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Profiling classroom reading comprehension development practices from the PIRLS 2006 in South Africa

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The South African 2006 and 2011 Progress in International Reading Literacy Study (PIRLS) findings continue to highlight major concerns about the quality of reading literacy teaching in primary schools. Of specific concern is the lack of representation of the sampled South African learners at the PIRLS international benchmarks, revealing a distinct lack of their development of thinking and reasoning abilities for reading comprehension. To shed light on potential reasons for learners' reading comprehension difficulties, this article presents selected findings on teachers' reading comprehension development practices emanating from the investigation of one KwaZulu-Natal and five Gauteng province case study schools from the national South African PIRLS 2006 Grade 4 sample. These cases represented a range of educational contexts across the South African PIRLS 2006 performance continuum and were sampled according to class average achievement aligned to the PIRLS international benchmarks and further South African benchmarks lower on the achievement scale. The findings juxtaposing teaching practices for reading comprehension development from case study schools with achievement profiles at the PIRLS international benchmarks against those of case study schools with less than optimal achievement at benchmarks lower on the achievement scale speak to key teaching and learning areas, which still need attention in terms of curriculum policy and teachers' implementation thereof.

Keywords: classroom practices, literacy, PIRLS, qualitative case studies, reading comprehension

Introduction

The importance of addressing the challenge of learners' reading literacy development and teachers' levels of instructional expertise has been disclosed by a small number of studies outlining South African learners' poor performance in small-scale, national and regional literacy assessments (Department of Education (DoE), 2003, 2005; Moloi & Strauss, 2005; Pretorius & Mampuru, 2007). The severity of the situation was cemented by the South African learner achievement results from the PIRLS 2006, implemented for the first time in South Africa during 2005 with a sample of Grade 4 and Grade 5 learners. The results indicated that learners in both grades were battling to develop the reading literacy competencies needed to make a successful transition to reading to learn in the latter primary school years (Howie, Venter, Van Staden, Zimmerman, Long, Du Toit, Scherman V & Archer, 2008) with the average performance of learners in both grades approximately 250 points or more below the international average of 500 points.

South Africa participated in the PIRLS again in 2011; this time with the majority of the sampled Grade 4 South African learners completing a new assessment known as prePIRLS 2011. PrePIRLS is a shorter, easier test at a lower level of cognitive demand, approached as a bridge for developing countries to participation in the more demanding PIRLS. The South African Grade 4 learners still performed at a low level overall on an easier assessment in comparison to their counterparts internationally (Howie, Van Staden, Tshele, Dowse & Zimmerman, 2012). Thus, in spite of numerous governmental initiatives since the PIRLS 2006 (DoE, 2008a; 2008b; 2008c; 2008d), literacy levels in the country remain a serious challenge to increasing the quality of education and contributing to the country's future growth. In 2007, Matier Moore and Hart noted that the roots of learners' low levels of literacy achievement lie in the ineffective teaching of reading in schools and learners' consequent inability to learn independently from reading across the curriculum. Clearly, given the results of PIRLS 2011 in the country, this state of affairs for the teaching of reading literacy has changed very little since that time.

In South Africa there has been a dearth in research outlining primary school teachers' reading literacy teaching practices especially in the Intermediate Phase. Indeed, although there is a vast corpus of research into reading literacy internationally, O'Sullivan (2003) argues that the literature on teaching reading to young learners in developing countries is limited. Perry (2008) verifies this by stating that although literacy development in early schooling in Africa has received increased attention from scholars, it is still under-represented in the scholarly literature.

The status quo of reading comprehension teaching in South African primary schools

Depending on the medium of instruction at each school, reading skills in South African schools are developed during the Foundation Phase of schooling using home language readers (Pretorius, 2002). Much emphasis is placed on teaching decoding skills, but this is often done in a superficial, haphazard and decontextualised way. Since teachers assume that learners will be able to comprehend when they can decode, little attention is paid to reading comprehension, therefore the transition from decoding syllables or words on a chalkboard to meaningful reading activities using extended texts does not happen easily (Pretorius & Currin, 2010).

In the Intermediate Phase, reading as a language and information-processing skill is largely presumed to be developed as learners can decode text. The texts used also change from predominantly first language narrative formats to English expository texts with topics and issues learners are unlikely to be familiar with. The focus on decoding text in the primary language essentially means that non-English learners have most likely not yet mastered reading comprehension skills in their vernacular. As a result, these learners lack the necessary skills to transfer to literate reading in English. The system through which these learners then progress does not place enough emphasis on promoting reading skills and is strongly characterised by rote learning principles, verbatim recall and oral modes of information dissemination (Pretorius, 2002).

