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Abstract

The study investigated the levels of reading accuracy of Malaysian adult ESL learners and the possible differences in the accuracy based on gender. 210 Diploma students from one of the local universities in Malaysia were selected as its samples. The research findings found that 99% of the learners' reading accuracy abilities were at the Frustration and the Instructional Levels. Females obtained higher mean scores than the males. No significant difference in the mean scores of reading accuracy between males and female was found. Several recommendations were suggested in the efforts to enhance ESL learners' reading accuracy.

Keywords

Reading Accuracy, Adult ESL Learners, Gender, Frustration Level, Instructional Level

1. Introduction

Reading accuracy or commonly known as word-reading accuracy refers to the ability to decode or recognize words correctly. Strong understanding of the alphabetic principle, the ability to blend sounds together and the knowledge of a large bank of high frequency words are required for word-reading accuracy (Rasinski & Padak, 2001).

High level of reading accuracy is necessary to develop at-a-glance word recognition because it takes repeated accurate readings of a word to turn it into an at-a-glance word (Rasinski & Padak, 2001). The basic theory that underlies the notion of at-a-glance word recognition indicates that after multiple successful pronunciations of a word ((10 to 25 times), only then the word can become part of a reader's sight word (Samuels, 2006). At this point, there is no longer any need for the reader to sound the word out. At a glance, sight words are recognized very quickly and these words require the use of little cognitive attention (Segalowitz, 2000). The need for high accuracy is the reason why developing decoding skills is one of the important aspects of becoming a successful reader. A learner's reading should at least have a 95 percent accuracy (no more than 1 misread word in every 20 words read) in order to be considered as a fluent reader. However, if a reader is reading independently, 98 or 99 percent accuracy level is considered to be appropriate (Allington, 2009).

Poor reading accuracy may affect comprehension and

fluency. A reader who reads words incorrectly will have some difficulties to understand the author's intended message hence will result to misinterpretations of the text. Evidently, in the 2002 Oral Reading Fluency Study, researchers have found that when children make errors that change the meaning of the text, there is a more direct relationship to reading comprehension than the errors that do not result in a change of meaning (National Assessment Governing Board, 2002).

The present study was conducted based on two research objectives namely to evaluate the learners' levels of reading accuracy and to evaluate differences in the levels of reading accuracy in terms of gender. Based on its research objectives, two research questions were formulated:

- 1. What are the learners' levels of reading accuracy?
- 2. Is there any difference in the level of reading accuracy in terms of gender?

2. Literature Review

In order to accurately read a text, a reader must decode words correctly. The reader should be able to identify the sounds represented by the letters or letter combinations; blend phonemes; read phonograms and use both letter-sound and meaning cues to determine exactly the pronunciation and meaning of the word that is in the text (Hudson, Lane & Pullen, 2005). Reading accuracy skill can aid language instructors to identify students who can succeed in literacy and those who struggle (Knight & Galletly, 2006). Reading accuracy difficulties are strongly related to difficulties in spelling, writing, vocabulary, language skills and reading comprehension (Adams, 1990; Chard, Simmons & Kameenui, 1998; Stanovich, 1986).

Fluent readers decode words accurately and automatically, without (or with minimal) using their limited attention or conscious cognitive resources (Rasinski, Blachowicz & Lems, 2006). The theory of automaticity in reading (AT) suggests that proficient word decoding occurs when readers move beyond conscious, accurate decoding to automatic, accurate decoding (DeKeyser, 2007). At the automatic level, readers are able to decode words with minimal attention to the activity of decoding. They do not have to examine closely or sound out most of the words they encounter; they simply recognize the words instantly and accurately on sight. This type of processing frees the reader's conscious attention to comprehend or construct meaning from the text (Farstrup & Samuels, 2002). According to the automaticity theorists, the best way to ensure transition (the shift from decoding accurately to decoding automatically) is through extensive practice. It is through practice readers can develop their expertise (Kuhn & Stahl, 2003).

Whitaker's (1983) continuum of automatization (Figure 1) further emphasizes the role of extensive practice. According to Whitaker (1983), the stages of behavior acquisition are best expressed as a continuum, not a dichotomy. Starting from the end of this continuum, a person gradually acquires the automaticity of a behavior with repeated practice. Whitaker (1983) compares this behavior with the stages in learning a musical instrument. In learning a musical instrument, a person starts from the novel (novice) stage; with sufficient practice and improvement, the person acquires the skills necessary to play a piece of music beautifully and fluently (Whitaker, 1983).

