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Parental involvement predicts Grade 4 learners' reading literacy: an analysis of PIRLS data for students in Mpumalanga, South Africa

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ABSTRACT

The purpose of the study was to examine how parents' involvement is associated with Grade 4 learners' reading literacy achievement in Mpumalanga. Selected variables from the PIRLS 2016 home and school questionnaires were used, and interviews were conducted with parents to gain a deeper understanding of parental involvement in their child's education in terms of reading literacy. A sequential explanatory mixed-method design was used based on the pragmatism paradigm. The quantitative data (1,025 learners) was gathered before the qualitative data (ten parents). For the quantitative data, multi-level analysis showed that parents who read books with their child before the child went to primary school, parents who participated in their child's reading outside school hours, and parents being included in their child's education by the school are the best predictors of Grade 4 reading literacy achievement. For the qualitative data, the findings indicated that parents understand that promoting English as First Additional Language is of great importance; however, they lack the skills, time and resources to effectively teach English reading at home. This study suggests that more research should be conducted on effective parenting strategies at home to teach their children to read.

Introduction

Literacy skills are crucial for a child to be competent in reading throughout their educational career (Stutzel, 2019). This study investigates the association between learner reading literacy achievement (RLA) in Grade 4 and parental involvement (PI) in Mpumalanga using the Progress International Literacy Study (PIRLS) Literacy 2016 data and a case study. In South Africa, reading literacy is a major crisis, with approximately 78% of Grade 4 learners who cannot read for meaning and understanding (Howie et al.,

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2017a). About 50 countries participated in PIRLS Literacy 2016, an international assessment that monitors reading comprehension for Grade 4 learners in a 5-year cycle. PIRLS Literacy is geared towards children just beginning to learn to read; a significant portion of the test (50%) is devoted to assessing core reading comprehension skills, such as the capacity to focus on and retrieve explicitly stated information (Howie et al., 2017b). South Africa was the lowest-performing country, with a mean score of 320, whereas the international benchmark was 500 (Howie et al., 2017a). Although the national RLA score was low, the mean score for Mpumalanga is a concern. One thousand and twenty-five learners from Mpumalanga participated in the study and achieved a 313-mean score below the national mean score of 320. The findings from PIRLS Literacy 2016 show that some provinces, such as Limpopo, the Eastern Cape, Mpumalanga, KwaZulu-Natal, and the Northern Cape, require further support since, in these provinces, 80% or more of learners were unable to meet the lowest benchmark and read for meaning (Howie et al., 2017b). The objectives of participating in PIRLS Literacy include monitoring and evaluating Grade 4 learners' reading ability and identifying factors that may directly or indirectly affect their RLA.

Studies have shown that a positive home learning environment and exposing children to a rich literacy home increases their chances of becoming competent readers in their academic lives (Boerma et al., 2017; Niklas et al., 2016). For a child to perform well academically, parental support is paramount (Hemmerechts et al., 2017; Rogers et al., 2018).

The primary research question is: To what extent is PI associated with Grade 4 learner RLA in Mpumalanga? The secondary research questions (SRQs) are: SRQ1: How does PI influence RLA of Grade 4 learners based on the evidence of PIRLS Literacy 2016 in Mpumalanga? SRQ2: What are the parents' views regarding PI in enriching RLA for Grade 4 learners? SRQ3: How can parents improve Grade 4 learners' RLA through PI?

Myers-Young (2018) reviewed various types of parental involvement and found that when parents are involved in their children's education from an early age, it can significantly improve their reading skills and that becoming a proficient reader at a young age is a strong predictor of later academic success. When children fail to learn how to read at an early stage, that predicts learning failure in the future (Spaull & Hoadley, 2018). Reading helps learners in all areas of their school career, and more importantly, it is the foundation for lifelong learning (National Education Collaboration Trust [NECT], 2016). The NECT was established in South Africa in July 2013 in response to the National Development Plan's (NDP) request for more collaboration across stakeholders to improve educational outcomes (NECT, 2013).

Reading literacy in a South African context

A qualitative case study conducted by Cilliers and Bloch (2018) asserted that, in South Africa, literacy is critical in helping combat poverty, promote productivity and sustain development. However, South Africa is experiencing reading challenges across all 11 official languages and all the levels of the education system, from the foundation phase up to the tertiary level (Malda et al., 2014). South African learners' low reading comprehension levels can be attributed to various factors – aside from macro-level problems

like high poverty, low parental literacy, weak administration in many schools, under-resourced schools, and under-qualified instructors, additional language and reading literacy (Al-Mahrooqi et al., 2016).

The Sustainable Development Goal 4 (SDG4) is a commitment to "ensure inclusive and equitable quality education and promote lifelong learning opportunities for all" (United Nations Educational, Scientific and Cultural Organization [UNESCO], 2016, p. 7). In the context of South Africa, where literacy rates are impacted by various socio-economic factors and language barriers, SDG4 emphasises the importance of addressing inequalities in access to education and ensuring that all learners have the opportunity to develop literacy skills regardless of their background. The Department of Basic Education (DBE) in South Africa is aware of the reading literacy challenges that learners in South Africa face. Since the year 2000, there have been several policies, strategies, interventions and reading campaigns such as "Read to Lead", "Drop All and Read" and many more, which have been implemented in trying to address this reading crisis; however, many scholars have, and still are, questioning these projects, claiming that they are slogans rather than effective initiatives (Van Staden & Roux, 2022). In an effort for the attainment of SDG4 and to monitor whether these initiatives are making an impact, the DBE monitors learners' progress through national surveys and initiatives like the "Early Grade Reading Assessment", which is an oral diagnostic reading test given in all 11 official languages measuring initial sound recognition, word recognition, and reading comprehension. Teachers also play a role by regularly monitoring learners' progress using a seven-point scale (ranging from "code 1: not achieved" [0%–29%] to "code 7: outstanding achievement [80%–100%]"), with report cards serving as the main communication tool between schools and parents. The school contacts parents of learners who need further support (i.e. scoring low on the 7-point scale) and invites them to attend parent-teacher meetings or, when meetings can't be in-person, contact is made via phone conversations (Van Staden & Roux, 2022). Before discussing studies on PI within a South African context, PI, as viewed in the context of the current study, is conceptualised.

