

Differential Effects of Round-Robin Reading and Reading Together on Reading Comprehension and Engagement for Second-Grade Students with Different Reading Levels: A Pilot Study

Yuwen Peng*

University of Cambridge, Cambridge, UK

*yp314@cam.ac.uk

Abstract: Reading acquisition has always been an important concern in the early years of primary school, yet students of similar ages still have varied reading levels. Reading styles are proven to have some impacts on students' reading performance, but whether the impact on students with different reading levels is consistent remains unclear. This study aimed to investigate the effect of two different reading styles on the level of engagement and comprehension of two groups of year 2 students representing the highest and the lowest reading level in the year. The results have shown that Reading Together resulted in higher engagement in both groups and better comprehension in the low-level group only; Round-Robin Reading decreased the level of engagement of both groups and the level of comprehension in the low-level group, but it had no impact on the comprehension of the high-level group. These results indicated that Round-Robin Reading and Reading Together have different impacts on students with different reading levels.

Keywords: Round-Robin Reading, Reading Together, Reading Comprehension, Engagement, Price Milburn.

1. Introduction

Reading, the base of learning, has been proved to be the most important yet inadequately valued and developed skill that drags down the literacy rates. Research shows that 23% of American adults have not read a book in 2021[1]. Educators need to reflect on the reason why it is the case. Is it because the way reading is taught does not stimulate one's interest or the selected reading materials do not best suit each child's needs in the first place, making children see reading merely as a compulsory school task that is boring and tiresome, which further prevents future motivation leading towards reading? Some studies have highlighted that reading plays an important role in the language development of children, reading exposure can reduce the risk of encountering difficulties in school and expand the breadth of a child's vocabulary, which plays a significant role in their ability to understand, re-elaborate and express what they learn in school [2][3]. For pupils in the early years of primary school, reading acquisition is one of the most important academic achievements along with writing, mathematics and science [4]. Thus, it is vital to focus on the early years of primary school when children are first introduced and taught systematically to read.

Stepping into school life is one of the first 'critical transitions' a child would have to face in their lives [5]. Yet, insufficient attention is paid to children at this stage. The early years of primary school are a vital stage for child development, not only as the 'attitudes and reputations that may be established at the outset of grade school may follow children through many years of formal schooling' [6]. Also, reading in the first years of early childhood education is often the most important predictor of success in the elementary curriculum [7]. If children are unable to read by elementary school, their performance in school is often negatively affected [8].

Furthermore, Stanovich (1986) found that children who read more slowly and with little enjoyment tend to read less frequently than those who read more fluidly and with more enjoyment, resulting in delayed vocabulary development and stunting their ability to read [9]. According to Fraumeni-McBride (2017), children's enjoyment of reading affects their reading success through all grade levels and into adulthood [10]. For this reason, it is important to explore how schools can improve children's reading enjoyment levels in the early years of elementary school. In addition to the significance of the specific stage of the children and the importance of reading, the idea of difference is also non-negligible. Due to various individual and situational factors, children have different levels of reading ability when they enter school. The difference may be small or huge. Further research is needed to establish which current methods of reading would best improve children's reading engagement and comprehension with considering the different levels of reading of pupils. Importantly, this focus could improve literacy acquisition for each child.

To support 'the development of the balanced reader' who develops in decoding (i.e. phonological development), fluency and phrasing and comprehension, Nelson Cengage Education published Price Milburn (PM) the guided reading theories in the 1960s. Until 2017, with over 1500 stories of both fiction and non-fiction that are levelled incrementally from 1 to 30, PMs systematically helped students in the reading age from 5 to 12 to improve their reading levels. PM Benchmark Reading Assessment Resources were used world-widely in the UK, Australia, New Zealand etc. as the first and most respected reading assessment kits. This PM system could assess the reading level of each child and choose the corresponding picture book to read and learn for children at different reading levels.