<......VolitionAutomated......> novel.... variable... familiar...practiced...habitual (Whitaker, 1983, p. 200)

Fig. 1. Continuum of Automatization.

Verbal Efficiency Theory (VET) proposed by Perfetti (1988) also focuses on automaticity in decoding. While AT confines the notion of automaticity to decoding processes, VET expands the notion beyond lower-level decoding processes (Walczyk, 2000). Cited in Perfetti (2007), VET theorizes that higher-level reading processes (resolving anaphors. integrating propositions, using basic cognitive and metacognitive strategies, and activating relevant background schemas) can be automatized through extended practice. The theory describes a hierarchy among individual reading process subcomponents. At the basic process of lexical access is letter identification, and beyond that is word recognition (Perfetti, 2007).

Gender differences in reading accuracy have attracted many scholars and some of the earlier studies on this matter were done by Sebesta (1969); Baron (1979); Farmer, Nixon and White (1976); Thompson, (1987) and Hayes, Gary and Zoe (1994). Studies by Sebesta (1969) and Farmer, Nixon and White (1976) had reported gender differences where boys made greater use than girls of phonological mediation in word reading. Baron (1979) revealed that 9 and 10 year-old boys took more time than girls to read lists comprising adjacent inconsistent spelling-sound relationships. words with Thompson (1987), who conducted three studies of predicted gender differences in cognitive processes of word reading, stated that there were gender differences in all of his studies. Hayes, Gary and Zoe (1994) reaffirmed the existence of gender differences in the underlying structure of reading scores of 235 men and 163 women. This study used separate speed and accuracy measures from tests of reading comprehension and vocabulary.

A study by Behavioral Research and Teaching (2004) revealed that in terms of oral reading fluency, significant differences were found in all of the demographic comparisons (school income level, gender, ethnicity, special education status and English Language learner status). Below, Skinner, Fearrington and Sorell (2010) who examined gender differences in early literacy revealed that there was a significant difference between males and females in terms of their oral reading fluency. Baker (2010) who used AIMSweb to measure oral reading fluency and the AIMSweb data indicated a significant difference between male and female respondents. Galletly, Galletly, Knight and Dekkers (2009) indicated a significant difference between boys and girls in terms of their reading accuracy. More boys were identified as the low achievers in all year levels namely from Year 2 for real word reading, and from Year 5 for non-word reading (Galletly, Galletly, Knight & Dekkers, 2009). Similar findings were also found in Leach et. al's (2003) study. Evidently, these studies justified the existence of late-emerging reading-accuracy difficulties according to gender. National Education Monitoring Project (2004) found that in terms of accuracy of reading, girls' mean scores were higher than boys' at year levels and reading tasks. The differences in the mean scores were also found to be statistically significant. Girls were reading at a more accurate level than boys, which might indicate their higher competency in reading (National Education Monitoring Project, 2004).

3. Methodology

3.1. Research Instruments

Several research instruments were used in this study namely the oral reading fluency assessment, accuracy level formula, levels of performance for word decoding accuracy and two reading texts.

3.1.1. Oral Reading Fluency Assessment

An oral reading fluency assessment was chosen to examine learners' reading accuracy. Fuchs, Fuchs, Eaton & Hamlet (2000) highlighted that oral reading and contextual reading were found to be the best measure of reading fluency. Oral reading fluency was also found to be the most valid measure of overall reading skill because it could provide a quick but valid snapshot of learners' performance. This assessment could also allow a fairly immediate identification of learners who might not be making adequate progress and those who might require additional, more intensive, or more targeted instructions (Rasinski, 2004).

3.1.2. Accuracy Level Formula

The learners' reading accuracy was calculated using the accuracy level formula (Rasinski, 2003). Based on this formula, accuracy was determined by dividing the number of words read correctly with the total number of words read and multiple by 100. For example, in a one-minute reading, if a learner read 53 words and had 4 errors, her accuracy level was 92% (49 [WRC] was divided by 53 [Total Words Read] x 100).

