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REPEATED READING: ENHANCING FLUENCY DEVELOPMENT OF STRUGGLING READERS OF DIFFERING SOCIO ECONOMIC STATUS

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Abstract

This study was conducted in a secondary school in the state of Selangor, Malaysia, to investigate the impact of the repeated reading approach on the reading fluency of five Malaysian lower secondary school students with differing socio economic status and exposure to the English language. The curriculum-based measurement (CBM), also known as the oral reading fluency (ORF) procedure (Deno, 1985, 2003) was used to establish the participants' reading accuracy and automaticity in word decoding, the Multi-Dimensional Fluency Rubric (Rasinski, 2004b) was used to assess the participants' reading prosody, and the Reading Evaluation and Decoding System Test (Mohamed, Eng & Ismail, 2010) was used to assess the participants' reading comprehension ability. Results of the study revealed that the participants' reading fluency improved significantly throughout the 12-week intervention. The use of the repeated reading approach increased their reading rate per minute, reduced their word recognition errors and enhanced their reading prosody. The improvement of these three dimensions of reading fluency further enhanced their comprehension ability. The results of this study further showed that the repeated reading approach was effective in enhancing the participants' reading rates, reducing their word recognition errors, and improving their reading prosody despite their differing socioeconomic status and exposure to the English language.

Keywords: *repeated reading approach, fluency, accuracy, automaticity, prosody.*

INTRODUCTION

English language learning requires school syllabi which placed equal emphasis on language skills of listening, speaking, reading, and writing, in addition to grammar

and language structure. However since one's success in academic achievement is highly dependent on the reading skills (Jodai & Tahriri, 2011), it is imperative for teachers to determine what entails a sound reading program and what are the appropriate techniques and strategies to help students improve their reading skills.

Essential elements must be developed in order for students to achieve the success of full literacy. Rasinski, Padak and Fawcett, (2010) and the National Reading Panel (NRP, 2000) listed phonemic awareness, phonics or word recognition, reading fluency, vocabulary, and comprehension as the essential elements. To become a successful reader, a student must be competent in all five elements and the deficiency in any one or more elements will result in him becoming struggling readers (Shanahan, 2006). Among these essential elements, reading comprehension is viewed as the essence of any reading program (Jennings, Cadwell & Lerner, 2010). In this respect, teachers must find ways in which students' reading comprehension can be enhanced.

Researchers have long acknowledged the relationship between reading fluency and reading comprehension. The reading community considers fluency an essential element in reading development (Hawkins, Hale, Sheeley & Ling, 2011; Spencer& Manis, 2010) and reading that is not fluent is said to have a negative impact on student's reading comprehension (Hapstak & Tracey, 2007). Research studies spanning over 20 years affirmed the association between reading fluency and reading comprehension, especially in the first language (L1) context. A high correlation between fluency skills and reading comprehension, as high as r=.81 to.90, was recorded (Grabe, 2010). This affirmed the assertions that fluency is a critical element in the development of reading comprehension.

Literature has shown that researchers have used strategies such as wide reading and timed reading in their studies. However, the NRP(2000) suggested one of the approaches that could provide students with reading practice and enhance their reading fluency is the use of repeated oral reading practice or guided repeated oral reading practice (Chard, Pikulski,& McDonagh, 2006; Shanahan, 2006). This repeated oral reading practice or guided repeated oral reading practice is also known as the repeated reading (RR) approach (Samuels, 1979).

STATEMENT OF THE PROBLEM

One of the most important educational outcomes is the ability of students to read (Harmer, 2008). Studies affirmed the association between reading fluency and reading comprehension (Grabe, 2010; Rasinski, 2012). Thus, the problem faced by readers who experience difficulty in reading comprehension may be the result of their lack of reading fluency. However, despite this important association between reading fluency and reading comprehension, it is unlikely for secondary school English language teachers to teach their students reading fluency because of their lack of understanding of reading fluency itself.

Teachers may know that reading fluency is the ability to read fast or with good oral expression but they fail to see the connection between reading fluency and reading comprehension (Rasinski, Blachowicz & Lems, 2006). In addition, the

teaching of reading fluency is not likely to take place in secondary schools because it is customarily taught and mastered in the elementary grades.

Secondary schools English language teacher should change their perception about this because teaching secondary school students reading fluency may impact their reading skills. Joseph and Schisler (2009) for instance reported that there is generally a substantial effect of teaching basic reading skills on adolescents' reading achievement, especially on their fluency performance.