The importance of reading comprehension instruction in the primary school years

In the assessment framework for the PIRLS, the importance of the development of reading literacy as a constructive and interactive process with readers actively construct meaning, knowing effective reading strategies and how to reflect on reading being recognised. Meaning has to be constructed through interaction between the reader and the text in the context of the reading experience with the reader using a repertoire of linguistic skills, cognitive and metacognitive strategies and background knowledge in the process (Mullis, Martin, Kennedy, Trong & Sainsbury, 2009).

This is a far cry from the teaching of basic decoding skills which has reportedly dominated in the primary school years in the South African education system. An over-focus on fluency and decoding skills in the foundational levels of education may mean that too many learners move through the primary years into secondary school with serviceable skills in fluency and decoding but lack the ability to comprehend. There may be a focus on comprehension assessment but little comprehension instruction despite the wealth of research documenting its success in improving comprehension (Pilonieta & Medina, 2009). Comprehension instruction should be carried out for all learners regardless of age or developmental level even for those in the primary grades (Underwood & Pearson, 2004) to lead to the eventual automaticity of skills and reading independence needed for academic progress in latter schooling. Klapwijk (2012) points out that it seems teachers seldom teach reading strategies explicitly in South African schools and may not know how to teach comprehension.

Effective teaching practices for reading comprehension development

Block, Oakar and Hurt (2002) found that highly effective Grade 4 teachers distinguish themselves by their abilities to simultaneously instruct learners who are either learning to read, reading to learn, trying to use higher-order thinking skills to gain more information from content-area texts and using higher level comprehension abilities. These teachers can also move literacy activities up or down the cognitive scale as learner needs dictate (Block et al., 2002).

Gill (2008) affirms that teaching even one comprehension strategy can improve learners' comprehension. For example, activating prior knowledge; generating questions while reading; visualising text; inferring; predicting; retelling; deciding what is important; evaluating; synthesising; summarising and graphic and semantic organisers. Gill (2008) also holds that learners who can understand the plot, character, setting, point of view and theme of texts are able to better understand what they read. Another factor is vocabulary development. Comprehension does improve when teachers help learners to understand important vocabulary and concepts they will encounter in their reading, or demonstrate strategies they can use to figure out unknown words as they read (Gill, 2008).

The U.S. National Reading Panel's Teaching Children to Read (National Institute of Child Health and Human Development (NICHHD), 2000) analysis of 203 studies on instruction of text comprehension strategies led to the identification of 16 different kinds of effective procedures. Of the 16 different types of instruction, eight were determined to have a firm scientific basis for concluding that they actually improve learner comprehension, namely: comprehension monitoring; cooperative learning; graphic and semantic organisers; story structure; question answering in which feedback is given; question generation by the learner; summarising the main ideas; and multiple strategy teaching in which multiple procedures are used.

Reciprocal teaching (Palinscar & Brown, 1984) is a research-based instructional procedure which involves multiple strategy instruction. The strategy is used to teach learners to coordinate the use of four comprehension strategies, namely: predicting, clarifying, generating questions and summarising (Pilonieta & Medina, 2009). All of these strategies are comprehension-fostering and comprehension-monitoring activities. An adult model will guide the learner to interact with the text in a more sophisticated way (Palinscar & Brown, 1984).

In the rest of this article, selected qualitative findings from the investigation of Grade 4 teachers' reading comprehension development practices across six case study schools from the PIRLS 2006 in South Africa are considered. This is followed by a brief overview of research design and methods for the cases in the context of the PIRLS 2006 in South Africa. Relevant findings on teachers' reading comprehension development practices and consideration of possible implications for curriculum implementation are then discussed.

Research design and methods

The selected case findings discussed here are part of a larger mixed methods study involving two phases (Zimmerman, 2010). The first phase comprised secondary analysis of PIRLS 2006 background questionnaire data based on reclassification of the national PIRLS 2006 Grade 4 school sample according to class average achievement aligned to benchmarks on the PIRLS achievement scale. The second phase case studies were purposively selected from each reclassification sub-sample. In this section we offer a brief overview of the research sampling strategy for the first phase secondary analysis in the context of PIRLS 2006 to explain the sampling strategy for the case studies, as site selections. Thereafter, the case study sampling, data collection and analysis methods are outlined.

The PIRLS 2006 benchmarks as a sampling basis for case study selection

The PIRLS is an international assessment study of reading literacy conducted every five years by the International Association for the Evaluation of Educational Achievement (IEA). Grade 4 learners, aged 9.5 years and older, are included because, at this transition point in their reading development, learners have learned how to read and are now reading to learn (Joncas, 2007; Mullis, Kennedy, Martin & Sainsbury, 2006). The PIRLS focuses on: processes of comprehension; purposes for reading; and reading behaviours and attitudes (Mullis et al.,

2006; Zimmerman, Howie & Smit, 2011). Learners' reading literacy is measured via Grade 4 level fiction and information texts with items targeted at a full range of reading strategies, including: retrieving and focusing on specific ideas; making simple and more complex inferences; and examining and evaluating text features (Howie et al., 2012).