Conceptualising parental involvement

Several researchers have defined PI in many different ways. One of the most influential models relating to PI is Epstein's framework (Epstein, 1995, 2001) referring to six types of involvement, namely "parenting" (when family practices and home environment support children's education), "communicating" (effective communication between home and school), "volunteering" (recruiting and organising parents' help and support), "learning at home" (informing parents how they can help their children at home with school-based activities), "decision making" (including parents in decisions and making them representatives (e.g. serving on school governing bodies [SGBs])) and "collaborating with community" (integrating sources from the community to support educational initiatives). In this study, we define "Parental Involvement" similarly to Robinson and Harris (2014) by defining PI as "practices that entail parent communication with their children about education, beliefs or behaviours parents hold or engage in with the exclusive aim of increasing academic outcomes, and parental engagement with schools and teachers" (p. 4). The authors go further to explain that some activities

that other authors view as PI is excluded from their definition, for example involving children in extra-curricular endeavours such as ballet or piano lessons, as the authors considered these activities intend to generally enrich the child rather than specifically affect academic achievement. Furthermore, in their book on PI, Robinson and Harris (2014) explain that they are interested in practices parents employ that can be directly linked to academic achievement. In our study, we refine their definition by not considering overall academic achievement, but rather, practices parents employ that link directly to their child's reading achievement. Finally, "Parent" is defined in the current study as any guardian of the child which, in South Africa, is often extended family members or older siblings (Sibanda, 2021).

Parental involvement in the South African context

Before 1994, South Africa had a fragmented and racially divided educational system that severely impacted rural black communities (Matshe, 2014). In recognition of the importance of PI (for both learners and schools, given the growing need to change the face of South African education), the South African Schools Act (SASA) 84 of 1996 (Republic of South Africa, 1996) established systems aimed at facilitating meaningful school-parent relationships (Msila, 2012). In a longitudinal data analysis conducted in a South African context, Coetzee (2014) stipulated that PI in learners' education is a contentious issue in South Africa, especially in poor schools where learners desperately need help to better their consistently low grades. Researchers and policymakers in South Africa are interested in PI because they have begun to investigate variables outside of school that may improve the education system (Selolo, 2018). Despite the efforts to increase parental engagement in this country, obstacles such as poverty, single-parent homes, unemployment, and a lack of supportive familial structures have slowed development (Karıbayeva & Boğar, 2014).

Parents working hand-in-hand with schools can ensure a positive educational future for their children, regardless of context (Msila, 2012). In South Africa, boosting PI can help overcome challenges like poverty and illiteracy and offer meaningful access to high-quality education (Motala & Deacon, 2011). Policies that encourage PI in school governance policies should concurrently encourage parents to play a role in enhancing teaching and learning (Motala & Deacon, 2011). A study by Okeke in 2014, comparing South African law with the responsibilities of parents of learners attending primary school in London, England, found that there is no legislation holding parents accountable for their children's attendance in South Africa, unlike countries such as England wherein parents whose child fails to attend school will be prosecuted (Okeke, 2014). Qualitative-based research (Munje & Mncube, 2018) was conducted on voices of educators regarding PI in South Africa; the findings demonstrated the disparity between policy and practice in terms of school-parent collaboration.

Although PI in school governance and leadership is important, the academic involvement of parents in their children's education tends to be more fruitful (Okeke, 2014). According to Motala and Deacon (2011), PI in education is not only seen as important for improving learners' academic accomplishment, but it also has the potential to boost parents' sense of empowerment, resulting in greater achievement of desired educational results. However, Makgopa and Mokhele (2013) conducted a South African case

study on qualitative research interviews focused on educators and found that no comprehensive research has been carried out to assess what type of involvement had the strongest connection with learner achievement in South African schools.

According to the DBE (2015), parents have a critical role in their children's education. Hence, the NECT developed a document called "Practical Guidelines: On How Parents Can Contribute Meaningfully to their Children's School Success" (NECT, 2016). The practical guidelines aim to inform parents about ways to enhance learning outcomes and maximise potential at home, school, and in their communities, empowering them to play a more active role in their children's education to help their children reach their full potential.

Factors that may hinder parental involvement

Some parents who desire to be involved in their children's education face potential obstacles. Kimathi (2014) has mentioned some factors that may hinder PI, including time constraints, perceptions that there are enough reading resources at school, lack of awareness of the importance of being involved, poor socio-economic backgrounds and inability to read. The primary factors are discussed below, recognising the possibility of additional factors beyond the scope of this literature review, which serves as an overview rather than a comprehensive examination of factors hindering PI.