3.1.3. Levels of Performance for Word Decoding Accuracy

Levels of performance for word decoding accuracy (Rasinski (2003) was closely referred to in examining and interpreting the learners' performance. The reading accuracy performance was categorized as: Independent Level (97-100% accuracy), Instructional Level (90-96% accuracy) and Frustration Level (< 90% accuracy). Learners who scored in the range of 97-100% (Independent Level) were identified as being able to read the assessment text or other text of similar difficulty without assistance. Learners who scored within the range of 90 - 96% (Instructional Level) were identified as being able to read the assessment text or other text of similar difficulty with some assistance. Learners who scored below 90% in word accuracy (Frustration Level) were identified as learners who found the assessment text or other texts of similar difficulty too challenging to read, even with assistance.

Table 1. Levels of Performance for Word Decoding Accuracy.

Level	Percentage
Independent Level	97 - 100%
Instructional Level	90-96%
Frustration Level	< 90%

3.1.4. Text Selection

The selection of the reading texts used in the study was based on Alderson's (2000) text variables. According to Alderson (2000), reading materials selected from familiar settings, on everyday topics, were likely to be easier to process than those that were not.

Two different reading texts were used in this study. These reading texts were not academic subject or topic bound. These texts were selected from local newspapers and each reading text was about 1,100 words. Both reading passages were simplified in terms of their syntax, semantic as well as vocabulary. Simplification of the texts would make the text more readable (Alderson, 2000).

A readability analysis was run on both reading texts used in the study to ascertain their readability - their suitability for ESL learners at the tertiary level. Dale-Chall Readability Formula - the revised version (Dale & Chall, 1995) was used to ascertain the suitability of the reading texts according to the learners' academic level (the tertiary level). McAlpine EFLAW Formula (McAlpine, 2004) was later used to determine the ease of the texts for ESL learners.

The readability index for reading text 1 was 9.56 while the readability index for reading text 2 was 9.03. These results revealed that both texts were suitable for university/college learners. The EFLAW index for reading text 1 was 22.8 (quite easy to understand) while the EFLAW index for reading passage 2 was 21.9 (quite easy to understand). Generally, the McAlpine EFLAW Formula indicated that both passages were suitable for ESL learners.

3.2. Samples

210 learners were chosen from two academic courses. Equal numbers of learners were selected from Business Studies and Banking courses. The samples consisted of 75 males and 135 females (the number of males and females was recorded as unequal in the selected university). The Malaysian Upper Secondary English Assessment results (acknowledged by the Board of Malaysian Examination Syndicate) were used as indicators of the learners' language performance. Table 2 illustrates the distribution of the learners based on their English grades.

Table 2. Distribution of Learners based on English Grades.

No. of learners	English Grade	Proficiency Level
70	А	Good
70	В	Average
70	С	Weak

3.3. Research Procedure

Session 1 and Session 2 were carried out accordingly. Session 1 was meant for oral reading fluency assessment for reading text 1 and session 2 was meant for oral reading fluency assessment for reading text 2.

Session 1 and Session 2 were conducted in order to have a more valid and accurate performance of each learner. Since two different passages were used, the median or middle score was used in the data analysis (Rasinski, 2003). Mean scores for reading accuracy were recorded using a specific score sheet.

In Session 1 and Session 2, the oral reading fluency assessment was conducted on an individual basis and it was done during the learners' regular class time. Each learner was asked to read aloud a reading text in a normal way where his or her reading was taped-recorded. Ten minutes were allocated for each reading session. Timing of a learner's reading of a connected text could allow observations of the number of words read correctly and the number of errors made in a given time duration (Rasinski, 2003; Samuels, 2006).

Each taped-recorded reading was analyzed using the accuracy level formula to determine the reading accuracy score. The obtained score was then be interpreted according to the levels of performance for word decoding accuracy.



Fig. 2. Research Procedure.

4. Findings and Discussion

The learners' reading accuracy was categorized based on three levels namely Frustration, Instructional and Independent.

Before interpreting the independent samples *t*-test output to verify the significant differences in terms of gender for reading accuracy, the researchers must examine the existence of homogeneity of variance. To test for the homogeneity of variance, Levene's test for equality of variance was used. Levene's test evaluated the assumption that the population variances for male and female groups were equal. If the test result was significant (p<.05), one could conclude that the equality-of-variance assumption was violated. Nevertheless, if the test result was not significant (p>.05) one could conclude that the equality-of-variance assumption was not violated.