South African learners have participated in the PIRLS 2006 and 2011 (see Howie et al., 2008; Howie et al., 2012). For the 2006 cycle, apart from revealing the overall poor achievement of Grade 4 and 5 learners, the study also gave insights into learners' levels of reading comprehension development via their benchmark achievement profiles. For the PIRLS international reporting, learners' performance ranges are aligned with four set benchmarks of 400, 475, 550 and 625 along the scoring scale. These so-called PIRLS international benchmarks are cumulative in that learners who were able to reach the higher benchmarks also demonstrated the knowledge and skills for the lower benchmarks. The benchmarks are determined via detailed scale anchoring analysis (Kennedy & Trong, 2007) to describe reading achievement and are a qualitative description of learner performance at different levels linked with assessment items to describe learner competencies at each of the set scores on the performance continuum (Howie et al., 2012).

Table 1 shows the international benchmarks for PIRLS 2006, outlining the international achievement median for each and indicating the median achievement of South African learners.

The international benchmark descriptions in Table 1 allow countries to view their learners' levels of reading comprehension development in comparison to learners in other countries as measured by the PIRLS. For the South African Grade 4 learner cohort, the benchmarks showed the vast differences in South African Grade 4 learners' comprehension abilities in comparison to the international median. Indeed, only 13% of Grade 4 learners were capable of reaching the *Low International Benchmark* of 400 reflective of achievement of basic literal comprehension skills in comparison to 94% of learners who could do so internationally (Howie et al., 2008). Even less Grade 4 South African learners were able to reach higher benchmarks of 475, 550 and 625 reflective of the grade appropriate higher order comprehension skills needed for academic success. These benchmark results provided the impetus for further analysis as it was realised that profiling teaching practices according to school performance at each of the benchmarks could lead to further understandings of reasons for the vast variation in performance levels between South African schools.

The South African learners aligned with these benchmarks therefore acted as a sampling springboard for further scrutiny of the South African achievement data via secondary analysis. The realised sample of schools for PIRLS 2006 ($N = 429$) was reclassified according to the mean PIRLS 2006 achievement performance of each school's sampled Grade 4 class of learners ($n = 14\ 299$) aligned with the PIRLS international benchmarks and school language profiles[1] (English First Language (EFL) or English Additional Language (EAL)[2]). When the sample was reclassified it became evident that 70% (5.3) of learners tested in English were in EFL classes with a class average below the PIRLS international benchmarks, only 11% (4.3) of learners were in EFL classes with a class average at the *Low international benchmark* (400), 13% (5.0) of EFL learners in classes with a mean class performance that reached the *Intermediate international benchmark* (475), and six percent (3.9) in EFL classes with an average aligned with the *High international benchmark* (550). No EFL learners were in classes with a mean performance aligned with the *Advanced international benchmark* (625). All the learners tested in an African language were in EAL classes with an average class achievement below the *Low international benchmark*.

Given this lack of class representation at the PIRLS international benchmarks it was therefore necessary to identify new benchmarks below the international benchmarks to allow for greater insight into group variations between classes, especially those with EAL learner cohorts. The benchmarks of 175 (225 scale points below the PIRLS 2006 *Low International Benchmark* of 400) and 325 (75 scale points below the PIRLS 2006 *Low International Benchmark*) on the PIRLS 2006 scoring scale were chosen for further analysis.[3] Using these two selected South African benchmarks of 175 and 325, and the PIRLS international benchmarks of 400, 475 and 550, seven different educational landscapes defined by average class performance on the benchmarks and class language profile (i.e. EFL and EAL

Table 1 Percentage of South African learners reaching the PIRLS 2006 international benchmarks (Howie et al., 2008)

PIRLS 2006 international benchmarks	Benchmark descriptions	International Median (%)	South African median % (*SE*)	
			Grade 4	Grade 5
Low (400-474)	Basic reading skills and strategies (recognise, locate and reproduce explicitly stated information in texts and answer some questions seeking straightforward inferences).	94	13 (0.5)	22 (0.2)
Intermediate (475-549)	Learners with some reading proficiency who can understand the plot at a literal level and can make some inferences and connections across texts.	76	7 (1.1)	13 (0.8)
High (550-624)	Linked to competent readers who have the ability to retrieve significant details embedded across the text and can provide text-based support for inferences.	41	3 (2.0)	6 (1.6)
Advanced (625+)	Able to respond fully to the PIRLS assessment by means of their integration of information across relatively challenging texts and the provision of full text-based support in their answers.	7	1 (1.5)	2 (1.1)

175, EFL and EAL 325, EFL 400, EFL 475 and EFL 550) were identified. The class average benchmarks were used for the internal analysis of each benchmark and for descriptive comparison with the other benchmarks for the first phase.