The distinct lack of studies on fluency and comprehension building strategies involving secondary school children was also highlighted by Hawkins et al. (2011) who suggested that more studies should be conducted in this area. As such, the present study was conducted to investigate the impact of the RR approach on the reading fluency of Malaysian lower school secondary students and the impact of reading fluency on their reading comprehension abilities.

LITERATURE REVIEW

Comprehension is the fundamental goal of reading (Nation, 2008). It is the core (Shriver, 2006) or essence of any reading program (Jennings et al., 2010). Students who have difficulties in reading comprehension are likely to have their academic achievements and their future occupational opportunities affected (Rashid & Ar-Riyahi, 2010). Extensive research on reading in the L1 illustrates the key role fluency plays in successful reading comprehension. Most research showed that good reading ability is impossible with the lack of fast and accurate word recognition skills and reading fluency (Taguchi, Takayasu-Maass & Gorsuch, 2004).

The importance of fluency in developing reading comprehension ability was also affirmed by the National Institute of Child Health and Human Development (as cited in Cohen, 2007) that students should first enhance their basic skills for comprehension to take place with ease. Thus, students must first understand the sound-symbol relationship, become fluent decoders, and build on their fluency. This notion was consistent with Therrien and Kubina (2007) who claimed that fluency serves as a bridge between decoding words and comprehension. In this regard, teachers should use fluency instruction frequently because it benefits reading.

Researchers have described fluency in a number of ways but they agree that reading fluency involves accuracy and automaticity in reading and prosody or reading with expression (Grabe (2004), Hudson et al. (2009), Pikulski and Chard (2005), Rasinski (2004a), and Schreiber (1980).Rasinski (2004a), for instance, claimed that reading fluency involves three important dimensions that form the bridge to comprehension. First, accuracy in word decoding which requires a reader to sound out words in a text with minimal errors. Second, is automatic processing, which requires a reader to use as little as possible his or her mental effort when decoding words so that he or she can use most of his or her mental resources for comprehension. Finally, prosody or prosodic reading which requires a reader to parse or break down the text into syntactically (correct sentence structure) and semantically (meaningful) correct units. If the reader reads with no expression, or places equal stress on every word and has no sense of phrasing, or if most punctuations are ignored, the reader will not understand the text.

THEORETICAL CONCEPT

The significant role fluency plays in efficient and successful reading is centered on Theory of Automatic Information Processing (LaBerge & Samuels, 1974) which posits that to be an efficient reader, students should be able to recognize and identify words automatically and then connect the words as they read to make meaning. According to the theory the human mind has a limited or insufficient capacity to conduct a complex task. To perform a complex task, such as recognizing words in a text or understanding their meaning, mental effort must be spent, and this effort utilizes some of the limited capacity of the mind. However, with prolonged practice over time, the amount of effort needed to perform the task becomes lesser. When the amount of effort utilized to conduct a task decreases, a person can perform two or more tasks simultaneously. This simple assumption explains how fluent reading occurs (Samuels, 2004).

When first developed the automaticity theory had no practical suggestions provided. Samuels later worked with mentally challenged beginning reading students in Minneapolis where he divided a children's short story into passages of about 150 words, distributed a copy to each student, and read the 150-word passage to them. The students then practiced reading the passages on their own, later read the short passage to their teacher who then recorded the words read per minute (WPM) reading rate and the number of word recognition errors. The students reread the 150 passage a few times until they reached a criterion rate of 85 WPM. Once the criterion rate of reading was reached, the students were given new paragraphs to practice. The teacher drew charts to show the students their progress, and the students were happy with their progress.

Through Samuel's work the students found that with each rereading of a text, they made fewer errors and their reading rate became faster (Samuels, 2012). They also noticed that as they reread the same passage a number of times, they began to sound like good readers. This marked the birth of the repeated reading (RR) approach, an outcome of the automaticity theory. Since the time it was introduced in 1979, abundance of research (Morris & Gaffney 2011; Schirmer, Therrien, Schaffer & Schirmer, 2009; Swain, Leader-Janssen & Conley, 2013; Therrien & Kubina, 2007) has subsequently proven the effectiveness of the RR strategy in enhancing dysfluent readers' ORF.

