn with the learners. And it would have helped because the learners would also ask me what I know. But that is how I am part of my child's maths learning. I am really hoping that she will do well and get a bursary to go to university."</i> <i>"Hlamulo: Have you thought of maybe opening your own tutoring company to help the learners in the community?"</i>
Rethabile	<i>Lerato: I never thought of that, for me, I just do maths because I love it. But the kids might think I am not qualified to teach them because I only passed Grade 12. ... Swa twala (it makes sense), maybe I can start with the neighbours and my child and then see".</i> <i>"Sometimes it is not about helping your child to solve the problem, but giving them time to explain to you what the teacher said in class, as they are explaining, you are then able to see that here it should be like this, and here he should do that, and you offer the guidance. I remember my child was working with graphs, and I just let him explain the concept to me the way he saw the teacher do it in class. Then I remembered that when I was in school, there were different graphs and they behaved differently. I then explained to him what the chapter is about, and we drew additional graphs together to see how they change. For him, it was important to use the correct language to talk about them, even though at times I used just basic language to explain to him, but at the end of the day, he understood, and we did the homework."</i> <i>"Geometry is difficult for me, so I don't even try there, Kikiki (she laughs). So I asked someone at church to help him with those kinds of things, the ones that are difficult for me, you know, I don't try. I tell him that wa vona leyi topic (you see this topic) is difficult for me, so they will help you at church."</i>
Thomas	<i>"Because she is doing science I make sure that we organise our church member, he also invites all the learners who are doing science and maths, so we are encouraging them to attend over the weekends and they say that he makes the maths easy for them, so the church is like their second school, where they go to relearn what they did not get at school from their teacher. So for me, it is good, they are closer to God, and they are learning mathematics, which helps to keep them away from just playing and doing wrong things in the community."</i> <i>"Maths is difficult for me, se ni va rhumela ka lava tivaka (so I send them to those who know), I just make sure that I connect them, na vanhu lava rhandaka xikwembu na maths (with people who love both God and maths)</i>

The teachers' narratives reveal a deep sense of commitment and creativity in supporting their children's mathematics learning, despite personal limitations in formal education or content knowledge. Through strategies such as self-study, revisiting mathematics topics, seeking help from community members, and creating structured learning routines at home, rural parents demonstrate that they are not only capable but also deeply invested in their children's academic success—positioning themselves as co-educators and advocates within and beyond the home.

The information provided by the participating parents reveals a rich tapestry of involvement in mathematics learning that challenges deficit-based assumptions often associated with rural communities. Drawing on Epstein's (2001) six types of parental involvement—particularly learning at

home, communication, decision-making, and volunteering—the data illustrate that the participating rural parents are not passive observers but active, resourceful, and committed co-educators in their children’s mathematics learning journeys.

Learning at Home is the most prominent form of involvement in the data. Parents like Jabulani and Lerato demonstrate deep engagement with their children’s mathematics tasks. Jabulani states, “I am always involved in tasks that he is not sure of ... tasks that are a little bit complex, he is always inviting me, and I am helping...”, which reflects a proactive stance in scaffolding learning. His comment, “just that opportunity to study further for me was not there... but I love mathematics, underscores how personal educational aspirations and missed opportunities fuel his commitment to his child’s success in learning the subject. This aligns with Chophel and Choeda (2021), who argue that parental involvement in homework enhances learner performance and fosters academic resilience. Lerato’s approach is equally instructive. She explains, “We have a maths time at home, where we go through the topic, and we discuss.” And “I have to study the topic, Mina (myself), and loko ni heta (when I finish), I explain to her. This reflects a self-directed learning model in which the parent becomes both learner and teacher. Her initiative to request classroom access (“I went to the school to ask if I can sit in class to learn and assist the learners”) and later seek one-on-one explanations from the teacher exemplifies volunteering and communication in Epstein’s framework, even though her request was met with resistance. It also reflects Lara and Saracostti’s (2019) call for schools to recognise diverse forms of parental engagement beyond formal structures.

Rethabile’s narrative introduces a nuanced form of learning (mathematics) at home and communication. She notes, “Sometimes it is not about helping your child to solve the problem, but giving them time to explain to you what the teacher said in class...” This dialogic approach fosters metacognitive reflection and reinforces the learner’s understanding through articulation. Her use of basic language to explain complex concepts (“even though at times I used just basic language to explain to him”) challenges the notion that only formally educated parents can contribute meaningfully to mathematics learning. This resonates with Okeke (2014), who advocates for recognising the cultural and experiential knowledge that parents bring to educational spaces.

