Impact of Repeated Reading Strategy on Reading Fluency of Malaysian Lower Secondary School Students

by
Hasimah Ja'afar

An Applied Dissertation Submitted to the
Abraham S. Fischler College of Education
in Partial Fulfillment of the Requirements
for the Degree of Doctor of Education

Nova Southeastern University
2015

Abstract

The Impact of Repeated Reading Strategy on the Reading Fluency of Malaysian Lower Secondary School Students. Hasimah Ja'afar, 2015: Applied Dissertation, Nova Southeastern University, Abraham S. Fischler College of Education. ERIC Descriptors: Directed Reading Activity, Reading Fluency, Accuracy, Decoding (Reading), Word Recognition

This applied dissertation was designed to investigate the impact of repeated reading on the reading fluency of Malaysian lower secondary school students using curriculum-based measurement (CBM), also known as the oral reading fluency (ORF)procedure (Deno, 1985, 2003). The CBM (Deno, 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.

An analysis of the data revealed that the participants' reading fluency improved significantly throughout the 12-week intervention. The use of the repeated reading strategy improved their reading rate per minute as measured by the percentage of word decoding and reduced their word recognition errors as measured by the number of correct words read per minute. Reading prosody was enhanced as measured by the reading scores based on the Multi-Dimensional Fluency Rubric (Rasinski, 2004b). The improvement of these 3 dimensions of reading fluency further enhanced their comprehension ability as measured by the performance bands of the Reading Evaluation and Decoding System test.

These findings affirmed the theory of Automatic Information Processing (LaBerge & Samuels, 1974) and the Verbal Efficient Theory (Perfetti, 1985) which posit that the inability of a reader to decode words impede the comprehension ability for, the entire mental capacity is used up in the word recognition process. Consequently, the construction of meaning of a text is made possible once the word decoding process becomes automatic.

The results of this study further showed the repeated reading strategy was effective in enhancing the participants' reading rates, reducing their word recognition errors, and improving their reading prosody despite their differing socioeconomic status.

Chapter 1: Introduction

English is the second most important language in Malaysia. It is taught as a second language (L2) and in line with its status, English is taught as a compulsory subject in all Malaysian schools (Curriculum Development Center, 2000). The aim of teaching English in all schools is to enable students to use the language in actual everyday real-life situations, to pursue tertiary education as well as to prepare them for work (Curriculum Development Center, 2000).

Malaysian students spend at least 11 years in school; 6 years of primary schooling and 5 years in the secondary level. Throughout their school years, they have to sit for three major national centralized examinations of which English is one of the core papers (Murugesan, 2003). Students have to sit for the Primary School Assessment (UPSR) at the end of Primary 6, the Lower Secondary School Certificate (PMR) at the end of lower secondary, and the Malaysian School Certificate (SPM) at the end of the upper secondary. However, despite studying English for 11 years the UPSR, PMR, and SPM results have shown a sizeable number of Malaysian students have not mastered the language upon completion of their schooling (Hiew, 2012).

Results of the UPSR, PMR in the year 2012, and SPM in 2011 displayed in Table 1 show the number of students who have not performed well in the English language in school (Malaysian Examination Syndicate, 2012). Of 373,707 candidates who sat for UPSR in 2012, 34.4% attained Grade C, 16.2% attained Grade D, and 6.5% attained Grade E. Of 404,091 candidates who sat for PMR in 2012, 19.2% attained Grade C, 24.2% attained Grade D, and 24.1% attained Grade E. Of 403,656 candidates who sat for the SPM exam in 2011, 31.9% attained Grades D and E and 23.2% attained Grade F (Malaysian Examination Syndicate, 2012). The teaching experience of this researcher in

school affirmed that those who attained Grades C and D often encountered difficulties in reading English texts while those who attained Grade E were generally those who could hardly read.