Becoming a good reader involves achievement in multiple aspects, for example, reading enjoyment, reading

comprehension, word recognition and comprehension, reading accuracy etc. [11]. Considering the main objectives for the early years of primary education as class engagement and reading comprehension, the current study aims to examine the reading performance of year 2 pupils via the two indicators of reading engagement and reading comprehension.

Previous studies have highlighted the positive correlation between children's interest and their reading performance [12][13][14], suggesting that a higher interest level would contribute to better reading comprehension. Researchers have also found a significant positive correlation between the level of attention and reading speed, word cognition, prosody and comprehension [15]. It has also been suggested that children who showed more enjoyment in reading read more frequently than children who read showed less enjoyment, which would result in delayed vocabulary development [9]; the lack of enjoyment in reading may become a significant impediment in future and overall education [16]. Therefore, the three factors compromising the measure of engagement are interest, focus and enjoyment in the present study.

Our first hypothesis states that the high PM level group (HL) will show a higher level of comprehension than the low PM level (LL). This hypothesis is made because previous researchers suggested that children who read more fluently (better word recognition and phonic awareness) are more likely to comprehend the text better than those who read slowly and strugglingly [17] [18]. From pilot observations, high-level readers were found to be able to read books fluently whereas low-level readers appeared to struggle to recognise a word and pronounce it correctly multiple times during one session of reading. Therefore, we assume children with a higher PM reading level would show a higher level of comprehension than children with a lower PM reading level.

On the other hand, reading style may have an impact on the individual's engagement and comprehension of the reading material. Reading style refers to the way a reading session is conveyed to students. Many reading styles have been researched on their effectiveness, such as reading aloud, shared reading, round-robin reading, etc.. As for the PM reading system, instead of teachers reading aloud to students (reading aloud) and teachers reading with students (shared reading), PM advocates guided reading, which is a teaching approach that builds a supportive instructional learning context for a small group of students who are on a similar reading level and have similar reading needs [19][20]. Instead of having children do the silent reading as proposed by many researchers [4][21][22], the other researchers suggested that reading aloud at this stage for the children was still learning and mastering the phonetic contextual properties of the English language [23]. In the style of reading aloud (i.e. this time is when students read aloud not the teacher), the study commonly uses both round-robin reading, the most criticised yet the most used method [21][24][25] and reading together.

Round-Robin Reading (RRR) is commonly referred to by researchers as a 'turn-taking oral reading' [26]. It is a reading practice where the teacher assigns the reading order to a group of students before the reading starts. After one student finishes the individual oral reading to the class, the next student will continue the reading. Reading Together (RT) used in this study is a method where students orally read the book from cover to cover together without the teacher reading with them.

Given that all students must read aloud in the Reading Together session and RRR session, which requires constant focus, the level of engagement would be high in both groups.

At the same time, although various researchers have suggested that RRR is 'outdated' and would damage learners' comprehension and disfluent of readers [25][27], it is unclear whether the damaging effect of RRR on comprehension is consistent with all reader with different reading levels. Thus, the present study aims to compare whether different reading styles would have different effects on the level of engagement and comprehension of students with different PM reading levels. The two hypotheses that would be tested in this study are summarised below: (1) The high PM level group would show a higher level of comprehension than the low PM level group. (2) Readers in both groups would demonstrate a lower level of engagement and comprehension in Round-Robin Reading than in the Reading Together style.

2. Method

2.1. Participants

There are a total of 7 pupils selected from a year 2 class (6–7-year-old) and grouped according to their PM reading level. The individual's reading level is assessed by their teacher before the study via the use of the PM Benchmark Literacy Assessment. The expected PM reading level is level 14 at their age. The High PM group includes 4 participants (3 boys and 1 girl) with a PM reading level from 17-19. This group remained unchanged for both sessions. The Low PM group includes 2 participants each session with a PM reading level from 6-8. However, a total of 3 participants (2 boys and 1 girl) were in the Low PM group as one participant in the first session did not show up in class in the second session so another participant (i.e. the girl) with the same PM level was used instead.