In addition, Thomas’s statements reflect decision-making and community collaboration, even though the latter is not formally captured in Epstein’s typology. His coordination of church-based tutoring (“the church is like their second school”) illustrates how rural parents mobilise community resources to support mathematics learning. His comment, “Maths is difficult for me, se ni va rhumela ka lava tivaka (so I send them to those who know)”, reflects a strategic delegation of support, which is a form of educational leadership within the family and community. Similarly, Rethabile’s statement—“I tell him that wa vona leyi topic (you see this topic), is difficult for me, so they will help you at church”—also offers a compelling example of how rural parents mobilise community-based resources to support their children’s mathematics learning. This reflects a form of collaborative involvement that extends beyond Epstein’s formal typology, particularly the “learning at home” and “collaborating with the community” categories. Both Thomas’s and Rethabile’s approaches demonstrate educational leadership and agency, as they acknowledge their own limitations while actively seeking alternative support systems within the community. In this context, the church becomes a supplementary learning space, or what Vygotsky might describe as a “zone of proximal development,” facilitated by knowledgeable others (Abtahi et al., 2017). These parents’ statements also challenge the notion that parental involvement must be direct or school-based; instead, they affirm that rural parents can orchestrate meaningful learning environments through informal networks. This highlights the need for schools to recognise and integrate such community-based efforts into broader educational strategies, especially in under-resourced rural contexts where formal support may be limited.

Across the parents' narratives, a common thread is the agency and intentionality with which rural parents engage in their children's mathematics education. Their actions are not incidental but deliberate responses to structural constraints, such as limited access to formal education or to school spaces. This challenges the deficit discourse that frames rural parents as uninvolved or incapable. Instead, the findings support a de-apartheidisation perspective, which calls for dismantling historical and systemic barriers that exclude rural voices from educational decision-making and pedagogical spaces.

The nature of parental involvement in mathematics education in rural South African schools, as revealed in this study, is multifaceted, contextually grounded, and deeply relational. Parents engage in mathematics learning through home-based support, such as assisting with homework, revising topics independently to teach their children, and creating structured routines that prioritize mathematics tasks. Their involvement is shaped by personal educational histories and a strong desire to see their children succeed academically. Rural parents' experiences also reflect both agency and adaptability—they navigate limited formal education and systemic barriers by mobilising community resources, initiating dialogue with teachers, and using everyday language and practices to make mathematics accessible. These experiences challenge deficit narratives and affirm that rural parents are capable and active participants in their children's mathematics education, contributing meaningfully through informal, yet impactful, forms of engagement that align with and extend Epstein's typology of parental involvement. Schools must move beyond narrow definitions of involvement and embrace inclusive, context-sensitive models that reflect the realities and strengths of rural families.

6. Discussion

The findings from this study provide valuable insights into the active and resourceful roles that rural parents play in their children's mathematics education, challenging prevalent deficit-based assumptions about rural communities. The information provided by the parents reveals that parental involvement is not a passive engagement but a dynamic partnership that aligns with Epstein's (2000) framework of six types of parental involvement, specifically focusing on learning at home, communication, and decision-making. For instance, parents such as Jabulani and Lerato not only assist with homework but also create structured environments conducive to learning—demonstrating their commitment by scaffolding their children's understanding of complex tasks. According to Purnomo et al. (2021), parental involvement in educational settings, particularly in subject-specific contexts like mathematics, has been shown to improve learner performance and foster a more engaging learning environment. Lerato's initiative to engage with her child's classroom demonstrates a proactive approach, highlighting the potential to foster educational partnerships that extend beyond traditional boundaries. This supports the assertion that parental involvement is positively correlated with academic outcomes, though nuances exist in the specific contexts and measures used to assess this relationship (Yulianti et al., 2023). In this context, Kusmaryono et al. (2020) indicate that scaffolding strategies can significantly reduce mathematics anxiety among learners while also enhancing their academic performance. This is particularly relevant, as Jabulani and Lerato exemplify the essence of scaffolding, helping their children tackle complex mathematical tasks while nurturing a positive learning environment. Their actions create opportunities for reflection and correction, enabling learners to navigate through their learning challenges effectively.