Table 1

Results of Primary School Assessment (UPSR), Lower Secondary School Certificate (PMR), and Malaysian School Certificate (SPM) for the Year 2012 and 2011

			Grade (%)			
Examination	Year	Total no. candidates	C	D	E	F
UPSR	2012	373,707	34.4	16.2	6.5	
PMR	2012	404,091	19.2	24.2	24.1	
SPM	2011	403,656		31.9		23.2

In Malaysia, the concerns over the low literacy achievement in English among Malaysian students have been extensively investigated (Che Musa, Koo, & Azman, 2012). Such studies are significant for various reasons. First, college students and university undergraduates have to be competent in the language because most references, books, and materials at colleges and universities are published in English. Second, in this era of globalization, the mastery of the English language is necessary because of its importance in international trade, economic development, and the use of new technologies (Lazaro & Medalla, 2004). Third, apart from their analytical thinking, intellectual ability, independence, leadership qualities, communication, and computer skills and work experience, graduates must essentially have a good command of English

at the workplace (Ismail, 2011). Finally, approximately 65,000 local graduates are unable to secure jobs because of their lack of English language competence (Darmi & Albion, 2013).

The Malaysian English language primary and secondary school syllabi placed equal emphasis on language skills of listening, speaking, reading, and writing, in addition to grammar and language structure. However, the mastery of reading skills is central in academic settings (Grabe, 2004) as well as for general purposes (Jodai & Tahriri, 2011). Because one's success in academic achievement is highly dependent on 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.

Rasinski, Padak, and Fawcett (2010) wrote there are essential elements that must be developed in order for students to achieve the success of full literacy. The National Reading Panel (NRP, 2000) listed phonemic awareness, phonics or word recognition, reading fluency, vocabulary, and comprehension as the essential elements. To become successful readers, students must be competent in all five elements and the deficiency in any one or more elements will result in them 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 relationship between these two elements is much documented. The reading community considers fluency an essential element in reading development (Hawkins, Hale, Sheeley, & Ling, 2011; Spencer & Manis, 2010). Reading

that is not fluent has a negative effect on student's reading comprehension (Hapstak & Tracey, 2007).

A study conducted by Rashid and Ar-Riyahi (2010) to investigate the effects of oral reading fluency (ORF) on the comprehension of Iraqi learners at the university level found that ORF and text comprehension are significantly correlated. In addition to that, 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.

The NRP (2000) defined *reading fluency* as the ability to read text aloud with accuracy, speed, and proper expression. Thus, poor fluency may affect a student's ability to comprehend a text. The panel further explained that techniques used to teach ORF consist of three essential features. First, it must include oral reading. Second, it must include repetition so students must read and at times listen to a text repeatedly. The NRP suggested that reading a text aloud repeatedly improves accuracy, speed, and expression. Finally, oral reading instruction must include guidance and feedback so readers must have a listener who is there to offer some assistance (Shanahan, 2006).

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).

The impact of repeated oral reading on fluency was also highlighted by Reutzel

(2012). A meta-analysis of fluency studies showed that fluency practice is most effective when the reading practice involves repeated reading (RR) of a text more than twice. Additionally, its effectiveness is also evident when students are provided with feedback from their teachers, parents, volunteers, and peers.

The idea of RR was first coined by LaBerge and Samuels in 1974 (Samuels, 2012). While working with mentally challenged beginning reading students, Samuels (2012) divided a children's short story into passages about 150 words long. He distributed a copy to each student and read the 150-word passage to them. The students practiced at their desk and then read aloud the short passage to their teacher who recorded their reading rate (words per minute [WPM]) and the number of word recognition errors. The children reread the 150-word passage a few times until they reached a criterion rate of 85 WPM. Once the criterion rate of reading was reached, they were given a new passage to practice. Charts were drawn to show the children their progress and improvement. This marked the birth of the RR strategy. Despite being used in the 1970s, the RR strategy remains relevant. Further discussion of RR is presented in Chapter 2.

Statement of the Problem

One of the most important educational outcomes is the ability of students to read (Harmer, 2008). According to Weaver (1994), reading instruction in school is based on three different views: students are taught to read to pronounce words, identify words and understand their meaning, and bring meaning to a text in order to get meaning from or comprehend a text. Foertsch (1998), on the other hand, stated that although these three views may appear to be different, in fact they frame the whole view of reading. This was consistent with Konza (2014) who asserted that reading development should include oral language, phonological awareness, phonics, vocabulary, fluency, and reading

comprehension. The ultimate goal of reading, however, is reading comprehension or understanding what is read.

In schools, one of the tasks of English language teachers is to get students to read English texts. Through reading, the students are able to acquire language and their vocabulary knowledge. In addition, spelling and writing may be enhanced. Reading texts make good models for writing compositions, and students get ideas to present their views orally and in writing (Harmer, 2008).