Time constraints

Selolo's (2018) study that was conducted on SGB members (principals, parents and educators) in a South African context (Limpopo) found that parents who do not have time owing to their work schedules is among the primary issues affecting PI in schools. According to Okeke (2014), some parents complain about a lack of time due to commitments at work, so they cannot help their children with reading. For instance, parents working in other provinces leave their children with their grandparents or older siblings, and, as a result, they do not get any chance to contribute to their children's education. Additionally, some parents indicated a lack of time as one of the causes of their children's reading skill development in the home environment, according to Kleemans et al. (2012).

Work commitments

Lam et al. (2013) found that family responsibilities and work commitments were the main reasons for less parental participation time. Bindman et al. (2014) and Hornby and Blackwell (2018) found that parents' jobs may limit PI as many parents cannot participate in school events during school hours. Selolo's (2018) study mentioned earlier under "time constraints" listed hectic work schedules (causing time constraints) as a contributing factor. Sibanda (2021), who conducted a study in a South African township, explained that one has to take the harsh economic conditions in townships into account, as many parents leave for work very early in the morning and only return late in the evening due to long hours and travel time. In another South African study by Munje and Mncube (2018) it was mentioned that low-income families tended to have jobs with long working hours, causing parents not to get involved with school-related activities.

Perceptions that the school is responsible for children's education and lack of awareness of the importance of being involved

Sibanda's (2021) study in a South African township explained that parents treated schools as "dumping grounds" (p. 4) in that they don't get involved in any school activities as they believe it is the school's responsibility to educate the child. Hornby and Blackwell (2018) stated that parents used to expect everything from schools; however, this is changing where we are starting to see parent-teacher relationships forming. In a recent study in South Africa, Munje and Mncube (2018) found that extended family members who are older (for example, grandparents), who are guardians of the child, tend to have a lack of awareness of the importance of schooling, and, in some instances, give children physically tiring household chores to do causing homework to either be incomplete or shabbily done. Munje and Mncube (2018) stated that older extended family members were "either incapable of assisting or unwilling to assist learners with their schooling, especially when it came to homework" (p. 85).

Socio-economic and parental backgrounds

Boonk et al. (2018) reviewed 75 studies published between 2003 and 2017 and concluded that various factors might hamper PI in supporting their children with reading literacy at home and school, such as socio-economic status (SES) and parents' level of education. Selolo's (2018) study mentioned earlier also found parents being illiterate as one of the primary issues affecting PI in schools. A study by Hornby and Blackwell (2018) found that some parents are reluctant to engage with schools due to their own low literacy levels. They also found that the age of the parents played a role; younger parents tend to be more involved. Hornby and Blackwell (2018) further found that language barriers prohibit parents from getting involved with schools. Munje and Mncube's (2018) South African study also showed parents' level of education being a barrier to PI. A study conducted in the provinces of Gauteng and Eastern Cape in South Africa, in the districts of Motala and Luxomo (2014), respectively, indicated that the background of a learner also played a vital role since parents with a poor background (a low-income family) feel inferior in getting involved in the educational issues of the child. In contrast, a family from a higher social class play their part by involving themselves in the educational matters of their children. While PI improves a learner's academic performance, low-income households are the least likely to be interested in their children's education. However, some findings demonstrate that PI at home exists regardless of parental career or income (Vellymalay, 2012).

Method

The pragmatic paradigm was used to contextualise this study utilising both quantitative and qualitative approaches. Using pragmatism, we aimed to identify weaknesses in the study and strengthen them using quantitative and qualitative approaches (Rahi, 2017). Since this study is a sequential explanatory mixed-method design, the quantitative data (secondary data) was collected before the qualitative data (interviews) (Creswell & Clark, 2017). The quantitative phase is a secondary data analysis (Mouton, 2001) which used a survey by collecting data through questionnaires, whereas, for the qualitative phase, we utilised a case study (Starman, 2013).

Sampling/selection of participants

For the quantitative phase, we used PIRLS Literacy 2016 data from Mpumalanga as secondary data. The PIRLS Literacy 2016 data was collected using two sampling methods, namely random sampling and stratified sampling; see LaRoche et al. (2016) for more details. For the qualitative phase, we used non-probability purposive sampling to select the parents of the Grade 4 learners we interviewed. We interviewed a total of ten parents from two schools (five parents from each school). The two schools are categorised as no fee-paying schools[1] situated in a rural area and the parents that were interviewed expressed some concerns regarding their child's reading literacy.

Data collection and instruments

For the quantitative phase, PIRLS Literacy 2016 had several questionnaires, including a student, teacher, school, curriculum, home questionnaire (learning to read survey) and we used the already collected data in a secondary data analysis. We selected questions from the home and school questionnaires (see Table 1). For the qualitative phase, semi-structured individual face-to-face interviews were conducted.

Data analysis and interpretation

For the quantitative phase, the PIRLS Literacy 2016 data was used for secondary analysis. The Hierarchical Linear and Nonlinear Modeling (HLM) version 8.1 software programme was utilised. When using items from the PIRLS questionnaires, individual items were used, and for items measuring the same scale, a scale was created by averaging over the items. The reliability of each scale was checked using Cronbach's alpha before creating scales. The lower limit for Cronbach's alpha that has received the most attention in earlier studies is 0.7, however, more recent research proposes that values as low as 0.6 can be considered acceptable (Bhamjee et al., 2022; Cloete et al., 2022). For the qualitative phase, thematic analysis (Braun & Clarke, 2012) was used to generate themes.