At the research design stage, quantitative data can assist sampling for the qualitative component by identifying representative sample members (Johnson, Onwuegbuzie & Turner, 2007). Schools and Grade 4 classes that were reclassified according to class language profiles and the average performance of their learners on the benchmarks for the first phase of the research provided the purposive sampling frame for case study selection in the second phase (Zimmerman et al., 2011). Following from identification of schools in the national sample at each of the seven identified class average benchmarks, schools with mean class performances aligned with each of the PIRLS 2006 international and South African benchmarks from the Gauteng Province school sub-samples were approached. This province was selected due the convenience of proximity in terms of the researcher's location with letters of request sent out to random schools in each of the seven Gauteng sub-samples. Of the schools approached in Gauteng, five of them participated, one from each sub-sample. EFL schools with performance at 550, 400 and 325 as well as an EAL school with a performance level at 175 were sampled. No school at EFL 175 was available to participate at the time. Moreover, only one school in Gauteng had a class average aligned with the EFL 475 benchmark, since the school declined to participate, a school in KwaZulu-Natal meeting this criterion was approached and agreed to participate (see Appendix 1 for characteristics of sample).

Case study data collection and data analysis

Six data sources were accessed for data collection for the Grade 4 case studies in 2009,[4] including teacher and Head of Department (HoD) interviews; a learner's language workbooks for review; photographs of the classroom environment; observation of a reading comprehension lesson and questionnaires. Only teacher interview data, workbook analysis and observations are reported in this article.

The semi-structured interviews focused on: teachers' understandings of and goals for teaching reading literacy; their viewpoints of the curriculum for the teaching of reading literacy; descriptions of typical lessons; their opinions on what experiences had shaped their teaching strategies; their experiences in interacting with their learners for reading literacy; and lastly their ideas about which strategies they found most useful. Constructivist grounded theory (Charmaz, 2006) techniques were used to analyse the transcribed interviews using the Computer Aided Qualitative Data Analysis Software (CAQDAS), Atlas.ti™, for audit trail purposes.

Document analysis of the Language workbooks of a learner in each participating teacher's class took place. The quantity, quality and type of activities evident, especially for reading comprehension, were recorded as well as the quality of the learners' written responses to these activities in terms of amount, content and developmental level.[5] One reading comprehension lesson undertaken by each teacher was observed by the researcher. The teacher chose when and which lesson would be observed based on the postulation that this would perhaps result in the teacher delivering a lesson based on her ideas of best practice in teaching reading comprehension. Analysis of the lessons[6] focused on the pre-reading, reading and post-reading phases of the comprehension, the quality of the teacher-learner interactions during the lesson and the nature of the post-reading activities.

Findings

To give an overview of the case study teachers' classroom reading comprehension development practices, their goals for teaching reading literacy, their reported comprehension development practices, the analysis of comprehensions in the learner workbooks and a summary of the comprehension strategy teaching evident in the lesson observations, are considered below.

Teacher goals

Five goals for teaching reading literacy were identified, namely: improving learners' spoken English; encouraging positive emotional responses to reading; learners' comprehension development; reading skills development and vocabulary development. Only the last three goals were elaborated on by the teachers.

The development of learners' comprehension was a goal at School A (EFL 550), B (EFL 475), C (EFL 400), D (EFL 325) and F (EAL 175). At School A, F and B this goal was voiced as the learners' ability to understand what they were reading. The School F teacher wanted learners to be able to retrieve information on their own suggesting that she equated comprehension development with independent retrieval, but not to any higher order comprehension goal.

Only teachers at School A, B and C with international benchmark class averages indicated that they wanted to work on specific comprehension strategies with their learners. The comprehension development goals at School A were for learners to find and use contextual clues in texts and for their development of accurate transcription for answering comprehensions. At School B, a goal was to establish the learners' reading strategies to aid comprehension by teaching them to skim, scan, and summarise the main ideas in texts. At School C the teacher linked her comprehension improvement goal to learners' English skills and the need to reinforce comprehension strategies focused on understanding "…*why, what, when, how*".

Another specific goal at School B and D was developing the learners' vocabulary. The School D teacher linked this goal to the learners' English proficiency improvement by stating that: *you know and increasing their vocab*[ulary]*, you know because sometimes they want to say something in English…and they want to switch to Zulu*.