Furthermore, the narratives reveal a strong sense of agency among parents, as illustrated through Rethabile and Thomas's strategies to facilitate learning. Rethabile's focus on dialogue, where she allows her child to articulate their understanding, enhances metacognitive skills and reflects a nuanced understanding of parental involvement in education. Meanwhile, Thomas's involvement in organising church-based tutoring initiatives showcases the collaborative efforts made by parents within their community—demonstrating that parental support extends beyond the home. This

collaborative effort resonates with Hornby and Witte (2010), who assert that the interconnectedness of rural schools and their communities creates opportunities for heightened parental involvement in educational initiatives. This form of community engagement illustrates how parents actively seek and utilise alternative resources to reinforce their children's educational journeys, leveraging local support networks that serve as extension learning venues, akin to Vygotsky's concept of the zone of proximal development (Murphy et al., 2023). By drawing upon existing social and community networks, these parents redefine their roles as essential agents of their children's educational success, marking a departure from deficit narratives or apartheid-linked perspectives that often dominate discussions of rural parents' educational attainment and parental involvement, thereby highlighting the de-apartheidisation approach. This multifaceted and resourceful engagement underscores the need for educational systems to recognize and incorporate community-embedded approaches into their frameworks to effectively support rural families.

Collectively, these findings suggest a pressing need for educational systems to move away from narrow definitions of parental involvement within rural communities. Instead, rural schools should recognise and harness the complex, contextually grounded forms of engagement displayed by rural parents to create inclusive and comprehensive educational strategies that acknowledge the diverse contributions of families to their children's learning.

7. Conclusion

This study critically examined the nature and significance of parental involvement in mathematics education within rural South African schools, challenging deficit-based assumptions and foregrounding the agency of rural parents. Drawing on Epstein's typology of parental involvement and guided by a de-apartheidisation lens, the findings revealed that rural parents engage in diverse and meaningful ways to support their children's mathematics learning—often outside the formal structures recognised by schools. Parents demonstrated commitment through assisting with homework, initiating dialogue with teachers, organising community-based support, and creating structured learning routines at home. These practices reflect a deep understanding of the value of education and a desire to contribute to their children's academic success, particularly in mathematics—a subject often perceived as inaccessible. The study affirms that rural parents are not passive or disengaged, but rather active co-educators whose contributions are shaped by their lived realities and aspirations. Their involvement is not limited by formal education or socio-economic status, but instead reflects a resourcefulness and resilience that must be acknowledged and valued by educational institutions.

This study is limited by its small sample size, comprising only four parents selected through convenience sampling—a non-probability technique that prioritises accessibility and availability (Babbie & Mouton, 2007). While this approach enabled the collection of rich, contextually grounded data, it inherently limits the generalisability of the findings. The selection process, facilitated by school principals, may have introduced selection bias, as participants were chosen based on their proximity to the school and availability rather than through a systematic or randomised method. Additionally, although gender was not a selection criterion, the final sample included three males and one female, which may not reflect the broader demographic composition of parents in the community. The socio-economic and geographic constraints of the rural setting—Acornhoek—also influenced participation, as many parents in the area are engaged in demanding agricultural work, which limits their availability. Consequently, the perspectives captured may not fully represent the diversity of parental experiences in similar rural contexts.

8. Suggestion

The findings demonstrate that rural parents are not only interested in their children's academic success but are actively engaged in supporting mathematics learning through diverse, contextually grounded practices. Based on this study's findings, schools should develop targeted training programs to enhance parents' understanding of effective teaching strategies and learning support in the home environment. Strengthening the collaboration between parents and teachers is vital for enhancing student academic performance. Schools could establish regular meetings, feedback sessions, or collaborative projects that encourage partnership between teachers and parents. In addition, schools should recognise and support community-driven initiatives, such as church-based tutoring programs. Community engagement can generate additional resources and support structures that enrich learners' educational experience, enhancing accountability and shared responsibility for children's education.

In terms of directions for future research, studies should aim to include a larger, more diverse sample of parents to enhance the generalisability of findings. This expansion can help capture a broader spectrum of parental experiences, perspectives, and strategies utilised to support their children's education. Employing stratified sampling methods may address the demographic imbalance noted in this study, ensuring that various socioeconomic, cultural, and gender dynamics are adequately represented.