Quality assurance

For the quantitative phase, the International Association for the Evaluation of Educational Achievement (IEA) ensured reliability and validity; see Howie et al. (2017b) for more details. For the qualitative phase, trustworthiness (consisting of four constructs: credibility, transferability, dependability, confirmability) was ensured in the following manner. Credibility establishes if the research findings correctly interpret the participants' original opinions based on believable information derived from the participants' original data (Cohen et al., 2018). We did member-checking after transcribing the data into text. Regarding transferability, we caution that an individual who intends to "transfer" the results to a different context is then in charge of determining whether the transfer is reasonable. Dependability entails participants assessing the study's findings, interpretations, and recommendations to ensure that they are all supported by the

Table 1. Variables used in the model.

Variable	Question	Response options and %	Re-coding done or scale created [New variable name and label]
L1			
ASBH02A	Q2A.a "Before your child began primary school, how often did you or someone else in your home do the following activities with him or her? Read books" (PIRLS, 2015a, p. 3)	"1 = Often" "2 = Sometimes" "3 = Never or almost never"	Scale was not created since the Cronbach's alpha = 0.525 (<0.6) Re-coding: 0 = Never or almost never 1 = Often or sometimes Q2A.a Name: L1V1 Label: Parent read books with child
ASBH02F	Q2A.f "Before your child began primary school, how often did you or someone else in your home do the following activities with him or her? Talk about what you had read" (PIRLS, 2015a, p. 3)	Q2A.a: 1: 55.2% 2: 37.5% 3: 7.3% Q2A.F: 1: 54.6% 2: 36.9% 3: 8.5%	Q2A.f Name: L1V2 Label: Parent talked with child about what they had read
ASXH08BD	Q8B.d "How often do you or someone else in your home do the following things? Help my child practice his/her reading" (PIRLS, 2015a, p. 8)	"1 = Every day" "2 = 3 or 4 times p/w" "3 = 1 or 2 times p/w" "4 = Less than once p/w" "5 = Never or almost never"	Scale created Cronbach's alpha = 0.746 (>0.6)
ASXH08BE	Q8B.e "How often do you or someone else in your home do the following things? Talk to my child about what he/ she is reading" (PIRLS, 2015a, p. 8)	Q8B.d: 1: 52.8% 2: 24.5% 3: 13.7% 4: 6.0% 5: 3.0% Q8B.e 1: 57.3% 2: 23.0% 3: 10.9% 4: 4.8% 5: 3.9%	Name: L1V3 Label: Parent participates in child's reading outside school hours

ASBH09A	Q9A.a "What do you think of your child's school? My child's school does a good job including me in my child's education" (PIRLS, 2015a, p. 10)	"1 = Agree a lot" "2 = Agree a little" "3 = Disagree a little" "4 = Disagree a lot"	Scale not created. Cronbach's alpha = 0.545 (<0.6)
ASXH09AG	Q9A.g "What do you think of your child's school? My child's school gives me advice to help my child with reading" (PIRLS, 2015a, p. 10)	Q9A.a: 1: 81.8% 2: 14.1% 3: 2.2% 4: 1.9%	Re-coding: 0 = Agree a lot and agree a little 1 = Disagree a little and disagree a lot Q9A.a Name: L1V4 Label: Parent feels schools include them in child's education
		Q9A.g: 1: 72.1% 2: 15.6% 3: 7.5% 4: 4.7%	Q9A.g Name: L1V5 Label: Parent feels schools provide advice about reading Cronbach's alpha = 0.779 (>0.6)
ASBH13	Q13A "About how many books are there in your home? (Do not count ebooks, magazines, newspapers, or children's books)" (PIRLS, 2015a, p. 13)	"1 = 0–10" "2 = 11–25" "3 = 26–50" "4 = 51–100" "5 = More than 100"	Name: L1V6 Label: Number of books and children's books at home
ASBH14	Q14A "About how many children's books are there in your home? (Do not count children's ebooks, magazines, or school books)" (PIRLS, 2015a, p. 14)	Q13A: 1: 53.6% 2: 27.6% 3: 12.2% 4: 3.0% 5: 3.5%	
		Q14A: 1: 59.7% 2: 23.2% 3: 9.0% 4: 4.6% 5: 3.5%	
L2			
ACBG03A	Q3a "Come from economically disadvantaged homes" (PIRLS, 2015b, p. 2)	"1 = 0–10%" "2 = 11–25%"	Re-coding: 0 =< 50%

(Continued)

Table 1. Continued.

Variable	Question	Response options and %	Re-coding done or scale created [New variable name and label]
		"3 = 26–50%" "4 => 50%"	1 => 50% Name: L2V1 Label: SES
		Q3a: 1: 2.4% 2: 6.6% 3: 18.0% 4: 73.0%	
ACBG13F	Q13f "How would you characterise each of the following within your school? Parental involvement in school activities" (PIRLS, 2015b, p. 6)	"1 = Very high" "2 = High" "3 = Medium" "4 = Low" "5 = Very low"	Scale created Cronbach's alpha = 0,919 (>0.6) Name: L2V2 Label: PI as viewed by principal
ACBG13G	Q13g "How would you characterise each of the following within your school? Parental commitment to ensure that learners are ready to learn" (PIRLS, 2015b, p. 6)	Q13f: 1: 12.0% 2: 25.2% 3: 43.1% 4: 13.4% 5: 6.2%	
ACBG13I	Q13i "How would you characterise each of the following within your school? Parental support for learner achievement" (PIRLS, 2015b, p. 6)	Q13g: 1: 5.2% 2: 12.3% 3: 61.7% 4: 15.1% 5: 5.7%	
		Q13i: 1: 6.7% 2: 12.4% 3: 53.2% 4: 23.0% 5: 3.7%	

data collected from the study's informants (Cohen et al., 2018). Throughout the research process, we reminded ourselves to be aware of how we perceived the research process and how our background and paradigm may have influenced our perceptions of the research outcomes. Conformability is concerned with establishing data and interpretations of the findings that are not fabrications of the inquirer's imagination but are clearly drawn from the data (Anney, 2014). Accordingly, we have provided verbatim transcriptions.