In an English language class, a teacher will instruct his or her students to read narratives and retell stories the students have read. Students are also asked to read content area subjects such as science and social studies so they can obtain information. However, they can only retell the stories they have read and acquire information from references, books, and other materials on science and social studies if they could comprehend what they are reading. This illustrates the importance of reading comprehension.

Table 2 shows the results of English language performance in UPSR in 2009 and PMR in 2012. Analysis of the results showed there was minimal progression in their performances. It was found that in the year 2009 when the students sat for their UPSR, 30.9% of them attained Grade C, 18.5% attained Grade D, and 9.3% attained Grade E. In the year 2012, their PMR results showed 19.2% attained Grade C, 24.1% attained Grade D, and 24.1% attained Grade E (Malaysian Examination Syndicate, 2012). In lower Secondary 3, the texts were more difficult than Elementary 6 and results of the PMR illustrated the rise in percentages of those who attained Grades D and E.

Based on the data in Table 2, it can be seen there was an increase in the poor performance of those who attained Grades D and E in the PMR compared to UPSR. It is probable the basic skills of reading had not been acquired by the students such that they

could not perform well in their PMR, which has a higher level reading passages.

Table 2

English Language Performance in Primary School Assessment (UPSR) in 2009 and Lower Secondary School Certificate (PMR) in 2012

		Grade (%)		
Examination	Year	C	D	E
UPSR	2009	30.9	18.5	9.3
PMR	2012	19.2	24.1	24.1

Every year, Malaysian English language teachers are required to attend a compulsory 7-day professional development course that focuses on teaching and learning. Hence, they are well equipped with appropriate instructional techniques. In view of this, the poor performance recorded in the 2012 PMR may not be the result of teachers' poor classroom instruction. On the contrary, the lack of teachers' assistance at the lower secondary level may be the cause of their poor performance in the PMR. This assumption is made based on the author's personal experience of teaching in secondary schools in which students who experience difficulty in reading English texts in school are often neglected by their teachers.

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. Despite this important association between reading fluency and reading comprehension, it is unlikely for Malaysian 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.

Teaching secondary school L2 students reading fluency may impact their reading skills. Joseph and Schisler (2009) reported there is generally a substantial effect of teaching basic reading skills on adolescents' reading achievement, especially on their fluency performance. Teaching reading fluency to struggling readers is indeed a crucial element for it is seen as a bridge between decoding words and comprehension (Therrien & Kubina, 2006).

The NRP (2000) has focused much attention on studies that illustrate the best way to teach beginning reading that include reading fluency (Therrien & Kubina, 2006). Substantial progress has also been made in considering what abilities young children must have to promote beginning reading skills (Alexander, 2009). Studies have been conducted to identify conditions in which young children can be taught most effectively. However, there is an obvious lack of evidence to show how certain abilities can be acquired and taught to adolescents.

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 more studies should be conducted in this area. Thus, conducting an investigation on the development of reading fluency to improve reading comprehension through RR among the lower Malaysian secondary students is significant. An Internet

search in ProQuest, ERIC, and EbcoHost indicated no studies had been carried out to investigate the impact of RR on student's reading fluency in Malaysia. As such, the present study investigated the impact of the RR strategy on the reading fluency of Malaysian lower school secondary students and the impact of reading fluency on reading comprehension.

Deficiencies in Evidence

Relevant literature and studies showed the impact of RR on reading fluency. Samuels (2012) claimed that when lesser attention is required for decoding words, more attention becomes available for comprehension. Hence, RR not only builds fluency but at the same time it enhances comprehension.

Although there are extensive studies on the effectiveness of the RR strategy on reading fluency, there are certain issues which need to be addressed. Therrien and Kubina (2006) claimed numerous studies indicated that quantitative data were collected by the respective researchers involving studies on the use of RR as an intervention. However, the questions that remained unanswered were (a) are students able to read longer grade level text independently, (b) are they able to comprehend other texts at their grade level text, and (c) do their reading habit change after they have acquired reading fluency? This is the gap or deficiency in the literature.