2.2. Measures

According to the rating scale in Fraumeni-McBride's study, the current study used a structured observation with a five-point Likert scale to assess the participant's level of interest, enjoyment, focus and comprehension, with 1 representing not at all and 5 representing always (Appendix A). The level of interest, enjoyment and focus represent each group's level of reading engagement, and the score of comprehension in the five-point Likert means the group's level of reading comprehension, we examined the reading engagement and comprehension of the high PM group and low PM group, respectively.

2.3. Procedure

The observation was divided into two sessions, once a week. There were two observers in each session. One observer (instructor) would lead participants to read picture books assigned according to their PM reading level. Participants would be asked to read the story aloud, either in turns (Round-Robin Reading) or together (Reading Together), following the instructor's (observer) instruction. Another observer was a covert, participant observer as the role was not obvious to the pupils. The co-observer appeared as the assistant, sitting at a separate table.

In the first session, both groups were asked to read in turns. This means one participant would read 2 pages and the next participants would read the next 2 pages. The instructor would say "I want you to read in your best voice to your friend(s)!" and asked each participant to stand up and read when it was their turn.

In the second session, both groups were asked to read

together. This means all of them read the story aloud from the beginning to the end.

At the end of the reading, the instructor would ask questions to examine the participant's level of understanding. Questions asked were in the same format in both groups. A sample set of questions for the high PM reading level group in the Reading Together session is presented below:

- 1) What are the four parts of the story that you think were the most important?
- 2) Why do you think the peddler laughed as he walked back to the town?
- 3) What did you learn from the story?
- 4) What does 'embroider' mean? (And ask them each to make a sense using embroider)

The instructor did unstructured observation before the study as a pilot study. Thus, along with Fraumeni-McBride's researcher observation, a behaviour category would be used during the 2-session observation (Appendix B)

2.4. Analytic Approach

The data were collected from the observational scale rated by two observers on the level of enjoyment, focus, comprehension, and interest respectively. As there are limited sets of data, descriptive statistics for all study variables were reported. But no further statistical analysis was carried out.

3. Results

Figure 1 presents the descriptive statistics for all study variables: the level of interest, enjoyment, focus and comprehension. Figure 1(a) presents the ratings for the high PM reading level group (HL). As illustrated in the line graph, both observers rated all variables a 4 or 5, which indicates a relatively high performance in both engagement and comprehension. Figure 1(b) shows the performance of HL in the Round-Robin Reading session. Unlike the (a) where the range of scores is very small, in this session, the range of scores is much larger: from the lowest 2 of rating 1 on the level of interest to the highest 5 of rating 1 on the level of comprehension; both observers rated lower in the level of interest and enjoyment compared to the Reading Together session. Figure 1(c) is the rating for the performance of the low PM reading level group (LL). For this session, the inter-rater reliability is 100%: both observers agreed on a 3 for the level of interest, a 4 for enjoyment and a 5 for focus and comprehension. Figure 1 (d) is the rated performance of LL in the Round-Robin Reading session. With a relatively similar rating on interest, enjoyment and comprehension, there is a discrepancy in the rating for the level of focus: observer 1 rated 5 whereas observer 2 rated 2. The potential reason will be addressed in the later discussion