The only goal the teacher at School E had was to ensure that her learners were excellent readers, thus leading to the conclusion that there was a lack of depth in her understanding of reading literacy development.

Comprehension development strategies reported

The teacher at the highest performing school (A) revealed more comprehension development strategies than the teachers at the other schools. Both Barrett's (1976) taxonomy of reading comprehension (literal comprehension; reorganisation; inference; evaluation; appreciation) and Bloom, Engelhart, Furst, Hill and Krathwohl's taxonomy (1956) for thinking and reasoning (recall, application, analysis, synthesis, evaluation) were often integrated in comprehension tasks in a variety of ways.

For vocabulary development, School A Grade 4 learners had individual index books and had to write down two words they found useful on a daily basis. They did dictionary and thesaurus work and were encouraged to answer comprehension questions in their own words. Other comprehension strategies

included: colour coding; visual literacy; pictorial sequencing of stories and visuals for texts; listening skills to test understanding; consolidation of character, theme, plot and setting on a mind map for written responses; and teacher question formulation with key words visually presented as the story progressed.

Even Grade 1 to 7 parents at the school received a list of questions they could ask their children after they had finished reading a book. Questions were focused on character identification and description, aspects learners liked and disliked about the book, recall of the story and vocabulary.

The teacher reiterated the importance of the development of thinking and reasoning skills and learners' recognition of the importance of their own personal opinions, as suggested by the following:

> *We do a lot of 'what do you think?*' [questions] *and they know*, [they say] *'Mrs T, when it is what do you think, it's our own thinking processes'. And I've said to them 'It can't always be wrong', I said 'everyone thinks differently*'.

Comprehension instruction at the other schools was less dynamic. At School B "*Set comprehensions are only done perhaps once a month as the learners do lot of comprehension as part of their literature study work*". There were class discussions when reading the set work novel for literature study, with inference questions involved and the learners did mini-comprehensions which required some inference skills. Moreover, comprehensions were part of other learning areas, meaning that the learners had much exposure to reading and answering questions. When asked, the teacher did not mention any specific comprehension strategies taught.

Having interacted with many teachers in other schools in the area, the School B HoD[7] was of the opinion that in South African schools:

> *...the teachers are simply doing repetitive work which is good, to a point. They are doing question and answer, you know simple questions* [like] "*what colour was Joe's hair?*" *and that type of thing. They are not experimenting with clozed procedure, with open-ended questions and things like that*.

Similarly to School A, the School C teacher reinforced comprehension skills by asking "*Why? What? When? How?*" The learners did a short passage comprehension every two weeks, with all other language lessons built around this comprehension. In the lesson, unfamiliar vocabulary was dealt with first and the teacher then read the passage aloud to put the vocabulary into context. Thereafter, the learners had to read the text again to answer the questions. Sometimes dictionary work for new vocabulary was done so that the learners learnt the lexical meaning and could then see the word contextually in the comprehension. The teacher encouraged questions about what the learners would do in the same situation.

At School D, E and F, with an average performance below the PIRLS international benchmarks, the teachers' discussions about practices revealed very little depth in their understandings of comprehension development. The School D teacher's discussion mostly seemed to revolve around oral comprehension such as: explaining difficult words; giving the correct tempo and mode; variation of tone when reading the story; showing learners pictures mentioned in the story; involving learners by asking them to predict what would happen next in the story; and asking them how they would feel or what they would do in similar situations to those of the story. Code-switching was also used when learners struggled with a word. The teacher further stated that she would let the children read to see if they were able to understand the vocabulary in a passage, or get them to read silently then ask them questions. When doing a theme-based comprehension lesson, the teacher would first try to elicit learners' prior knowledge on the topic and also did dictionary work to check words.

Apart from stating that she gave the learners questions, let them do role-playing, held debates and got the learners to understand topic content, particularly as she was working on cross-curricular themes, the School E teacher could give no other insights on her comprehension development practices. The School F teacher asked questions after reading and used spelling as a vocabulary development exercise. Another strategy was to get a group of learners to choose a word from a theme the class was working on, discuss it, write a sentence and get the learners to share their sentences with the rest of the class. As with teaching at School D, code-switching was used to assist learners in understanding words.

Learner workbook review: comprehension activities

From the review of the language workbook content (see Appendix 2 for a summary analysis table), the vast difference in the number of pages of work output and written work output over the six month period was most telling. The highest performing schools in the sample, namely School A and B, had completed the most written comprehension activities. At least 20 written comprehension activities with about ten questions each had been completed at School A over the six month period.

The PIRLS comprehension questions for texts must include questions which require the learner to focus on and retrieve explicitly stated information and ideas; make straightforward inferences; draw on and justify complex inferences and interpretations and examine and evaluate content, language and contextual elements. At School A, B and C the learners appeared to have exposure to these types of questions, whereas at School D, E and F the limited number of comprehensions in the learners' workbooks did not meet these questioning criteria.