Malaysian lower secondary English language teachers should examine the importance of teaching reading fluency in schools because the NRP maintains that oral reading instruction has a positive impact with students from Grade 1-9 (Shanaman, 2006). This notion was supported by Rasinski, Rikli, and Johnston (2009) who found moderately strong correlations between fluency and silent reading comprehension in standardized achievement tests at Grades 3, 5, and 7. Their findings affirmed that reading

fluency may be an important variable in upper elementary and middle grade students' reading.

Audience

The decline of the English language in Malaysia and the reading difficulties of a sizable portion of the secondary school student population indicated that it was timely to investigate the impact of RR on the reading fluency of the lower secondary students experiencing reading difficulties. The ability to use the RR strategy to enhance students' fluency could help practicing teachers to plan an intervention to help those students who are experiencing reading difficulties in school. Due to its simplistic nature, these teachers could also use RR as part of their reading instruction in any school setting, both rural and urban, and at any grade level. Preservice teachers, on the other hand, could use the RR strategy to deal with weak readers during their teaching practicum. Additionally, they could also use the strategy to assist students who are placed in the school English remedial reading program.

At the university level the faculty could include the use of RR intervention in enhancing students' reading fluency as part of the content of the Reading Skills course in the Teaching of English as a Second Language (ESL) Bachelor in Education program. In addition, the findings of this study will add to the body of knowledge, and other researchers should be able to replicate the study in a different setting using different participants and age groups.

Definition of Terms

This study looked into the effectiveness of RR in enhancing fluency of lower secondary school children. Several terms used throughout this study are defined.

Fluency. This term refers to the ability to read with accuracy, speed, and proper

expression. It is the quick and effortless reading of text; a skill that struggling readers lack (Musti-Rao, Hawkins, & Barkley, 2009). Fluency in this study refers to the ability of the students to read a text accurately, without hesitation, and with proper intonation and expression.

Accuracy. Accurate decoding of words in text is the first dimension of fluency. It is the stage where readers can sound out the words in the text with minimal errors (Rasinski, 2004a). In this study, accuracy refers to the stage in which students are able to read almost every word in the text accurately.

Automaticity. This term refers to decoding words with minimal use of attentional resources (Rasinski, 2004b). The theory of automaticity in reading suggests that proficient word decoding occurs when readers move beyond conscious, accurate decoding to automatic, accurate decoding. Reading rate provides a way of determining students' level of automaticity. The assumption is that fast reading is a reflection of automatic in word recognition. In this study, automaticity refers to the stage in which students are able to read text quickly and not word-by-word decoding.

Prosody. This term refers to the appropriate use of phrasing and expressing to convey meaning (Rasinski, 2004b). Prosody in this study refers to the instance in which students read the text with appropriate intonation and expression.

Repeated reading (RR). This term refers to an educational strategy to develop reading fluency in which a student rereads a passage until he or she obtains a criteria level (Therrien & Kubina, 2006). In this study, RR refers to the intervention in which students will read the same text four times and their reading score will be charted to illustrate their reading fluency improvement.

Repeated reading (RR) intervention. RR intervention consists of three essential

instructional components: (a) passages should be read aloud to a competent tutor, (b) corrective feedback should be provided, and (c) passages should be read until a performance criterion is reached (Allington, 2009). During the RR intervention, students will read to their teacher. Their teacher will say out the words they fail to decode within a specific time. They will be given feedback on their reading progress and they will read the text four times to enable them to achieve a specific criterion.

Comprehension. This term involves the process of decoding printed codes (Kabilan, Seng, & Ooi, 2010), the ability to read words accurately and fluently (Duke & Block, 2012), and making meaning attributed to the transaction between the reader and the text. In this study, comprehension refers to the ability of the students to read printed text fluently and understand the text they are reading.

First language (L1). An individual's L1 is the language he or she acquires during his or her early years or infancy (Finegan, 2008) or his mother tongue (Harmer, 2008). In this study, L1 refers to the main language that students use in their daily real-life situation.

Second language (L2). An individual's L2 is any other language that he or she acquires after his or her L1 (Finegan, 2008) or mother tongue (Harmer, 2008). In this study, L2 refers to the English language, the language students learn in school.