RESEARCH QUESTIONS

This study investigated the effectiveness of using the RR strategy to enhance lower secondary students' reading fluency. Using the multiple baseline single-subject design (Creswell, 2008) this study answered four research questions:

1. What is the impact of the RR approach on the reading rate per minute of lower secondary school students as measured by the percentage of word decoding?
2. What is the impact of the RR approach on word recognition errors of lower secondary school students as measured by the reading rate (total number of WCPM)?

3. What is the impact of the RR approach on the prosody of lower secondary school students as measured by reading score (based on the Multi-Dimensional Fluency Rubric)?
4. What is the impact of the reading fluency on the reading comprehension of lower secondary school students as measured by the performance bands of the Reading Evaluation and Decoding System (READS) Test?

METHODS

The objective of the study was to investigate the impact of lower secondary school students' oral reading fluency (ORF) on reading comprehension. ORF involves three dimensions that aid comprehension: (a) accuracy in word decoding, (b) automatic processing, and (c) prosody or prosodic reading (Rasinski, 2004a).

Participants

The study was conducted in a suburban secondary school in the state of Selangor, Malaysia. Participants were five Form 1 students (equivalent to sixth- or seventh-grade students in the middle school or junior high in the United States) who were struggling readers. Struggling readers are those readers who can read but they tend to omit, add, and mispronounce words. Additionally, they tend to read at a slow to moderate pace, their reading lacks prosody or expression, and they have difficulty comprehending the text.

Participants of the study were Form 1 students aged between 12 to 13 years who came from different socioeconomic backgrounds, races, gender, parental academic backgrounds, and exposure to ESL. Participant 1's mother held a bachelor degree and her father was a low rank factory worker. Participant 2's mother held a bachelor's degree and his father ran a small cell phone business. Participant 3's mother was a teacher and her father was a manager with Telecom Malaysia. Both her parents held bachelor degrees. Participant 4's mother was a sales promoter and her father was a taxi driver. Her mother's earnings depended on her sales and her father's earnings depended on his daily wages. Participant 5 was always verbally abused by his father and he lived with his grandfather who was a laborer. From their parents' and caretaker's background, it can be said that Participants 1, 2, and 3 came from a family with a stable income while Participants 4 and 5 came from the lower income group.

Design

The single subject experimental design (SSED), which is often used to investigate the effects of an intervention at an individual level, was used in this study. Because the focus was on an individual client (Byiers, Reichle & Symons, 2012), the use of five participants in this study was sufficient.

Materials

Materials used in this study consisted of reading texts of between 100 to 250 words at the participants' instructional level. Texts used in this study were diversified and consisted of narrative, descriptive ad expository essays. Words used in each text

were repetitive in nature. The reading texts contained among other things compound words, suffixes, and mono-syllabic and disyllabic words. Some words are found repetitively within each text and across the various other texts used. The use of repetitive words in the texts aided the participants' in their reading.

Instrument

Different instruments were used in this study. The CBM/ORF (Deno, 1985, 2003) procedure was used to investigate the participants' reading accuracy and automaticity. The Multi-Dimensional Fluency Rubric (Rasinski, 2004b; Zutell & Rasinski, 1991) was used to assess the participants' prosody and the READS test (Mohamed et al., 2010) was used to assess the participants' comprehension ability.

Procedure

Data were collected over a period of 12 weeks. In the course of data collection, intervention was conducted twice per week for about 15-20 minutes per session per each participant. Before the 12 week intervention the researcher established the baselines for each participant's accuracy in word decoding, automatic processing and prosody.

To establish the baseline for accuracy in word decoding, the percentage of words read correctly per minute for each participant was recorded for 5 days. All five scores were then averaged after the fifth reading. The participants' level of automaticity was measured by their reading rate (words read correct per minute (WCPM) The reading rate was measured by deducting the number of errors made from the total number of the words read per minute. The reading rate for each participant was recorded for 5 days. All five scores were then averaged to determine the baseline score for automaticity in word decoding.

The participants' prosody was rated using the Multi-Dimensional Fluency Rubric (Rasinski, 2004b; Zutell & Rasinski, 1991), which was a qualitative rubric. An interrater reliability was employed to determine the score of each participant. Two teacher researchers acted as raters. They listened to the participants' reading and evaluated each participant's reading prosody using the Multi-Dimensional Fluency Rubric individually. This measure of reliability was used to assess the degree to which both teacher researchers agreed in their assessment decisions. The participant's five scores for prosody were averaged after the fifth reading. This averaged score formed the baseline for prosody or reading expression.