Results and findings

Quantitative phase: results

For the quantitative phase, Table 1 displays the original variable names and labels (as in the PIRLS 2016 datasets), the question as presented in the PIRLS 2016 questionnaires, the response options for each question and the re-coding (if applicable) or the scale created (if applicable). We checked whether the data met the assumptions of multi-level analyses; e.g. multi-collinearity was checked by examining the correlation matrix between the predictor variables. Firstly, the null model without variables was created. This model aimed to indicate the variance in achievement among schools in Mpumalanga; this variance is also referred to as the between-schools' variance. The variance at learner-level is 6293.04, which represents 75.42% of the total variance. The variance at the school-level is 2051.39, which represents 24.58% of the total variance. Further, the variance at the school-level is significantly different from zero (Chi-square = 972.74, $p < 0.001$), which means that achievement varied significantly across schools. The final model was created by removing all insignificant variables one at a time, with only significant variables retained. The variance at learner-level is 6066.76, which represents 77.50% of the total variance. The variance at school-level is 1760.88, which represents 22.50% of the total variance, which is significant (Chi-square = 867.47, $p < 0.001$).

By comparing the variance components of the final model to those of the null model, the percentage reduction in the variance at learner-level was 3.60%, and the percentage of reduction at the school-level was 14.16%. The average reliability estimate was 0.923, indicating that sample averages reflected the true school means. Table 2 shows the significant predictors of the final model.

Learner-level predictors – Since L1V1 was coded 0 = "never or almost never" and 1 = "often or sometimes", the significant negative coefficient of 26.94 indicates that parents who "often or sometimes" read books with their child before they went to primary school performed significantly better than children whose parents read with them "never or almost never". Recall that L1V3 is a scale variable with lower values

Table 2. Significant predictors.

Variable	Coefficient	Standard error	t	p
Intercept	302.74	6.79	44.57	<0.001*
Learner-level				
L1V1: Parent read books with child	26.94	9.94	2.71	0.009*
L1V3: Parent participates in child's reading outside school hours	−13.19	2.91	−4.53	<0.001*
L1V4: Parent feels schools include them in child's education	−25.73	12.42	−2.07	0.040*
School-level				
L2V1: SES	−36.29	18.20	−1.99	0.052

*Significant at 5% level of significance.

representing parents that participated more in the child's reading outside school hours. Thus, the significant negative coefficient of −13.19 indicates that parents who participated more in the child's reading outside school hours performed significantly better than children whose parents did not do this. Recall that L1V4 was coded 0 = "agree a little or a lot" and 1 = "disagree a little or a lot". Thus, the significant negative coefficient −25.73 indicates that parents who "disagree a little or a lot" with the statement that the child's school does a good job including them in the child's education performed significantly worse than children whose parents "agree a little or a lot" with the statement.

School-level predictors – SES was included to control for this variable. The other school-level predictors were not significant.

Qualitative phase: findings

For the qualitative phase, two themes emerged and are considered next.

Theme 1: parents' views regarding parental involvement in enriching reading literacy achievement for Grade 4 learners

Sub-theme 1.1: responsibility of teaching reading skills

From the interviews, the issue of whose responsibility it is to teach learners/children how to read came across strongly. Many studies have been conducted about whose responsibility it is to teach reading and, ultimately, to create lifelong readers (Garces-Bascal et al., 2021; Giles & Tunks, 2015). The interviewed parents felt that they lacked the necessary skills to do this. One of the parents stated:

> Concerning reading, it is difficult because, as parents, we are not trained on how to teach a child, especially in Grade 4; it becomes more difficult because they are not being taught in isiZulu. So, when they have to turn to English, it becomes a problem; even with spelling, we are failing to teach them; we need to find a way from isiZulu to English. (Letty)

Letty's response shows that as much as some parents are keen and interested in teaching their children how to read, they lack the relevant skills. Lebo suggested that parents and teachers meet to foster collaboration by saying:

> At school, they have halls. We can meet as parents maybe twice a month. Then we can have a teacher who has time, and us, as parents, have time so that we see what we teaching them at home; how does the teacher make them understand? (Lebo)

Lebo's response indicates the need for parents to be trained as Lebo suggested that the school could organise a meeting wherein a teacher may show parents how to teach children reading so that when they get home, they understand what to do.

Sub-theme 1.2: time constraints

From the interviews, time constraints are an issue for most parents in assisting their children with reading. Okeke (2014) stated that some parents complain about not having enough time due to work responsibilities; hence, they cannot assist their children with reading. Many parents re-iterate the challenge of time constraints; for example, Sarah mentioned, "I think a parent should make time for their children, for starters, I create

time; like I said earlier, that time is a challenge". Lebo mentioned, "I don't get time because I started working this year". Bongi and Lindiwe also mentioned limited time as a challenge by providing the following narrations:

> I am a parent who doesn't have much time cause [I] am always at work, so what I do when I come back, I check learners' work and assist where I can. So, I encourage the parents that they should manage time. I mean, they should plan reading time when the children come back from school. (Bongi)

> I also do not have enough time because I am a student sometimes, I come back late from school. Parents must make time still and assist in every way where they can assist. (Lindiwe)

Although most participants mention time constraints, some have indicated they plan to make time for their children's education. For example, Sipho mentioned, "As a parent to [them],[2] I must have time to teach [them], have time plan so that I can check [their] books". Findings indicate that most participants have a challenge with time for different reasons; most are working, and some (e.g. Lindiwe) are studying.

