

Phonemic Awareness Assessment in First Grade in Public Primary Schools in Mathira East District of Nyeri County, Kenya

Moses Gatambuki Gathigia¹ and Martin C. Njoroge²

Abstract

This study set forth to assess phonemic awareness among Grade One learners of Public Primary Schools in Mathira East District of Nyeri County, Kenya. This study was based on the Sociocultural Theory of human learning. The study population comprised of 40 public primary schools in Mathira East District of Nyeri County, Kenya with a population of 1382 pupils in Grade One. The study sampled 4 public primary schools in line with Gay's (1996) postulation that a sample size of 10% would be representative. The Yopp-Singer Test of Phoneme Segmentation was individually administered by the researchers to test whether the Grade One learners could distinguish the basic phonemes within the spoken word. Each test was marked and scores for each learner recorded. The learners were then categorised into phonemically aware, demonstrating emerging phonemic awareness and lacking phonemic awareness. The study also found that learners experienced pronunciation problems with the voiceless palato-alveolar fricative sound /ʃ/, the voiced dental fricative /ð/, the voiced palato-alveolar affricate /dʒ/, the high, long, back and rounded vowel /u:/ and the diphthongs /ai/ and /ei/. Two linguists with a bias in language education were also interviewed by the researcher in order to recommend the best strategies of enhancing phonemic awareness. The study recommends that phonemic awareness strategies that take into cognizance the alphabetic principle and orthographic familiarity should be employed in the teaching of phonemes. This study concludes that scaffolding explicit phonemic awareness strategies is necessary to ensure that students achieve success in reading and writing.

Key Words: Phonemic awareness, Yopp-Singer Test of Phoneme Segmentation, the Sociocultural Theory

¹ Department of Languages, Karatina University, P. O. Box 1957-10101, Karatina, Kenya. Tel: +254721993915, Email: gatambukimoses@gmail.com; mgathigia@karu.ac.ke

² Department of Linguistics and Communication, Pan Africa Christian University, P.O Box 56875-00200, Nairobi, Kenya. Tel: +254722319499, Email: mnjoroge@pacuniversity.ac.ke

Introduction

Phonological awareness refers to the awareness that deals with parts of oral language such as sentences and / or whole words (Uhry, 1999). According to Reutzel and Cooter (2005), phonological awareness is not synonymous with phonemic awareness. Phonemic awareness, therefore, is a sub category of phonological awareness that refers to the understanding that words are composed of individual sounds called phonemes and the ability to manipulate these phonemes (Koutsoftas et al., 2009; Yopp & Yopp, 2000; Cunningham, 1990; Juel, 1988). Phonemic awareness has also been defined as “a child’s basic understanding that speech is composed of a series of individual sounds, which provides the foundation for phonics and spelling” (Tompkins, 2010, p.146).

Phonemic awareness is considered the most important phonological element to the successful acquisition of reading and writing (Yopp, 1992; Reutzel & Cooter, 2005; Juel, 1988; Yopp, 1988). It has, for example, been noted that poor readers who enter first grade phonemically unaware are very likely to remain readers at the end of fourth grade, since their lack of phonemic awareness contributes to their slow acquisition of word recognition skill (Juel, 1988). Linguists such as Stanovich (1986), Cunningham and Stanovich (1992) and Walberg and Tsai (1983) have explained on the reciprocal influences the so-called “Matthew effects” can have on academic achievement. The concept of the “Matthew effects” is derived from the Bible in Matthew 25:29 which describes a rich-get-richer and poor-get-poorer phenomenon. Thus, applying this concept to reading, we note that learners who begin reading with little phonological awareness have progressively greater difficulty acquiring more complex reading skills like alphabetic coding, word recognition and comprehension (Stanovich, 1986). This may be referred to as a negative Matthew effect (poor-get-poorer). The converse is true resulting into a positive Matthew effect (or rich -get-richer) where learners who quickly develop effective decoding strategies find reading enjoyable (Stanovich, 1993) since phonemic awareness is essential in developing alphabetic principle (Torgesen, Al Otaiba & Grek, 2005). Therefore, phonemic awareness is a crucial concept for students to learn because of how it greatly impacts the outcome of a child’s writing and reading skills (Reading & Van Deuren, 2007).

Reading and writing are integral part of any education system (Juel, 1988). One of the best predictors of whether a child will function competently in school and contribute actively in the society is the level to which the child progresses in reading and writing. In other words, reading is

a basic skill that is used in all aspects of education, which makes it one of the most important skills taught in schools today (Moats, 1999). However, reading in English language is a complicated system of skills and knowledge (Adams, 1990; Putman, 2005). This is because to decode the written words in English, children learn that the spoken words they hear are composed of sounds represented by letters of the alphabet (Ehri, 2005). In order to learn how to read, therefore, a child must have the ability to analyze words to elucidate the sounds involved in words and then eventually connect them to letters (Mason, 1984). A fundamental insight developed in children's early years through instruction and which helps in reading is the alphabetic principle, the understanding that there is a systematic relationship between letters and sounds (Adams, 1990). However, alphabet knowledge is very complex, but necessary for young children to know and understand (Massengill & Sundberg, 2006; Gibson & Levin, 1975). An understanding of the alphabet knowledge is an important facet of phonemic awareness assessment.