The pre-test

Once the baseline for accuracy in word decoding, automatic processing, and prosody or prosodic reading of each participant had been established, the teacher researchers conducted the READS test (Mohamed, Mohamed Ismail, Eng & Petras, 2012). The duration of the test was 70 minutes and the total score of the READS test was 60 marks. Based on the READS test scores the participants were categorized into Bands 1-6. After the participants were placed in the appropriate bands, their reading abilities were established using the READS test Reading Matrix.

Twelve-week repeated reading (RR) intervention

The intervention began only after the pre-test had been conducted. Each intervention lasted approximately 15 to 20 minutes per participant, and the intervention was administered twice a week for 12 weeks. The Curriculum Based Management CBM) or Oral Reading Fluency (ORF) procedure was used to assess the students' reading accuracy automaticity and prosody. Each participant's accuracy, automaticity and prosody were assessed in the following manner:

1) The participant read a text for 1 minute.
2) The teacher researchers listened to the participants' reading and marked any reading errors made. (Reading errors included mispronunciations, substitution, reversals, omissions, or words helped by the teacher after a wait of 2-3 seconds without an attempt or response from the participant.)
3) The teacher researchers determined the participants' accuracy by indicating the percentage of word read correct per minute.
4) The teacher researchers charted the participants' percentage of accuracy in word decoding on a line graph. This first reading was the initial reading of the participant.
5) One of the teacher researchers modeled the reading.
6) The participant listened to the teacher researcher and then echoed her reading afterwards.
7) The participant completed four trials of RR.
8) The participant reread the text for 1 minute after his or her fourth trial of RR.
9) The teachers listened to the participant's reading and repeated Steps 3 and 4. This second reading was the final reading of the participant.

However, the percentage of word decoding was used to recode the reading accuracy, the WCPM was used to record the reading rate, and the reading score (based on the Multi-Dimensional Fluency Rubric) was used to record the participants' reading prosody.

The post-test administration of the READS test

The post-test was conducted after the 12-week intervention ended. The participants took the READS test for 70 minutes. The procedure in the pre-test was repeated. The scores and bands attained in the pre- and post-tests were then compared.

Data Analysis

The initial and final percentage of word decoding accuracy, the initial and final WCPM, and the initial and final score of reading prosody were charted on line graphs for each participant. The use of line graphs was relevant in this study because it was a graphic mode used to present data (Billstein, Libeskind & Lott, 2004). Each participant's initial and final percentage of word decoding accuracy was compared against the following target norm.

Table 1. Levels of performance for word decoding accuracy.

Reading level range	*Percentage*
Independent Level	97-100
Instructional Level	90-96
Frustration Level	<90

Each participant's initial and final WCPM were compared against the target norm.

Table 2. Oral reading fluency target rate norms (WCPM).

Grade	*Fall*	*Winter*	*Spring*
1		10-30	30-60
2	30-60	50-80	70-100
3	50-90	70-100	80-110
4	70-110	80-120	100-140
5	80-120	100-140	110-150
6	100-140	110-150	120-160
7	110-150	120-160	130-170
8	120-160	130-170	140-180

Note. WCPM = words correct per minute. From "Creating fluent readers: What research says about reading", by T. Rasinski, 2004b, *Educational Leadership, 61*(6), 46-51. Retrieved from http://www.ascd.org/publications/educational-leadership/mar04/vol61/num06/Creating-Fluent-Readers.aspx
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Each participant's initial and final score of reading prosody was established using the Multi-Dimensional Fluency Rubric. Scores were established based on the dimensions of expression and volume, phrasing, smoothness, and pace. Participants were considered weak if they scored a 1 in any/every dimension and they were considered excellent if they scored a 4.

Table 3. Multi-Dimensional Fluency Rubric.