Sub-theme 1.3: importance of parental involvement

Some of the parents emphasised the importance of PI. For example, Letty stated that "We should not solely give the responsibility to the teachers. Children shouldn't play too much at home; we should teach them". Bongi also emphasised the importance of PI by stating, "It is important that as a parent, you assist your child with reading because reading makes it easy for children in answering all the questions they come across with". Annah mentioned, "All family must try to teach the child must be involved in teaching the child by buying him books to read". According to Letty and Bongi, parents must engage in reading activities with their children at home. Letty further indicated that as parents, they should not give the responsibility of teaching their children to teachers only. The value of PI and participation in school literacy events should be understood by parents (Martorana, 2015). Bongi believes that if they assist their children with reading at home, they increase their chances of answering all questions at school. Martorana (2015) mentioned that parents and educators must work together to create a healthy interaction between home and school to enhance a learner's early reading skills. John emphasises this collaboration, "Always when they come back from school, even with the books they get from school, they must read for us as parents so we could hear that today since they were at school, what is it that they learn".

The findings indicate that Letty, Bongi, John and Annah view PI in reading as crucial to their children as it can assist their children in performing throughout their entire academic life which aligns with what has been found in other studies such as Hemmerechts et al. (2017). Additionally, PI is seen to play an important influence in a child's academic life, as it enhances drive to learn, improves attendance, and boosts confidence, among other things (Whitaker & Hoover-Dempsey, 2013). These parents mentioned that they should ensure that there are books at home (by buying them or getting them from school) for their children to read at all times and avoid spending most of their time playing. Furthermore, these participants asserted that parents should let their children read for them and that they (parents) should listen. This suggestion links to the findings of Hemmerechts et al. (2017), who found that parents who participate in reading activities with their children at home help them excel in school. Lebo emphasised

parental assistance, "It should be me besides my parents because I am the one who is assisting them, [it] should be me. So, they have to see that, in life, if you want to live well, you must read, cause education, it must be something that you put forward before you have things to play with and things like that. [The things] we buy for them must be based on education".

Theme 2: improving Grade 4 learners' reading literacy achievement through parental involvement

Sub-theme 2.1: promotion of English as FAL

English is currently seen as an essential skill that all youngsters must possess to properly engage in twenty-first-century civic society (Phillipson, 2017). The participants emphasised that parents should speak English to their children at home, even when it is not their home language. Letty stated, "Because [they] can hear when you speak English [they] understand, problem is to write and read it". John and Sipho went on to say:

> Is that we stay with [them] and read like we say today we just speak English or we read especially my kids they read for me most of the things there and there and my books that I ask them to read for me my books. (John)

> Ask them spelling word like, maybe, ask if you can write this word, do you know how to read it? And talk with them in English. I don't mean that they should abandon their home language, but these days English is key for our kids. (Sipho)

From the participants' responses, it is clear that some parents promote English as the first additional language (FAL) in their homes. Letty, John and Sipho use English to communicate with their children as a form of teaching them the language. John also asks children to read him his books to encourage reading at home. According to the DBE (2015), when parents read to their children regularly, even after they learn to read, they equate reading and books with closeness, care, and enjoyment. Moreover, Sipho indicated that talking to children in English does not mean they should abandon their home languages; however, he believes English is key for them. Myers-Young (2018) reviewed various types of PI and found that when parents are involved in their children's education from an early age, it can significantly improve their reading skills and that becoming a proficient reader at a young age is a strong predictor of success in academic life later on. Sarah agrees with Myers-Young (2018) that PI at an early age improves a child's reading literacy by stating, "I think it improves English skills like the more you read. As long as they are in English not in isiZulu".

Sub-theme 2.2: availability of reading resources at home

We asked parents what kind of reading materials they read with their children and where they find them. Any suitable written material, newspaper or magazine articles (if appropriate for the age level), library books, including storybooks and non-fiction, or comics, can be used as reading materials (DBE, 2015). Lebo answered, "Currently, we got charts [at home]. We got charts that we teach them with; even the website". Sarah answered that "I usually buy like two books or three for the whole year, so [they] keep on reading them over and over again". Sipho answered, "buying short stories and

newspapers". Bongi mentioned, "We let them [their children] make extra activities maybe let them read maybe newspapers at home. The books I read are the old books we have at home".

Lebo's home has some different resources wherein they use television channels to teach their children, though they also buy storybooks, newspapers, and magazines. Lebo commented, "My mother installed channels that mostly shows education, short stories. Yes, we buy them newspapers and magazines". The use of television or the media as a way of teaching children literacy skills is being investigated by many researchers (Dore et al., 2020; Guernsey & Levine, 2015). The research found that joint media interaction may play a significant buffering role in the relationship between media use and early reading skills. Joint media engagement refers to interactions in which parents and children are using the same media simultaneously and are engaged in the content together (Dore et al., 2020). Moreover, Tesfaye (2021) added that media (television) could reduce the reading crises.