Form 1 students. In the Malaysian school system, secondary education is made up of 5 years of schooling; 3 years of lower secondary and 2 years of upper secondary. In the lower secondary, students aged 13 to 15 years are placed in Form 1, Form 2, and Form 3. The upper secondary school students aged 16 and 17 are placed in Form 4 and Form 5 (Ministry of Education Official Portal, n.d.). In this study, Form 1 refers to 12- to 13-year-old students who are studying in the lower Malaysian secondary schools. This is

equivalent to 13-year-old children in Grade 6 or 7 studying in the middle school or junior high in the United States (Corsi-Bunker, n.d.).

Chapter 2: Literature Review

This chapter is divided into six sections. The first section provides an overview of reading fluency and how fluency impacts comprehension. The second section discusses the theoretical concept, which includes the automaticity theory (Samuels, 2004, 2012) and the verbal efficiency theory (Perfetti, 2001, 2007). The third section is about fluency in the L2 and foreign language (FL) context, and the fourth section explains fluency beyond the elementary grades. The RR strategy and its procedure are discussed in the fifth section, and this chapter ends with the oral fluency reading assessment.

Reading Fluency and Reading Comprehension

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 relationship between reading fluency and reading comprehension is evident. Studies spanning over 20 years affirmed the association between these two elements (Grabe, 2010; Rasinski, 2012), especially in the L1 context (Grabe, 2010). In fact, the correlation between fluency skills and reading comprehension is as high as $r = .81$ to .90 (Grabe, 2010). The association between reading comprehension and fluency can be attested by a study conducted by Neddenriep, Fritz, and Carrier (2011). Neddenriep et al. conducted a study that sought to understand the relationship between changes in reading

fluency and associated changes in comprehension at the individual level. Neddenriep et al. used the evidence-based instruction components to affect the reading fluency of 5 fourth-grade students within a 15-week period to assess generalized improvements in comprehension during the same period. The researchers used a brief intervention assessment to find out the essential components necessary to increase the participants' reading fluency.

During the 15-week period, Neddenriep et al. (2011) implemented repeated practice with performance feedback and error correction. At the end of the intervention, they found participants indicated an average 25% increase over baseline levels of performance. This represented an average gain of 15 words from baseline to intervention and an effect size of 1.25. They additionally found that four out of the five participants recorded meaningful gains in comprehension at a rate surpassing the normal growth rate for fourth-grade students. At the end of the 15th week, the four students improved their reading fluency; they were reading at an instructional or mastery level.

The correlation between reading fluency and reading comprehension was also highlighted by Rasinski et al. (2005). Their work at a university reading clinic indicated that difficulties in reading fluency were evident in the majority of students in Grades 2 through 8 who were referred to them for reading difficulties. According to Rasinski et al. (2005), although the main reason for referral may supposedly be difficulties in reading comprehension (especially among intermediate and middle-grade students), they found that lack of fluency comes with the difficulties in comprehension. Their clinical intervention program that dealt with fluency and comprehension saw students making significant gains in both components.

Testimony involving the correlation between fluency and reading comprehension

was also reported by Pinnell et al. (as cited in Pikulski & Chard, 2005). According to Pinnell et al. (as cited in Pikulski & Chard, 2005), a large-scale analysis of data from the National Assessment of Education Progress in Reading indicated that 44% of the subjects in the study were not fluent when reading grade-level materials they had previously read silently. The study reported a significant positive relationship between ORF and reading comprehension performance.

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.

The importance of reading fluency in enhancing students' comprehension ability calls for the identification of fluent or skilled readers and compares them with those who are dysfluent. Shriver (2006) asserted that fluent readers are capable of reading orally with speed, accuracy, and correct expressions. Binder et al. (2012) alternatively stated that skilled readers are those who have mastered or have automaticity with words and phrases. They asserted that fluent readers are competent at performing text-level cognitive process like comprehension while readers who are less skillful tend to struggle with letter-sound recognition. Word recognition is the basic component of reading. Therefore, in order to help dysfluent readers improve their reading fluency, it is important to understand what constitutes reading fluency.