Dimension	*1*	*2*	*3*	*4*
A. Expression and volume	Reads with little expression or enthusiasm in voice. Read words as if simply to get them out. Little sense of trying to make text sound like natural language. Tends to read in a quiet voice.	Some expression. Begins to use voice to make text sound like natural language in some areas of the texts, but not others. Focus remains largely on saying the words. Still reads in a quiet voice.	Sounds like natural language throughout the better part of the passage. Occasionally slips into expressionless reading. Voice volume is generally appropriate throughout the text.	Reads with good expression and enthusiasm throughout the text. Sounds like natural language. The reader is able to vary expression and volume to match his/her interpretation of the passage.
B. Phrasing	Monotonic with little sense of phrase boundaries,	Frequent two and three-word phrases giving the impression of	Mixture of run-ons, mid-sentence pauses for breath, and possibly some	Generally well phrases, mostly in clause and sentence units,

Table 3 continued…

	frequent words-by-word reading.	choppy reading; improper stress and intonation that fail to mark ends of sentences and clauses.	choppiness; reasonable stress/intonation.	with adequate attention to expression.
C. Smoothness	Frequent extended pauses, hesitations, false starts, sound-outs, repetitions, and/or multiple attempts.	Several "rough spots" in text where extended pauses, hesitations, etc., are more frequent and disruptive.	Occasional breaks in smoothness caused by difficulties with specific words and/or structures.	Generally smooth reading with some breads, but word and structure difficulties are resolved quickly, usually through self-correction.
D. Pace (during sections of minimal disruption)	Slow and laborious.	Moderately slow.	Uneven mixture of fast and slow reading.	Consistently conversational.

Note: From *"Assessing Reading Fluency"*, by T. V. Rasinski, 2004b. Honolulu, HI: Pacific Resources for Education.
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Analyzing Data within Cases

The visual results from the line graphs were used to compare the student's individual progress throughout the 12-week intervention. Figure 1 illustrates the analysis of quantitative data within cases.

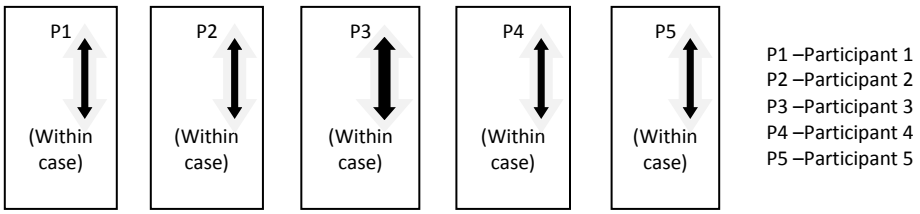
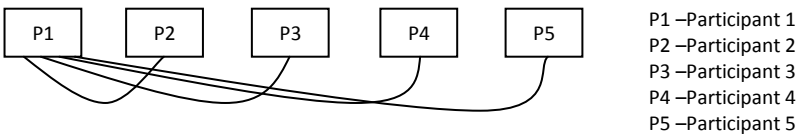
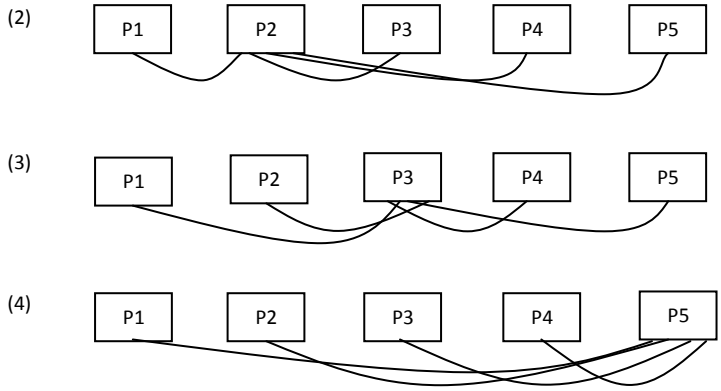


Figure 1. Analyzing data within cases.

The one-way repeated measures ANOVA procedure was conducted to compare scores of the accuracy, automaticity, and prosody with statistics test at Time 1 (baseline, prior to the intervention), Time 2 (4th week intervention), Time 3 (8th week intervention) and Time 4(12th week intervention). The effect size for the result proposed by Cohen (as cited in Pallant, 2010) was used to examine the results. The effect size results are as follows: 01=small, .06=moderate, .14=large.

(1)





The paired *t*-test was also conducted because there was only one group of five participants and the data were collected on two occasions (i.e., during the pretest and posttest). The results of the *t*-test were used to show the impact of the intervention (RR strategy) on the participants' accuracy and automaticity in word decoding and the reading prosody before and after the intervention was carried out. In addition, the effect size statistics were analyzed to see the magnitude of the difference between the pretest and the posttest means

RESULTS

In accuracy in word decoding, Participant 1 recorded an improvement between 0% and 5%, Participant 2 recorded an improvement between 2% and 8%, Participant 3 recorded an improvement between 2% and 10%, Participant 4 recorded an improvement between -2% and 8%, and Participant 5 recorded an improvement between 1% and 6% in reading rate per minute.