Sub-theme 2.3: communication between all parties involved

Educators are tasked with creating a two-way communication channel between families and schools, allowing information about the children to be exchanged from school to home and home to school (Bacigalupa, 2016). Most parents felt that communication between all parties/stakeholders involved is of great importance. Bongi stated, "I think calling a meeting is the best way to get the parents". Sarah re-iterated this, "I think one-on-one meetings with the parents between teacher, parent and the child". Sipho agreed that meetings are favourable by stating, "A meeting is a solution to us as parents on how we can encourage them to read". John endorsed this by stating, "Calling them [parents] to come to school is important". Linah agreed, "We must call them like they usually call us in their classes; a person should come stay with their child and their work open books". These parents asserted that teachers should call parents to school to enhance an open line of communication between teachers and parents. Linah added that they should call the parents together with their children. Additionally, Maria indicated that parents should go to school and ask teachers about their children's progress to advise them on how to help them (their children). Maria stated that "I think they must come to school and ask teachers. I can advise them about that". In agreement, NECT (2016) stated that parents must connect directly with the school to obtain firsthand knowledge about what the school offers, what is expected of parents, and what the school can anticipate from parents. Lebo also suggested a different approach to meeting by proposing that parents could convene in a school hall or form WhatsApp groups where they discuss challenges they face teaching their children to read, offering strategies to overcome them.

Limitations

For the quantitative phase, although there is a vast amount of information available about PIRLS and the procedures surrounding PIRLS on the IEA-TIMSS-&-PIRLS-International-Study-Center website, some information may be missing, or the data collection tools could still contain flaws (Gray, 2020). Since we were not engaged in the recruitment of respondents or the original data collection process, we may be unaware of

study-specific complexities or data-collecting flaws that could affect the interpretation of specific variables in the dataset (Cheng & Phillips, 2014).

For the qualitative phase, only a few participants were willing to conduct member-checking due to limited time as they had heavy workloads. Another limitation is that a non-probability sampling method was used, which has limits in transferring the results (Maree & Pietersen, 2019).

Another limitation is the fact that the quantitative and qualitative data were collected a few years apart. The PIRLS 2016 data was collected in 2015, and the interviews were conducted in 2021. We, unfortunately, could not wait for the release of the PIRLS 2021 data since the data collection for PIRLS 2021 was scheduled for October to December 2020 in the Southern Hemisphere and for March to June 2021 in the Northern Hemisphere (PIRLS, 2021) and the deadline for the second author's Master's dissertation submission was 31 August 2021. It should also be noted that 2021 cannot be considered a typical year because of the COVID-19 lockdown; thus, the quantitative and qualitative data were collected a few years apart and under very different circumstances.

Another limitation is the confounding problem that parent SES may affect academic success rather than PI. This confounding problem of parent SES having a direct effect (or mediating effect) on achievement was already considered by Fan and Chen (2001) in their meta-analysis: "It is widely believed, and also supported empirically to some degree, that SES and parental involvement are positively related ... If SES does indeed influence parental involvement, then it is very likely that the observed relationship between parental involvement and students' academic achievement in this meta-analysis reflects, to some degree, the relationship between SES and students' academic achievement" (p. 18). This relationship could not be evaluated using PIRLS data due to the fact that PIRLS 2016 did not provide information on parent SES, so it is not possible to assess its effects or how it interacts with PI or RLA. Even if PIRLS had this variable, only associations/relationships could have been explored and not causality – although PIRLS have cycles, they are not longitudinal, as the same group of participants is not followed across the different PIRLS cycles, so causality cannot be established using PIRLS data.

Discussion and recommendations for future research

From the quantitative data, the result that if parents read books with their child often (or sometimes) before the child went to primary school, the child performed better in reading literacy when compared to parents who never (or almost never) did this, is not surprising, and it relates to findings from the literature (Myers-Young, 2018; Spaull & Hoadley, 2018). The result that if parents participate more in the child's reading outside school hours, the child performed better in reading literacy when compared to parents who participated less in this is also not surprising, and it relates to findings from the literature (Myers-Young, 2018). Myers-Young (2018) stated that a parent's role is essential to a child's academic success both in the classroom and outside the classroom. Myers-Young (2018) continues, saying that when teachers help parents identify specific learning activities for their children, which are coordinated with their activities in the classroom, it leads to long-term success for the child. The finding that if parents agree (a little or a lot) with the statement that the child's school does a good job including them in the child's

education, the child performed significantly better than children of parents who tended not to agree with this statement, is also supported by the literature (Yoder & Lopez, 2013). A study conducted by Yoder and Lopez (2013), who interviewed 12 American parents, found that the more accessible teachers are, the better education their child receives. Myers-Young (2018) stressed that schools should encourage parents' participation in school activities so that the parents can understand what their children are experiencing with their academic programmes. This understanding will form part of the greater understanding of, for example, what skills are required of learners to pass each grade (where reading literacy plays an important role), which would improve the child's academic performance.