Researchers have described fluency in a number of ways. Schreiber (1980) described fluency as the ability in which the reader is competent and able to read nontechnical text effortlessly, smoothly, and automatically. In order to arrive to this stage of reading ability, the reader must go beyond simply coding words; instead, the ability to put words together into meaningful sequences must also be learned. Unlike Schreiber, Grabe's (2004) definition of reading fluency was more explicit. He claimed that reading fluency includes word recognition accuracy and automaticity. This means fluent readers are able to rapidly process text (indicating they have reading efficacy) and they use prosodic and syntactic structures. In agreement with Grabe (2004) was Rasinski (2004a) who described ORF as the ability to read a text both orally and silently with the correct speed, accuracy, and expression. Rasinski (2004a) claimed that readers with reading difficulties can accurately sound out the words they come across but they read word by word and often hesitate at difficult vocabulary. Their oral reading displays little attention to punctuation and phrasing and lacks expression and enthusiasm. However, they can still understand texts that are read to them by a teacher, their parents, or an adult.

In accordance with Grabe's (2004) and Rasinski's (2004a) assertions, Pikulski and Chard (2005) stated that reading fluency is about rapid, efficient accurate word recognition skills that allow a reader to elicit the meaning of a text. They maintained fluency is also evident in accurate, rapid, expressive oral reading and is used during silent reading, which allows comprehension to occur. Another definition of fluency was given by Hudson, Pullen, Lane, and Torgesen (2009). They defined *reading fluency* as correct reading of connected text at a conversational speed with appropriate prosody. These authors additionally stated that fluency is often measured as a combination of rate and accuracy, which is the number of correct words read aloud per minute.

The definitions put forth by Grabe (2004), Hudson et al. (2009), Pikulski and Chard (2005), Rasinski (2004a), and Schreiber (1980) demonstrated that reading fluency involves accuracy and automaticity in reading and prosody or reading with expression. However, Samuels (2012) took a different stance and claimed that the most important attribute of a fluent reader is the ability to decode and comprehend a text simultaneously. Samuels (2012) claimed that other traits of fluency such as accuracy of word recognition, speed of reading, and reading with expression in oral reading are merely indicators of fluency. In this regard, Samuels (2012) maintained that the essence of fluency is the ability to decode and comprehend text at the same time.

Despite Samuels' (2012) claim that accuracy of word recognition, speed of reading, and reading with expression are mere indicators of fluency, researchers have continued to regard the three dimensions of accuracy, automaticity, and prosody or expressive reading as the key elements in developing reading fluency. Rasinski (2004a), for instance, claimed that reading fluency involves three important dimensions that form the bridge to comprehension. The first dimension is accuracy in word decoding, which requires a reader to sound out words in a text with minimal errors. This refers to phonics and other strategies for decoding words. The second dimension 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. The third dimension is prosody or prosodic reading. The reader must 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.

To prove the importance of prosody in meaning making let us analyze the sentence, "Robert borrowed my new bicycle" (Rasinski, 2012, p. 519). This is a declarative sentence, which describes an act undertaken by Robert. Emphasizing a single word adds implied or inferred meaning to the obscure sentence. Rasinski (2012) offered the following examples:

> Robert borrowed my new bicycle (Robert, not Raymond, borrowed my bike)
>
> Robert borrowed my new bicycle (Robert did not steal my bike)
>
> Robert borrowed my new bicycle (Robert didn't borrow your bike, he borrowed mine)
>
> Robert borrowed my new bicycle (Robert didn't borrow my old bike, he borrowed the new one)
>
> Robert borrowed my new bicycle (Robert didn't borrow my new book, he borrowed my new bicycle. (p. 519)

The analysis of the sentence, "Robert borrowed my new bicycle," is proof that prosody is indeed important in reading comprehension. Despite Samuels' (2012) assertion that accuracy of word recognition, speed of reading, and reading with expression are mere indicators of fluency, the importance of these three dimensions cannot be ignored. Studies indicated substantial correlation between word recognition and reading comprehension; a correlation of .74 and .69 for first- and second-grade children (Nation, 2008). A high correlation between reading rate and reading comprehension was also reported (Rasinski, 2012).

Theoretical Concept

The significant role fluency plays in efficient and successful reading is centered on two theories of reading, namely, the automaticity theory (LaBerge & Samuels, 1974) and the verbal efficiency theory (Perfetti, 1985). LaBerge and Samuels' (1974) Theory of

Automatic Information Processing 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. Perfetti (1985) expanded this theory when he justified that focusing on decoding consumes memory capacity, which hinders comprehension (Wexler, Vaughn, Edmonds, & Reutebuch, 2007). Both theories affirm that readers can only allocate a limited amount of attentional resources capacity at any one time.