Declarations

Author Contributions. HM was solely responsible for all aspects of the research and manuscript preparation, including the literature review, conceptualisation, methodology, data analysis, writing, editing, and final approval of the published version of the article.

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References

- Abtahi, Y., Graven, M., & Lerman, S. (2017). Conceptualising the more knowledgeable other within a multi-directional ZPD. *Educational Studies in Mathematics*, 96(3), 275–287. <https://link.springer.com/article/10.1007/s10649-017-9768-1>
- Ahmed, Q. W., Rönkä, A., & Perälä-Littunen, S. (2021). Parental involvement or interference? Rural teachers' perceptions. *Education Research International*, 2021(1), 3182822. <https://onlinelibrary.wiley.com/doi/abs/10.1155/2021/3182822>
- Alhazmi, A. A. & Kaufmann, A. (2022). Phenomenological qualitative methods applied to the analysis of cross-cultural experience in novel educational social contexts. *Frontiers in Psychology*, 13. <https://doi.org/10.3389/fpsyg.2022.785134>
- Ashim, B., & Ahmed, S. (2018). Effects of Parental Involvement on Secondary School Students' Mathematics Achievement in Assam, India. *Online Submission*, 3(7), 275-281. <https://eric.ed.gov/?id=ED588191>
- Babbie, E., & Mouton, J. (2007). Qualitative methods of data sampling. *The practice of social research*, 7, 187-193.

- Balding, K., Geraghty, S., Timler, A., Pezaro, S., & McChlery, S. (2023). Phenomenography: a useful methodology for midwifery research. *Journal of Advanced Nursing*, 80(6), 2598-2610. <https://doi.org/10.1111/jan.15978>
- Chauke, T. A., Ngozwana, N., Machobane, A., & Maphuthi, L. A. M. (2025). Parental involvement in rural schools: A case study in Limpopo Province. *International Journal of Science, Technology, Engineering and Mathematics*, 5(2), 102-125. <https://www.neliti.com/publications/631018/parental-involvement-in-rural-schools-a-case-study-in-limpopo-province>
- Chophel, T., & Choeda, U. (2021). Impact of Parental Involvement in Homework on Children's learning. *Journal of Education, Society and Behavioural Science*, 34(6), 35-46. <https://www.academia.edu/download/76269096/56919.pdf>
- Clark, D. (2020). Rural parents' views on their involvement in their children's mathematics education. In *Mathematics education across cultures: Proceedings of the 42nd meeting of the North American Chapter of the International Group for the Psychology of Mathematics Education* (pp. 530-535). <https://pmena2020.cinvestav.mx/Portals/pmena2020/Proceedings/PMENA42-BRR-1656882-Clark.pdf>
- Creswell, J. W., & Creswell, J. D. (2017). *Research design: Qualitative, quantitative, and mixed methods approaches*. Sage publications.
- Epstein, J. (2009). Epstein's framework of six types of involvement (Including: Sample practices, challenges, redefinitions, and expected results). *Baltimore, MD: Center for the Social Organization of Schools*.
- Epstein, J. L. (1992). School and Family Partnerships. In M. C. Alkin (Ed.), *Encyclopedia of Educational Research* (6th ed., pp. 1139-1151). New York: Macmillan.
- Epstein, J. L. (2004). Meeting no child left behind requirements for family involvement. *Middle Ground*, 8(1), 14-17.
- Epstein, J. L., & Sanders, M. G. (2000). Connecting home, school, and community. In *Handbook of the sociology of education* (pp. 285-306). Springer, Boston, MA.
- Epstein, J. L., & Sanders, M. G. (2002). Family, school, and community partnerships. *Handbook of parenting: Vol. 5. Practical issues in parenting*, 407-437.
- Hornby, G. and Witte, C. (2010). Parent involvement in rural elementary schools in New Zealand: a survey. *Journal of Child and Family Studies*, 19(6), 771-777. <https://doi.org/10.1007/s10826-010-9368-5>
- Kainuwa, A., & Yusuf, N. B. M. (2013). Influence of parents' socio-economic and educational backgrounds on their children's education in Nigeria. *International journal of scientific and research publications*, 3 (10), 1-8. <https://www.academia.edu/download/37602229/ijsrp-p2320.pdf>
- Kusmaryono, I., Gufron, A. M., & Rusdiantoro, A. (2020). Effectiveness of scaffolding strategies in learning against decrease in mathematics anxiety level. *Numerical: Jurnal Matematika Dan Pendidikan Matematika*, 13-22. <https://doi.org/10.25217/numerical.v4i1.770>
- Lara, L., & Saracostti, M. (2019). Effect of parental involvement on children's academic achievement in Chile. *Frontiers in psychology*, 10, 1464. <https://www.frontiersin.org/articles/10.3389/fpsyg.2019.01464/full>