The comprehension activities in the School A learner's workbook had a strong focus on reinforcing learners' focus on establishing the setting of the text, the main ideas, the characters, summarising the content and providing an explanation of the answers. Other language activities were integrated into the comprehension activities with application questions also prominent. Comprehensions contained a balanced number of information retrieval questions, straightforward inference questions and more advanced questions that required justification of inferences and interpretations. At School B, all of the 29 'mini-comprehensions' required straightforward inference and used multiple choice options for answer provision. The other 12 comprehensions had information retrieval, straightforward inference and justification for inferences and interpretations as questions. Examination of content, language and textual elements was present in the set work literature study books. In the School C learner's workbook, a variety of text types were used for the 11 comprehension activities; all advanced with the use of low frequency words which would pique the interest of a Grade 4 learner. Each comprehension contained between five and ten questions requiring information retrieval, straightforward inference and justification of inferences and interpretations.

In the School D workbook, there were only three text-based comprehensions with five questions each. The questions required one-word answers and information retrieval. There were

only two text-based comprehensions in the School E workbook, each with ten questions. All of the questions were text-based, requiring information retrieval only. There were only three text-based comprehensions, with seven to eight questions each for the School F workbook. Two comprehensions required everyday factual knowledge (i.e. days of the week, months of the year). Only one comprehension was based on a story and required information retrieval only.

Comprehension lesson observation

Although there were varying degrees of pedagogical expertise displayed by each teacher, the overall approaches to the comprehension lesson observed at each of the schools were similar. Some form of reading of the text took place followed by the answering of reading comprehension questions. At most of the schools vocabulary extension was included either prior to or during reading. At school B (EFL 400) and one of the EFL 325 schools, the vocabulary extension took up the most teaching time for the lesson likely as the learners were second language learners.

The lesson at School A was superior to those of the other schools. In the lesson, the teacher was able to integrate more activities in less time than at the other schools. The teacher made the most use of prior-reading activities, including scene-setting, vocabulary extension with language structure and use, and a visual literacy activity invoking higher order thinking. Multiple reading strategies involved all of the learners, as they silently read a decontextualized paragraph, read aloud as a class, or the teacher read to them and asked them to predict what would happen next in the story. Moreover, the post-reading comprehension exercise was the most strategically organised. Providing much scaffolding, the teacher read through the questions, discussed the answering requirements, got the learners to highlight key words in the questions and read the passage to the learners again so that they could look for answers before writing them.

Most of the teachers at the other schools did not make optimal use of strategies to elicit learner participation or comprehension prior to reading. The reading was either teacher-centred or only involved a few learners in reading aloud. Post-reading activities mostly involved discussion during which not all of the teachers probed for further meaning and answering of questions.

Discussion, conclusions and recommendations

Although the PIRLS 2006 international benchmark comprehension expectations were beyond the abilities of most of the sampled South African learners, these international benchmark descriptions and the international median for learners at this grade able to reach them (Howie et al., 2008; Howie et al., 2012) show how far behind the South African education system is in terms of its expectations of the comprehension abilities of a Grade 4 learner. The benchmark descriptions also provide potential targets for improvement.

It cannot be disputed that differences in schooling conditions and learner achievement profiles across the PIRLS benchmark achievement spectrum were generally aligned with the differences between advantaged, high-achieving schools and disadvantaged, low-achieving schools. Learner characteristics such as Socio Economic Status (SES) and language, school resources and the schooling environment differentiate schooling conditions at each of the benchmark sub-samples (see Zimmerman, 2010; Zimmerman et al., 2011). However, as Moats (1999) states, classroom teaching for reading instruction needs to be considered as a critical factor to prevent reading problems and must be the central focus for change. As such, the lessons gleaned from the case studies linked to PIRLS 2006 reported in this article are valuable to add to our burgeoning corpus of knowledge on the reasons for poor educational outcomes in the South African system and potentially in many other developing country contexts since we have little empirical research in this regard.

As evidenced by the selected data presented from analysis of classroom reading comprehension development practices in case study schools linked to the PIRLS 2006 overall sample, teachers do not maximise opportunities to develop the comprehension skills and thinking and reasoning of learners. Learners therefore do not have enough teaching exposure to lead to progression in their abilities to construct meaning, know effective reading strategies and to reflect on reading as per the definition of reading literacy for the PIRLS assessment framework (Mullis et al., 2009).