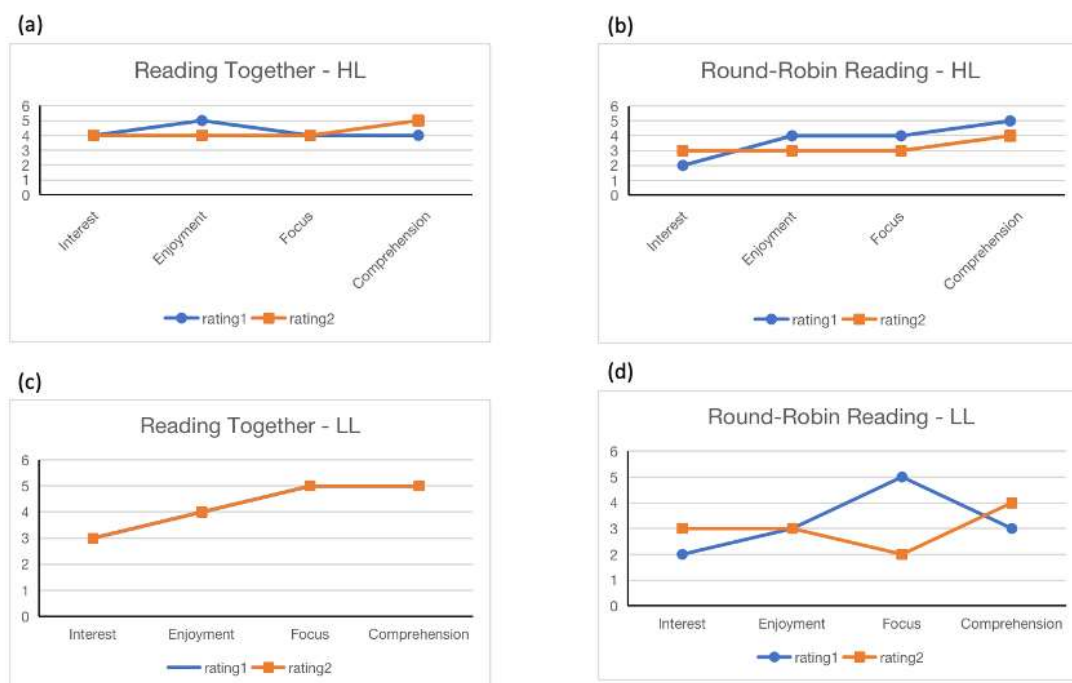


Figure 1. The results of the high PM and low PM reading level groups under two different reading styles.
 Note. HL = High PM reading level group; LL = Low PM reading level group

As discussed above, interest, enjoyment and focus make up the overall engagement level; thus, the engagement level for the group is calculated as the average of the combined sum of the score of interest, enjoyment and focus of two observers. The comprehension score is calculated similarly: averaging the sum of two observers' scores based on the general understanding of the material and words the group exhibited. For example, the calculation of the engagement score for HL in the Reading Together is by following steps: 1) averaging the composite score of both ratings respectively: the average for rating 1 is 4.3 and 4 for rating 2; 2) average the composite scores for both ratings, which is 4.15. The calculated

engagement score and comprehension score are illustrated in Table 1.

Table 1. The average score for comprehension and engagement under different conditions.

| | Comprehension | Engagement |
|----------|---------------|------------|
| RT - HL | 4.5 | 4.15 |
| RRR - HL | 4.5 | 3.15 |
| RT - LL | 5 | 4 |
| RRR - LL | 3.5 | 3 |

Note. RRR = Round-Robin Reading; RT = Reading Together; HL = High PM reading level group; LL = Low PM reading level group.

In the Reading Together session, both groups showed a relatively high level of understanding of the text and words (i.e. comprehension): 4.5 for HL and 5 for LL. In the Round-Robin Reading session, however, LL showed a decreased level of comprehension (3.5) whereas HL kept at the same. In terms of the level of engagement, HL appears to be a little more engaged overall than LL. Yet, interestingly, both groups were rated similarly on engagement and showed the same pattern for their change in the level of engagement: they were more engaged in the Reading Together session than in the Round-Robin Reading session.

4. Discussion

The current study investigated whether reading styles (Reading Together and Round-Robin Reading) differently influence students' reading engagement and comprehension and whether the difference in reading levels plays a role in the overall reading performance when the same reading style was applied. We found that the Round-Robin Reading style undermined students' level of engagement; it appeared to have a damaging impact on the level of comprehension only for students with a low PM reading level but no impact on the level of comprehension for more skilled readers. These results rejected the first hypothesis but verified the second hypothesis partially.