In automaticity in word decoding, Participant 1 recorded an improvement between three and 32 WCPM, Participant 2 recorded an improvement between four and 43 WCPM, Participant 3 recorded an improvement of between seven and 35 WCPM, Participant 4 recorded an improvement between three and 48 WCPM, and Participant 5 recorded an improvement of between -15 and 30 WCPM.

In reading prosody, Participant 1 recorded an improvement between 1.0and 1.5 increase in her reading score, Participant 2 recorded an improvement between 1.0and 2.5 score, Participant 3 recorded an improvement between 0.0and 2 score, Participant 4 recorded an improvement between 1.0and 2.5 score, and Participant 5 recorded an improvement between 0.5 and 2.5 score.

The overall results indicated the 12-week RR intervention impacted the accuracy (reading rate per minute), automaticity (word recognition errors), and the prosody of the participants. The increase in the reading rate, word recognition errors, and prosodic scores in turn impacted their oral reading fluency.

In the pretest and posttest, Participant 1 recorded a seven marks increase in the READS test, Participant 2 did not record any increase, Participant 3 recorded a four marks increase, Participant 4 recorded a five marks increase, and Participant 5 recorded a two marks increase. In terms of performance, Participant 1 attained a

Band 2 in the pretest and a Band 3 in the posttest. Her initial comprehension ability met the educational level of a Form 1 student in the pretest but she met the Form 2 educational level in the posttest. Participant 2 and Participant 3 attained a Band 3 in both their pre- and posttests. Their comprehension ability met the educational level of a Form 2 student. Participant 4 attained a Band 2 in the pretest and a Band 3 in the posttest. Her initial comprehension ability met the educational level of a Form 1 student in the pretest but she met the Form 2 educational level in the posttest. Participant 5 attained a Band 2 in both the pre- and posttests. His comprehension ability met the educational level of a Form 1 student.

The paired sample t-test for the pre-test and post-test indicated the mean score of the posttest was M=23.40, SD=4.77 and the mean of the pretest was M=19.80, SD=5.45. The mean difference between the posttest and the pretest was 3.60 and the mean score of the posttest was significantly higher than the mean score of the pretest. The p-value of .041, which was less than .05, indicated the difference between the two means was significant. The Eta squared statistic (.7) indicated a moderate effect size. This indicated the multitude of the differences in the means (mean difference= 3.60) was moderate (Eta squared .7). Thus, a conclusion can be made that although the effect size was moderate, the 12-week RR intervention had an impact on the participants' reading fluency that, in turn, enhanced their reading comprehension ability.

The results of the one-way repeated measures ANOVA for accuracy indicated that (a) the comparison of Time 1 and Time 2 had a p-value of .047, (b) the comparison of Time 1 and Time 3 had a p-value of .005, (c) the comparison of Time 1 and Time 4 had the p-value of .002, (d) the comparison of Time 2 and Time 3 had a p-value of .001, (e) the comparison of Time 2 and Time 4 had a p-value of .007, and (f) the comparison of Time 3 and Time 4 had a p-value of .025. The comparison of Time 1 (baseline, prior to intervention), Time 2 (4th week intervention), Time 3 (8th week intervention), and Time 4 (12th week intervention) recorded p-values smaller than p = -.05 and the difference between the means of these four times was significant. This indicated there was a significant difference in accuracy (reading rate per minute) after the 4th week, 8th week, and 12th week interventions.

The results of the one-way repeated measures ANOVA for automaticity indicated that (a) the comparison of Time 1 and Time 4 and Time 2 and Time 4 had p-values of 0.000, (b) the comparison of Time 1 and Time 2 and Time 1 and Time 3 had p-values of .001, and (c) the comparison of Time 2 and Time 3 had a p-value of 0.034. The comparison of Time 1 (baseline, prior to intervention), Time 2 (4th week intervention), Time 3 (8th week intervention), and Time 4 (12th week intervention) recorded p-values smaller than p=.05 and the difference between the means of these four times was significant. This indicated there was a significant difference in automaticity (reading rate per minute) after the 4th week, 8th week, and 12th week interventions.