- Mafugu, T. (2025). Influences on Mathematics Achievement in Rural Schools: A Nested Study of Underprivileged Learners. *Interchange*, 56(1), 1-15. <https://link.springer.com/article/10.1007/s10780-024-09533-y>
- Mbhiza, H. W. (2025). Family and Parental Involvement in Mathematics Learning: Rural South African Learners' Voices. In *Education and the Family: Achievement, Attainment, and Quality School Outcomes* (Vol. 28, pp. 35-47). Emerald Publishing Limited. <https://www.emerald.com/insight/content/doi/10.1108/S1530-353520250000028003>
- Mbhiza, H., & Nkambule, T. (2023). Grade 4 Rural Learners' Views and Learning Experiences That Address Social Justice in Postapartheid South Africa. *Educational Research for Social Change*, 12(2), 96-113. https://www.scielo.org.za/scielo.php?pid=S2221-40702023000200008&script=sci_arttext
- Moletsane, R. (2012). Repositioning educational research on rurality and rural education in South Africa: Beyond deficit paradigms. *Perspectives in education*, 30(1), 1-8. <https://www.ajol.info/index.php/pie/article/view/77005>
- Murphy, S. A., Danaia, L., Tinkler, J., & Collins, F. (2023). Parents' experiences of mathematics learning at home during the covid-19 pandemic: a typology of parental engagement in mathematics education. *Educational Studies in Mathematics*. <https://doi.org/10.1007/s10649-023-10224-1>
- Neuendorf, K. A. (2018). Content analysis and thematic analysis. In *Advanced research methods for applied psychology* (pp. 211-223). Routledge.
- Okeke, C. I. (2014). Effective home-school partnership: Some strategies to help strengthen parental involvement. *South African Journal of Education*, 34(3). <https://www.ajol.info/index.php/saje/article/view/107406>
- Purnomo, Y. W., Safitri, E., Rohmah, N., Rahmawati, R., & Abbas, N. H. (2021). Parental involvement in online mathematics learning: examining student report and links with engagement. *The New Educational Review*, 66(4), 120-130. <https://doi.org/10.15804/tner.21.66.4.10>
- Republic of South Africa (RSA). (1996a). *South African Schools Act*. Pretoria. (Government Gazette, Vol. 377, No. 84).
- Republic of South Africa (RSA). (1996b). *The National Education Policy Act 27 of 1996*. Pretoria.
- Republic of South Africa (RSA). (1996c). *The Constitution of the Republic of South Africa*. Pretoria.
- Seleka, H. A., & Masoabi, C. S. (2024). Educators' perspective on parental involvement in homework at a rural primary school in Palala. *South African Journal of Childhood Education*, 14(1), 1-9. https://www.scielo.org.za/scielo.php?pid=S2223-76822024000100067&script=sci_arttext&tlng=en
- Simweleba, N. H., & Serpell, R. (2020). Parental involvement and learners' performance in rural basic schools of Zambia. *South African Journal of Childhood Education*, 10(1), 1-13. <https://journals.co.za/doi/abs/10.4102/sajce.v10i1.608>
- Statistics South Africa (Stats SA) (2011). Statistics South Africa. *Formal census*.
- Yaro, K. (2015). *Parental involvement in children's mathematics learning: a case of a rural community, Ghana* (Doctoral dissertation, University of British Columbia). <https://open.library.ubc.ca/soa/cIRcle/collections/cIRcle/24/items/1.0167193>
- Yulianti, K., Denessen, E., & Droop, M. (2023). The effects of parental involvement on children's education. *International Journal About Parents in Education*, 10, 14-32. <https://doi.org/10.54195/ijpe.14123>

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