Inconsistent with the previous studies found that more skilled readers demonstrated higher comprehension than less skilled readers due to their lack of fluency, vocabulary and wording reading accuracy etc. [15][28][29], the present study demonstrated that in the round-robin reading session LL shows a higher level of understanding of their text than HL. However, it is important to notice that in August et al.'s study, both skilled and less skilled readers were presented with the same material whereas [28], in this study, the reading material is matched by the PM reading levels of the reader, so each group was presented with books varying in difficulties. Since the book chosen is tailored to participants' current PM reading level, it is possible that the problems of fluency previously discussed in the introduction (e.g. word recognition and phonic awareness), as well as students' ability to contextualise information, have already been taken into account. This means that although participants may have a problem with phonic awareness it would not affect their understanding of the text as this problem is already taken into consideration when deciding the difficulty of this reading material. Thus, the influence of fluency which we take as a major factor when forming hypothesis 1 may not be a valid factor in the context of this study, causing this hypothesis to be rejected.

The second hypothesis suggests that students in the Round-Robin Reading session would show a lower level of both engagement and comprehension. This hypothesis is partially supported by our result; all participants reading in RRR showed a lower level of engagement than RT but only the LL group showed a lower level of comprehension (i.e. 5 vs. 3.5) whereas the level of comprehension HL group remained constant in both sessions (i.e. 4.5). As for the level of engagement, the first half of this hypothesis is accepted as the score of the level of engagement for both groups is 1 score lower in the RRR session than in the RT session: the score of HL and LL is 3.15 and 3 respectively in the RRR session whereas the score of HL and LL is 4.15 and 4 respectively in the RRR session.

Regarding the relationship between RRR and level of

engagement, G. E. Ash et al. (2008) devised a questionnaire to investigate 80 teachers' and 27 literacy coaches' perceptions of RRR [30]. Among all the responses collected, the most identified benefits included the increased level of student engagement, which is accounted for by the result of listening to others and having more time to collect information for later assessment. However, they pointed out later in the paper that the benefits identified seemed to conflict with the disadvantages teachers have identified, which again included the lack of attention when others were reading, namely, students became less engaged with the reading activity. The inconsistency perhaps suggests that there is no definite or causal relationship between RRR and students' level of engagement, yet the factors which cause such inconsistency is not identified in the study. As for the current paper, the result of this study is in line with the disadvantages identified in Ash et al. study as all participants in the RRR showed a poorer level of engagement compared with the RT session [30].

The other half of this hypothesis, which states that all participants' reading comprehension will be lower when using RRR than RT in both groups, is partially accepted. The level of comprehension varies across both groups. While the LL group demonstrated a poorer level of comprehension (i.e. 3.5) in the RRR session than in the RT session (i.e. 5), the HL group showed a consistent level of comprehension (i.e. 4.5) regardless of the reading style. The results may suggest that reading styles do not affect the level of comprehension of children who are capable readers but have an influence on children who are not strong readers. Eldredge, Hollingsworth and Reutzel (1996) suggested that RRR is less effective than the other reading style (i.e. shared reading) [26], the reason why RRR leads to poorer comprehension is that children in the RRR session may not be able to pay enough attention to the text message while they are busy decoding and recognising the word. They believed that word recognition and reading fluency are intimately connected as 'one does not generally perform a task fluently before one is able to perform it correctly' (p221). Also, a positive correlation between reading fluency and comprehension has been established by many researchers [15][18][27][31][32]. Thus, it is reasonable to say that children who struggle to decode while reading would be less likely to show a higher level of comprehension, which explains the result of a low level of comprehension in RRR. However, the reason why a higher level of comprehension is achieved in the RT session may be that children would spend less effort in decoding in the RT session. This is because when they encounter a word they could not recognise immediately, other group members who are able to decode the word and read it aloud help them save effort to decode, and thus they can redirect their attention to the text message, which would contribute to better comprehension.