It is highly relevant that only teachers in case study schools reaching the PIRLS international benchmarks stated that working on specific comprehension strategies was a goal for teaching. Additionally, the comprehensions evident in the workbooks of those learners at the case study schools reaching the international benchmarks showed that they had exposure to questions requiring information retrieval, inference and interpretation and describing text style and structure as needed for success in the PIRLS (Mullis et al., 2006) whereas those at the low-performing schools only focused on information retrieval questions. Furthermore, from the lesson observations it was apparent that teachers tended to ask information retrieval questions during oral questioning and did not try to elicit learners' higher order thinking and reasoning through their questioning strategies. Specific issues noted at the low-performing case study schools were: too much focus on oral comprehension to the detriment of written comprehension; and not enough comprehension activities; and an apparent lack of understanding of how to develop reading comprehension by teachers.

The majority of the sampled Grade 4 learners for PIRLS 2006 were in schools where the class average was below the PIRLS international benchmarks. The case study findings could suggest that teachers in the majority of schools may not understand how to develop learners' reading comprehension and may not even understand that comprehension involves much more than just information retrieval or literal comprehension. Without an understanding of what comprehension involves, that is more than just including oral or written questions as assessment at the end of a text reading task and that it is needed for success across all academic learning tasks, teachers will not be able to provide the instruction that learners need to lead to their academic success.

It is worth noting again that the teacher at the highest performing case study school reported more strategies to improve learners' reading comprehension than teachers at the other schools, and, the school was the only one where theoretical models of comprehension were used to guide instructional activities. The teacher displayed expertise in her knowledge of and instruction for reading comprehension development. Indeed, she displayed the qualities of a highly effective teacher of reading by being able to move literacy activities up or down the cognitive scale as her learners' needs dictated (Block et al., 2002). Such teaching requires the declarative knowledge to

know what a comprehension strategy is, the procedural knowledge of the steps needed to implement the strategy and conditional knowledge of when and why to apply the strategy to other contexts (Pilonieta & Medina, 2009).

For comprehension development, learners need more opportunities to engage in both written and verbal question answering which requires the deliberation and answering of higher order questions. Multiple learner perspectives also need to be encouraged and closed questions avoided. Learners also need to engage in more written work, especially the answering of high-quality written comprehension activities. Their teachers need to be able to teach via the modelling of comprehension strategies throughout their teaching and also need to understand how to develop comprehension assessments which have a balanced target of literal, inferential and evaluative comprehension questions and not just retrieval items. In curricular documentation and when pre-service and in-service teacher training is undertaken, teachers need practical examples on how to invoke learners' higher-order thinking and reasoning via constructivist teaching principles. They also need to to develop the declarative, procedural and conditional knowledge to be able to teach comprehension strategies and develop learners' higher order thinking and reasoning. Palinscar and Brown's (1984) ideas for reciprocal teaching apply too as teachers' need exposure to expert peer teacher who can model the integration of comprehension strategies into their teaching.

While in the new Curriculum and Assessment Policy Statements (CAPS) (DBE, 2011) there is clearly directed reference to higher order comprehension task development and reading strategies instruction, as warned in a report on the status of literacy teaching in the Foundation Phase by the recently established National Education Evaluation and Development Unit (NEEDU) (2013), in the absence of strong subject knowledge, teachers may blindly follow the prescriptions of the curriculum without even knowing what they entail. Without pedagogical content knowledge and an inherent understanding of how to develop and assess learners' reading comprehension, the vicious cycle of poor literacy outcomes for South African learners will continue.

Notes

1 Learner performance data for schools with learners tested in Afrikaans were removed from the sample, a sampling decision prompted by both the potential of lack of language diversity in these schools and the goal to focus on English as main language of instruction at Grade 4 for this research.

2 Each of these classes was then further categorised according to the stated Language of Learning and Teaching (LoLT) at the school, be they schools where the language of instruction had not changed at Grade 4, referred to as English First Language (EFL) medium schools, or schools where the language medium had changed, referred to as English Additional Language (EAL) medium schools. Although these EAL learners learn in English as the main language of instruction from Grade 4, the learners were assessed in the language of instruction from Grades 1 to 3, an African language, for the purposes of the PIRLS 2006.

3 Discussion of the detailed statistically based rationale for selection of these two further benchmarks is not feasible within the parameters of this article. For further description, see Zimmerman et al., 2011.

4 There was a delay between the collection of the PIRLS 2006 data in 2005 and data collection from schools and teachers in 2009. This time delay was not regarded as problematic as no major changes to these educational settings, to the larger communities in which these schools are situated, to learner educational characteristics or to teacher expertise were surmised for this time period.

5 As data for the cases were collected between June and November 2009, learner workbooks were also collected at different times during the year. As such, only workbook entries until the end of June 2009 were analysed, to ensure comparability of the documents for the analysis.