For the qualitative phase, for Sub-theme 1.1, "Responsibility of teaching reading skills", the interviewed parents felt they lacked the necessary skills to do this. This relates to the literature where Hornby and Lafaele (2011) claimed that since the LoLT is not the parent's first language (in many South African homes), some parents doubt their abilities to help their children because they fear they would be unable to communicate successfully with educators. Sibanda (2015) believes that educators should provide clear guidance to parents who want to help their children but lack the requisite skills. For Sub-theme 1.2, "Time constraints", the interviewed parents mentioned that finding time to read with their child is difficult. This relates to the literature where, according to Matshe (2014), time is a barrier that prevents PI. Bindman et al. (2014) found that among the key challenges affecting PI in schools are parents who do not have time due to their demanding job schedules. For Sub-theme 1.3, "Importance of parental involvement", the interviewed parents understand the importance of their involvement, and this relates to the literature because, according to Stutzel (2019), previous studies have shown that PI improves children's reading literacy skills at home. In addition, according to Kimathi (2014), PI has various positive effects on children other than academic accomplishment, including language comprehension, communicative skills, learner interest in reading, and reading attitudes. For Sub-theme 1.2 "Promotion of English as FAL", the interviewed parents understood that if they spoke English at home, it would promote English as FAL and help their children embrace it. Similar findings are in the literature since, according to Phillipson (2017), English should be promoted as a language that everyone should learn since it is a language that everyone needs. The findings of Sub-theme 2.2, "Availability of reading resources at home", links to the literature in that Merga's (2015) study highlights the importance of access to books at home as having a book-rich home environment is linked to motivation to read. Mullis et al. (2017) showed that the availability of reading resources at home is strongly related to higher achievement in reading. The findings of Sub-theme 2.3, "Communication between all parties involved" emphasised good communication between all stakeholders, but specifically between parents and teachers. The literature concurs that phone calls, emails, parent newsletters, learner performance accounting sessions, and other forums should be used by schools to frequently keep in touch with parents (NECT, 2016). According to Sullivan and Brown (2015), reading for pleasure is essential for children's cognitive development, especially between ages 10 and 16. Jerrim and Moss (2019) found that young people who read fiction (which one can assume is being read for enjoyment purposes) had significantly stronger reading skills than their peers who do not. Reading for pleasure also has other benefits, as Wilhelm's (2016) study showed that it holds emotional and psychological benefits for

adolescents. All these findings link to Sub-theme 2.4, "Enhancing the enjoyment of reading", where parents indicated they understood that reading should be made pleasurable for their children.

What has transpired from this study is that some parents may be willing to help their children enhance their reading literacy though lacking appropriate skills. Schools should play their role by engaging and providing parents with the necessary skills to assist their children with reading. From the findings, it was also clear that some parents have limited time due to many family responsibilities and commitments; it may be helpful if educators assist parents with a suggested timetable that may be utilised for reading at home. This recommendation links to the broader topic of improved communication. For learners to become successful academically, there should be a meaningful collaboration between home and school. In ensuring that the collaboration is a success, educators need to undergo some training wherein they will be equipped with skills to use to involve parents in their children's education. Having said this, from the interview data, it seems that some parents struggle to give the kind of input needed (for various different reasons), and if the aforementioned recommendations don't work (i.e. schools providing assistance to parents), then government and schools need to step up. The government could, for example, publish home-made books that reflect the children's cultures, books with phonically decodable words and with easy grammar and vocabulary to help them learn English. Due to the absence of libraries in certain regions, a viable suggestion would be for either governmental bodies or private donors to distribute books directly to children from underprivileged households, allowing them to own and keep the books. Alternatively, the government television channel could initiate book-reading programmes. Another option could involve the establishment of a website featuring downloadable books for children, facilitating parents to read to their children or allowing children to access audio texts. The schools could take initiatives such as introducing synthetic phonics programmes if the schools don't already have something similar. Overall, we recommend that further research be conducted on effective strategies for parents to teach their children to read at home. We would further suggest that research on PI in reading literacy development be conducted in South Africa. Another recommendation is to conduct longitudinal studies on parent SES and PI effect on academic success or studies with a control and experimental group to empirically prove that parent SES and/or PI makes a significant difference in learner academic success, as most studies on these topics are cross-sectional and correlational in nature (Boonk et al., 2018).

The purpose of this study was to investigate to what extent PI is associated with Grade 4 learners' RLA in Mpumalanga. For the quantitative data, the results showed that parents who read books with their child before the child went to primary school, parents who participated in their child's reading outside school hours, and parents being included in their child's education by the school are the best predictors of Grade 4 RLA. For the qualitative data, the findings indicated that parents understanding the promotion of English as FAL is of great importance; however, they lack the skills, time and resources to effectively teach English reading at home. This research offered some suggestions for improving RLA. This study also significantly contributed to the critical issue of RLA for Grade 4 learners in Mpumalanga and will hopefully provide insight into the topic's future trajectory in the province.

Notes

1. No-fee paying schools are the "less affluent" schools in South Africa and they are prohibited from charging fees (Dass & Rinquest, 2017)
2. Since APA 7th edition promotes gender-neutral writing, in the quotes, "him" and "her" has been replaced with "them" and "his" and "her" have been replaced by "their"; the use of squared brackets [ ] indicates that a direct quote has been changed.

Disclosure statement

No potential conflict of interest was reported by the author(s).

Funding

Authors' contributions

Ms. M. U. Mtsweni is a former Master's student from the University of Pretoria and conducted the qualitative part of the research. Prof M. A. Graham was Ms. M. U. Mtsweni's supervisor for her Master's degree and helped to conceptualise the idea and, as sole supervisor, was involved with all steps in the research. Prof M. A. Graham, holding a doctoral degree in mathematical statistics, built and interpreted the multi-level models (quantitative part of the research), while Ms. M. U. Mtsweni's focus was more on the qualitative side of the research.

Availability of data and materials

The Centre of Evaluation and Assessment (CEA) of the Faculty of Education at the University of Pretoria are the custodians of the South African PIRLS data and should anyone wish to work with the PIRLS data, they should contact the CEA.

Consent for publication

All authors (M. A. Graham and M. U. Mtsweni) give consent that this manuscript may be published.

Data availability statements

Authors wanting to access/work with the PIRLS data have to apply for permission at the Centre for Evaluation and Assessment (CEA) at the University of Pretoria, South Africa. The authors of this manuscript received permission from the CEA to analyse the PIRLS 2016 data.

Ethics approval

Ethics approval was granted by the University of Pretoria to conduct the research (EDU069/20).

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