Since the test result of the Levene's test for reading accuracy was not significant, p = .44 (p>.05), it could be confidently claimed that its population variance in this study was approximately equal.

Figure 3 illustrates that out of 210 learners, 115 (54.8%) of them were at the Frustration level while 93 (44.2%) learners were at the Instructional level. Only 2 (1%) learners managed to reach the Independent level.



Fig. 3. Reading Accuracy Performance.

Figure 4 further elaborates that 41 (19.5%) males and 74 (35.2%) females were at the Frustration level. In contrast, the

Instructional level comprised 25 (11.9%) males and 68 (32.4%) females. Only 2 (1%) learners (1 male and 1 female) had successfully achieved the Independent level.



Fig. 4. Reading Accuracy Performance by Gender.

The analysis also revealed that females obtained a higher mean score ($\bar{x} = 1.49$, SD = .52) than males ($\bar{x} = 1.40$, SD = .51). However, the analysis revealed that there was no significant difference between the males and females, *t* (208) = -1.13, p = .26 (p > .05).

The results of the analysis showed that 99% of the learners' reading accuracy abilities were at the Frustration and the Instructional levels. This finding clearly revealed that majority of the learners had difficulties decoding or recognizing some words in the assigned reading texts (one of the distinct attributes of non-fluent readers). The finding also justified that accuracy had some influence on efficiency of word recognition or word decoding among adult learners.

The learners' poor word decoding or word recognizing could be due to their limited understanding of the alphabetic principle and limited ability to blend sounds together (Ehri & McCormick, 1998).

These constraints could greatly affect the learners' abilities to identify sounds represented by the letters or letter combinations; to blend phonemes and to read phonograms (common patterns across words). Not only that, these learners could also have difficulties to use letter-sound and meaning cues to determine exactly the pronunciations and meanings of some of the words that were used in the assigned reading texts. In other words, these learners would have major problems in recognition skills at the sub-word level, word level or text level (Perfetti, 2007; Breznitz, 2006; Torgesen, Rashotte & Alexander, 2001).

The learners' degree of familiarity with phonological features and a word's phonotactic regularity could also be another drawback. The degree of familiarity heavily depends on how much similarities and dissimilarities that L1 (first/native language) and L2/FL (second/foreign language) have. The less the similarities between the feature set of the first/native language and the second/foreign language), the harder it will be for language learning. According to Ellis and Beaton (1993), learners' degree of familiarity with phonological features and a word's phonotactic regularity could influence learners' accuracy in perceiving, saying and remembering a word.

Realistically, different languages make use of different

ranges of articulatory features thus first language (L1) interference may possibly happen in L2/FL learning. In this study, the L1 interference (Malay Language) was obviously detected in the learners' pronunciation of English words used in the tested reading texts. Many of them had either mispronounced some words (their pronunciation was heavily based on their L1's articulatory features that had led to incomprehensibility of those words) or simply skipped some words (the words were difficult to pronounce) while reading.

Besides that, the way a word is pronounced depends not only on its phonemes and its articulatory features, but also by their position (absolute and relative position) in a spoken word (Ehri & McCormick, 1998). If the L1 and the L2/FL have some dissimilarity on this feature, the pronounceableness of a word may be affected. Due to some contrastive features in terms of the word position between English and Malay Language, many learners in this study encountered some difficulties in their pronunciation. The fact that words that are difficult to pronounce are learnt and perceived at a much slower rate than the easily pronounced words (Roger, 1969; Gibson & Levin, 1975) could also be one of the causes for the poor accuracy abilities in this study.

Word class or the part of speech of a word was also identified as one of the factors that had influenced the learners' accuracy. Auxiliary verbs, adverbs and pronouns were often ignored/dropped or mispronounced. This finding justified the effects of the part of speech of a word on L2/FL learning. According to Rodgers (1969), nouns are the easiest to learn, adjectives next, whereas verbs and adverbs are the most difficult to learn in L2/FL learning. Function words, inflections and pronouns are also documented as sources of difficulties in language learning (Ellis & Young, 1988; Morton & Patterson, 1980; Patterson, 1981).

Different accuracy abilities between males and females had evidently unveiled that word recognition or word decoding was a source of individual differences in reading performance. This finding also reaffirmed the influence of learners' characteristics – gender, age, language background and field of study on non-native speakers' language performance.