6 The full presentation and analysis of the classroom observations is outside the scope of this article but is available in Zimmerman (2011).

7 Given its pertinence to the discussion, this data is taken from an interview with a HoD and not that of the teacher as per the focus of data reporting for this article.

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Appendix 1

Characteristics of school, class and teacher case participants (Zimmerman, 2010)

Sample characteristics	South African Benchmark C 175 to 249	South African Benchmark A 325 to 399		Low International Benchmark 400 to 474	Intermediate International Benchmark 475 to 549	High International Benchmark 550 to 624
Language background of class	EAL	EFL	EFL	EFL	EFL	EFL
Province	Gauteng	Gauteng	Gauteng	Gauteng	KwaZulu-Natal	Gauteng
Location	Rural township	Urban	Urban Township	Urban	Suburban	Suburban
School pseudonym	F	E	D	C	B	A
Private/public	Public	Public	Independent	Public	Public	Independent
Teacher's years of teaching experience	12	14	15	12	15	31
Teacher's years of experience at Grade 4	1	7	15	2	8	10
Teacher's age range	30-39	30-39	30-39	30-39	40-49	50-59 years
Number of learners in 2009 Grade 4 class observed	50	40	39	40	36	22
Racial profile of learners	Black	Black and Coloured	Black	Mostly Black	Black, White, Indian and Asian	Mostly White

Appendix 2: Overview of comprehension activities in the Grade 4 learner workbooks at each school (Zimmerman, 2010)

WORKBOOK REVIEW FOCI	EFL 550 SCHOOL A	EFL 475 SCHOOL B	EFL 400 SCHOOL C	EFL 325 SCHOOL D	EFL 325 SCHOOL E	EAL 175 SCHOOL F
NUMBER OF PAGES PER BOOK	BOOK 1 (front): ± 68 at front	BOOK 1: ± 22 BOOK 2: : ± 39 BOOK 3: ± 45 LITERATURE STUDY: ± 14 per book	BOOK 1: ± 27	BOOK 1: ± 35	BOOK 1: ± 18 BOOK 2: ± 6 assessments	BOOK 1: ± 16
NUMBER OF PAGES PER BOOK WITH LEARNER'S WRITING	BOOK 1 (front): ± 46	BOOK 1: ± 18 BOOK 2: : ± 39 BOOK 3: ± 45 LITERATURE STUDY: ± 14	BOOK 1:± 17	BOOK 1: ± 31	BOOK 1: ± 10 BOOK 2: ± 8	BOOK 1: ± 14
NUMBER OF ACTIVITIES PER BOOK	BOOK 1 (front): ± 40	BOOK 1: ± 17 BOOK 2: ± 47 BOOK 3: ± 46 LITERATURE STUDY: ± 39 per booklet	BOOK 1: ± 24	BOOK 1: ± 49	BOOK 1: ± 16 BOOK 2: ± 6	BOOK 1: ± 36
NUMBER OF COMPREHENSION ACTIVITIES PER BOOK	BOOK 1 (front): ± 20	BOOK 1: ± 3 BOOK 2: ± 29 Mini-comprehensions completed LITERATURE STUDY: 9 comprehensions in first literature study. Learners busy with second literature study which had 22 comprehensions	BOOK 1: ± 11	BOOK 1: ± 6	BOOK 1: ± 3 BOOK 2: ± 0	BOOK 1: ± 4
COMPREHENSION ACTIVITY TYPES PER BOOK	BOOK 1 (front): • Listening comprehensions • Sequencing of a story • Text with multiple-choice questions • Cloze procedure • Crosswords • Comic strips • Visual literacy • Fiction text with open-ended questions • Newspaper article review (headline, key words, main ideas, critical literacy skills) • Satire cartoon with questions • Questions for set work novel • Ordering of rambled sentences • Recipes and questions • Telephone directory entries and questions • Parts of story (title, author, illustrator, characters, setting, event, solution) • Book review	BOOK 1: • Text-based comprehensions BOOK 2: • Each mini-comprehension has four statements with answer options e.g. *The sun set very late today. We played outside until 7 o' clock at night. You can tell it is a) winter b) snowing c) summer* BOOK 3: • Crossword puzzles with clues LITERATURE STUDY: • There is comprehension question answering per chapter of each set work novel.	BOOK 1: • Text-based comprehensions • Visual literacy • Poster • Recipe • Poem • Menu (cross-curricular outcome with Mathematics) • Letter • Jigsaw sentences (sequencing of sentences) After June 2009: • Adverts • Visual graph • Map	BOOK 1: • Text-based comprehensions • Visual graph • Summary of characteristics	BOOK 1: • Text-based comprehensions • Visual text	BOOK 1: • Text-based comprehensions • Cloze procedure