The results of the one-way repeated measures ANOVA procedure to compare prosody with statistics test at Time 1 (baseline, prior to intervention), Time 2 (4th week intervention), Time 3 (8th week intervention), and Time 4 (12th week intervention) were as follows: The p-value for the comparison of Time 1 and Time 2

was 0.035, the p-value for the comparison of Time 1 and Time 3 was .003, the p-value for the comparison of Time 1 and 4 was . 0.002, the p-value for the comparison of Time 2 and Time 3 was 0.44, the p-value for the comparison of Time 2 and Time 4 was 0.008, and the p-value for the comparison of Time 3 and Time 4 was 0.008. The p-value of the comparisons of Time 1 and Time 2; Time 1 and Time 3; Time 1 and Time 4; Time 2 and Time 3; Time 2 and Time 4; Time 3 and Time 4; and Time 2, Time 3, and Time 4 were all smaller than α=.05.

DISCUSSIONS

The results of the one-way repeated measures ANOVA procedure were used to compare accuracy, automaticity and prosody with statistics test at Time 1 (baseline, prior to intervention), Time 2 (4th week intervention), Time 3 (8th week intervention) and Time 4 (12th week intervention). The effect size of .99 in accuracy indicated the means of four times was moderately significant. The effect size of .98 in automaticity and prosody indicated the means of four times was moderately significant. Despite the moderate effect size of .99 and .98 respectively it can be concluded that the RR approach impacts accuracy and automaticity in word decoding as well as reading prosody. This in turn showed that the RR approach impact the participants' oral reading fluency.

Results of the paired sample t-test that was conducted to compare scores of the pretest and posttest of the READS (comprehension ability) test showed the mean score of the posttest (M=23.40, SD=4.77) was significantly higher than the mean of the pretest (M=19.80, SD=5.45), $t(4) = 2.98$, $p< 0.041$). The mean difference between the posttest and pretest was 3.60, the p-value.041, and the effect size was .07. The p-value of .041, which was less than .05, and the effect size of.07 indicates the differences in the means between the pretest and posttest was moderately significant.

Results of this study indicate all five participants improved on their reading rate and word recognition errors and prosody throughout the 12-week intervention. The results are consistent with the automaticity theory (LaBerge & Samuels, 1974), which theorizes that when a reader has a lot of practice at reading high-frequency or common words found in easy reading text, the decoding or word recognition process becomes automatic or in other words it means the words can be decoded easily with speed and accuracy.

Based on the results, the conclusion can be made that the 12-week RR intervention impacted the reading fluency of the lower secondary Malaysian school students and the enhancement of their reading fluency impacted their reading comprehension ability. These findings affirm the notion that reading fluency is associated with reading comprehension ability (Cohen, 2007; Grabe, 2010; Neddenriep, et al., 2011; Pinnell et al. [as cited in Pikulski & Chard, 2005]; Neddenriep, Fritz, & Carrier (2011) ; Rasinski, 2012; Rasinski, et al., 2005). These findings are likewise parallel with Therrien and Kubina (2006) who asserted that fluency serves as a bridge between decoding words and comprehension.

Apart from using the results of the intervention to examine each participant's progress throughout the intervention, which lasted for 12 weeks, the author

additionally used the results to distinguish the effects of the intervention across the five subjects to determine the impact of the RR intervention on their differing backgrounds. Participant 1 and Participant 2 came from families of moderate socioeconomic background, Participant 3 came from a high socioeconomic background, and both Participant 4 and Participant 5 came from a low socioeconomic background.

These results indicate that despite the five participants differing economic backgrounds, the results of their accuracy in word decoding (which is reported in percentage), their automaticity in word decoding (which is reported in WCPM), their prosody (which is reported in their reading score), and their comprehension ability did not show any significant difference. Thus, it can be concluded the results of the participants' improvement in the three ORF dimensions and their comprehension ability was not influenced by their socioeconomic status.

This finding is consistent with Mohamed, Mohamed Ismail, Eng, and Petras (2012), who found the learning environment offered by schools is able to make a difference in the academic achievement of low-income students despite the common belief that poverty has a huge impact on the outcome of students' learning. So before deciding what and how to teach diverse students, teachers should first learn to value and accept their differing backgrounds (O'Shea, McQuiston, & McCollin, 2009).

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