5. Conclusion

The findings of the study highlight the importance of planning effective reading-accuracy instructions to enhance learners' reading-accuracy skills. Reading-accuracy instructions should be classroom-friendly and can be easily integrated within literacy practice. Flexible grouping is one of the effective instructional practices that can be adapted. Flexible grouping consists of temporary groups that have mixed abilities members and these groups can be formed based upon either student interest or instructional needs (Reutzel, 2003). Flexible grouping allows small numbers of students to receive instruction designed to meet their specific learning needs. Therefore, it is easier for language instructors to plan suitable and relevant strategies to cater learners who are experiencing difficulties.

The findings also suggest a need for further research on

reading-accuracy achievement across primary and secondary school years. The obtained data may help researchers to identify and examine the pattern or the trend of the learners' reading-accuracy abilities which will further assist them to explore possible reading-accuracy difficulties.

The findings further emphasize the importance of having qualitative measures to have an in-depth understanding about possible causes or reasons that underlie learners' poor accuracy abilities. Being able to tap these causes or reasons may greatly help language instructors to come up with better and effective remedies.

Several recommendations are put forward in this paper to serve as a basis for effective instructional practices.

Firstly, it is suggested that language instructors highlight the importance of phonological awareness - auditory blending, auditory segmenting and phonemic manipulation. One of the effective techniques to create the phonological awareness is by conducting a word analysis. Through the word analysis, language instructors are able to teach and train the alphabetic principle: learning that the graphic letter symbols are related to speech sounds and these symbols and sounds can be blended together to form real words. Hager (2001) emphasized the importance of the word analysis because it would allow the learners to "sound out" words that they were unable to recognize by sight. Elements like the understanding of letter-sound correspondences, the ability to recognize sight words, the use of context to determine meanings, the knowledge of prefixes, suffixes and root words as well as the use of dictionaries could be included in the analysis (Kruidenier, 2002).

Secondly, it is recommended that speed drills be put into practice to increase learners' reading accuracy. Speed drills can help learners to rapidly identify sight words and words with common syllable and spelling patterns. The drills may incorporate exposure of words in isolation as well as high frequency words in the context of short sentences and phrases. The Visual-Auditory-Kinesthetic-Tactile (VAKT) method may assist the teaching of sight words because it can help learners with the reading and spelling of phonetically irregular words. Another method that can be used is the spelling assessments which highlight the importance of word analysis skills and automatic word recognition.

Thirdly, it is suggested that oral reading for accuracy sessions be conducted in language classes. Through this method, language instructors are able to monitor their learners' progress. Hence, it is easier for these instructors to identify learners who are positively progressing and vice versa. Furthermore, through regular documentations of learners' progress, language instructors are able to plan effective learning strategies to strengthen high achievers' accuracy skills. Oral reading for accuracy allows opportunities for learners to practice applying word attack and word recognition skills (Hager, 2001).

In an oral reading exercise, a language instructor can act as a model voice in which the instructor personally reads a text or a word list (words in isolation or high frequency words) to the class. By doing so, learners can have a model voice as a reference when they monitor their own reading (Rasinski, 2004). After listening to the model voice, opportunities should be given to the learners to engage in repeated readings where they have chances to reread the text or the word list. At this stage, the language instructor can record each of the learner's reading and uses the documented information to select instructional features that may need attention.

An oral reading exercise can also be conducted by grouping the learners. This procedure works best if groups with mixed abilities are formed. By having such groups, strong readers can act as student teachers to their less skilled readers. In addition, training the learners with some techniques in giving feedback and in managing time can make this procedure works more effectively. The student teachers can act as a model voice, can help with word recognition and can also provide feedback and encouragement to the less skilled readers. In other words, these student teachers can boost motivation, self-confidence as well as becoming a source of support to the less skilled readers. As for the student teachers, the more they use their own knowledge, the more alert they become with their own abilities and progress.

Finally, language instructors should consider using Computer-Assisted Instruction (CAI) in their quest to enhance their learners' reading accuracy abilities. CAI, besides being able to promote interesting and engaging learning, it also allows language instructors to move away from using dull and traditional methods. CAI allows language instructors to use media for information display and learner response. Hence, instructions should be creatively aided by new technologies like computerized accuracy training.

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