Theory of automatic information processing in reading. The automaticity theory explains how people become highly skilled at demanding tasks such as driving a car or reading a book. When dealing with the learning of a complex skill, excellent instructors will break down any complex skill into subskills. At the beginning stage, while trying to attain the level of accuracy, a learner needs to place much effort and attention into the task. This happens because only one task can be carried out at a time; however, with practice, the situation will change over time.

Samuels (2004) uses the analogy of a beginning driver to explain this theory. According to Samuels (2004), beginning drivers generally dislike talking to their passengers or listening to any talk show on the radio while driving. The reluctance to talk to their passengers or listen to the radio is based on the assumption they can only carry out one task at a time. However, with practice, the mechanics of driving becomes less difficult and actions such as changing lanes, watching for traffic lights, and avoiding accidents can be done with speed, accuracy, and little attention. Once the driving becomes automatic, these drivers can do two or more things at the same time. This explains how skilled drivers can carry out numerous tasks at a time while beginning drivers are unable to do so.

To explain the change from beginner to expert, automaticity offers certain

assumptions. First, it assumes the human mind has a limited or insufficient capacity to conduct a complex task. Second, it assumes that 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. Third, 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).

The reading process entails that two tasks are carried out at the same time. First, the student must decode or recognize the printed words, and, second, the student must be able to construct meaning of the words (comprehend) that were decoded (Pikulaki & Chard, 2005; Samuels, 2012; Therrien, 2004). For a beginning reader, the decoding task is difficult, so much so that all of his or her mental capacity is used up in the word recognition process. The student is unable to construct meaning or comprehend a text when his or her entire mental capacity is utilized in the decoding process, which results in the inability to construct meaning (comprehension). Once the student is able to decode the words, he or she can switch attention to getting meaning. At this stage, the reading process is one of switching attention back and forth from decoding to meaning making (comprehension). The attention switching process is slow, effortful, and taxing on memory. This process is illustrated in Figure 1 from Samuels (2013).

Samuels (2004) noted, "In beginning reading, attention is switched alternately from decoding to comprehension. Only one task can be done at a time" (p. 1132). 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 easier and

eventually becomes automatic. *Automatic* means the words can be decoded easily with speed and accuracy.

A. Beginning Reading.

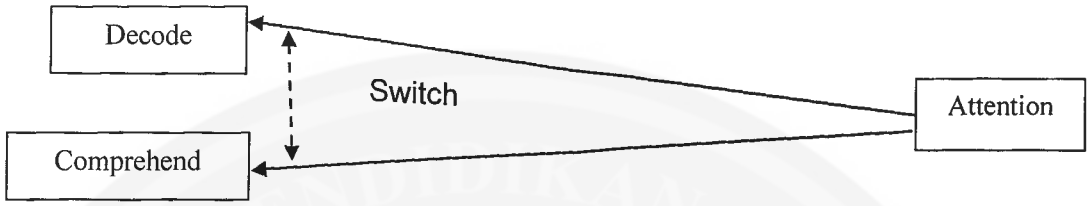

Figure 1. The attention slow switching process.

From Toward a Theory of Automatic Information Processing in Reading, Revisited, in D. E. Alvermann, N. J. Unrau, and R. B. Rudell (Eds.), *Theoretical Models and Processing of Reading* (6th ed., pp. 698-718), Newark, DE: International Reading Association. Reprinted with permission from the International Literacy Association (previously International Reading Association).

Once the decoding task becomes easy and does not utilize all of the processing capacity of the mind, the reader is able to direct the unutilized fraction of the mind toward meaning making. This is the most important trait of a fluent reader; the ability to decode and to comprehend text simultaneously. Other characteristics of fluency including accuracy of word recognition, speed of reading, and the ability to read orally with expression are purely indicators of fluency (Samuels, 2004). This process is illustrated in Figure 2 from Samuels (2013).

B. Fluent Reading

Figure 2. The attention fast switching process.

From Toward a Theory of Automatic Information Processing in Reading, Revisited, in D. E. Alvermann, N. J. Unrau, and R. B. Rudell (Eds.), *Theoretical Models and Processing of Reading* (6th ed., pp. 698-718), Newark, DE: International Reading Association. Reprinted with permission from the International Literacy Association (previously International Reading Association).