Yet, it is interesting that the level of comprehension of the high-level group is unaffected by the reading style. This finding has some similarities with what Shnayer, Sidney W. (1968) has found: students with high ability are less affected by reading interest than students with low ability [12]. It seems that capable readers have a more stable performance in terms of comprehension that is independent of situational variables, such as reading style or reading interest. Then there must be some individual differences between the ways high-ability readers approach the text and that of less capable readers, which may be cognitive processes involved or some other strategies. Future studies should identify such variables

and explore the implications of such individual differences, e.g. devising reading intervention programmes to help less capable readers.

Before closing the discussion, we would like to note a few limitations of the current study. First, the sample was not representative enough to generalise the findings to other groups of students of the same stage. Second, this study assumed that the previous PM assessment done by their teacher is accurate and there is no opportunity for us to evaluate the reliability and validity of the assessment. Thirdly, the operational space is limited. As this study is conducted during my free period in schooldays, the length of each session is limited by the class time set by the school, which gives little flexibility to adjust the session time. And the books were all selected by the teacher, so I cannot control the impact of the reading materials.

Based on all the discussion above, future studies may investigate 1) the strength of the relationship between engagement and comprehension for elementary students with different reading abilities; 2) whether there is a cognitive difference between high-level readers and low-level readers that makes the level of comprehension of high-level readers unaffected by different reading styles and the level of engagement.

5. Conclusion

This study revealed that: 1) reading style has an impact on students' level of engagement regardless of their reading levels; Reading Together engages students better in reading activity than Round-Robin Reading; 2) the level of engagement may be predictive of the level of comprehension only in the less skilled readers but not in high skilled readers.

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Appendix

Appendix A

Table 2. Observation Scale

| _____ May | |
|--|--|
| Group 1 (PM level: _____) | Group 2 (PM level: _____) |
| Child's interest level 1 2 3 4 5 | Child's interest level 1 2 3 4 5 |
| Child's enjoyment level 1 2 3 4 5 | Child's enjoyment level 1 2 3 4 5 |
| Perception of child's comprehension level 1 2 3 4 5 | Perception of child's comprehension level 1 2 3 4 5 |
| Child's focus during reading 1 2 3 4 5 | Child's focus during reading 1 2 3 4 5 |
| Comments: | Comments: |

(1=not at all, 2=some times, 3=half of the times, 4=most of the times, 5=always)

Appendix B

Behavioural Categories

Behaviour which may suggest 'enjoyment':

- 1) Positive emotions such as cheerfulness, happiness, etc..
- 2) Positive feedback when asked 'Do you enjoy the book?'
- 3) 'Overall appearance of relaxation and ease when reading'

Behaviour which may suggest 'focus':

- 1) Whether they look at the child who is appointed to read when he/she stands up.
- 2) Whether they pay attention to their book in front of them when another child is reading aloud.
- 3) Whether they glance sideways.
- 4) 'Appearance of distraction, pausing randomly, sluggishness, slouching'

Behaviour which may suggest 'comprehension':

- 1) Whether they can answer the following questions after the reading activity, including
 - a) A question to test their knowledge and understanding regarding the story's beginning, development and ending.
 - b) A question regarding the motivation of characters' certain actions.
 - c) 'What do you learn from the story?'
- 2) Whether they can fully understand a noun/adjective by making a sentence.

Behaviour which may suggest 'interest':

- 1) Whether the child keeps turning pages to see what happens next.
- 2) Whether the child starts to share their own experience at a certain point.
- 3) Facial expression, e.g., smiling

Appendix C

Table 4 Books from the PM system used in the study

High PM reading level group
 RRR: "The Roller Blade Run"
 RT: "The Pedlar's Caps"

Low PM reading level group

RRR: "Jumbo"
 RT: "Turtle's Trouble"

Appendix D

Sample questions asked in the study
 "Turtle's Trouble"

We now know Spider, Parrot and Elephant want Turtle to come out of the shell. Why do you think they wanted Turtle to come out of the shell?

Why do you think animals asked Elephant to help get Turtle out of his shell?

What did you learn from the story