Phonemic awareness assessment in kindergarten is one of the best predictors of how well children will learn to read (NRP, 2000). According to Yopp (1988), learners having phonemic awareness can *rhyme*, *blend* sounds, *count* the sounds in a word, *segment* words into sounds, and *manipulate* such as *substitute*, *add*, and *delete* sounds in words (Yopp, 1988). Researchers have noted that one of the most basic difficulties in learning to read stems from a failure in the acquisition of phonological awareness (Adams, 1990). However, despite this well documented relationship between phonological awareness skills and learning to read and spell words correctly, questions about the best strategies of enhancing phonemic awareness still remain unexplored in Kenyan Primary schools. One widely-used assessment of phonemic awareness is the Yopp-Singer Test of Phoneme Segmentation which was developed in 1988 and revised for classroom usage in 1995 (NRP, 2000). The Yopp-Singer Test of Phoneme Segmentation identifies whether a student can distinguish the basic sounds (phonemes) within the spoken word³. This study, therefore, intends to assess phonemic awareness among Grade One learners of Public Primary Schools in Mathira East District of Nyeri County, Kenya.

³ Other tests normally used to test phonemic awareness include: The Phonological Awareness Test (Robertson & Salter, 1995); the Test of Phonological Awareness (Torgesen & Bryant, 1994); and the DIBELS Phoneme Segmentation Fluency (PSF)

Theoretical Framework

This study was based on the Vygotskian Sociocultural Theory. The major tenet of the Sociocultural Theory is that social interaction plays a fundamental role in the development of cognition. In other words, the Sociocultural Theory regards learning a second language as a semiotic process where participation in socially mediated activities is very important (Ellis, 2000). The Sociocultural Theory, therefore, emphasizes a paradigm of teacher-student interaction where the role of the adult is that of collaborator and co-constructor.

Another important tenet of the Vygotsky's theory is the idea that the potential for cognitive development is limited to the Zone of Proximal Development (ZPD)⁴. This zone is the area of exploration for which the learner is cognitively prepared, but requires help and interaction to develop fully (Ellis, 2000). Therefore, supporting children's active position in their learning and assisting them in becoming self-regulated learners is at the heart of the ZPD. In other words, the ZPD places instruction on the part of the teacher as *assisting* and *guiding* learner development and intellectual possibilities in collaborative activities. Ohta (2000) argues that "the construct of the ZPD specifies that development cannot occur if too much assistance is provided or if a task is too easy" (p. 52). Similarly, Aljaafreh and Lantolf (1994) argue that mediation needs to be contingent - meaning that teachers must balance the giving and withholding of guidance and assistance. The quality of interaction between the child and the adult is, therefore, dialogical in nature and is based in the respect of children's interests and needs (Bodrova & Leong, 1996).

A practical implication of the Vygotsky's theory is scaffolding. Scaffolding, as aptly captured by Kao (2010), is one of the cardinal concepts in the Sociocultural Theory, in which the teacher creates supportive conditions in which the learner can participate, and extend his or her current skills and knowledge to higher levels of competence. The concept of scaffolding describes the role of adults or more knowledgeable peers in guiding children's learning and development (Stone, 1998; Hammond 2002). Scaffolding is an attempt to operationalise the concept of teaching in the Zone of Proximal Development (ZPD) (Wells, 1999)⁵. Therefore, a teacher or more experienced peer is able to provide the learner with "scaffolding" to support the learner's evolving

⁴ The ZPD, defined as the distance between what a student can do with and without help (Vygotsky, 1978), is used to explain the social and participatory nature of teaching and learning.

understanding of knowledge domains or development of complex skills. The tenets of the Sociocultural Theory make it an appropriate framework for this study.

Methodology of the Study

This section is divided into the following sub sections: Participants and settings, materials and procedures, data presentation and analysis as discussed below:

Participants and Settings

The target population of this study comprised of 40 public primary schools in Mathira East Sub County of Nyeri County, Kenya with a population of 1382 pupils in Grade One. The study sampled 4 public primary schools in line with Gay's (1996) postulation that a sample size of 10% would be representative. 164 children from 4 public primary schools in Mathira East Sub County participated in the study. The first graders were selected because Mason and Allen (1986) note that developmental literacy learning occurs during the first years of a child's life and is crucial to literacy acquisition (McGee & Lomax, 1990). In addition, according to Massengill and Sundberg (2006), the earlier a child is exposed to literacy the more successful a student they will become. The study will be conducted in Mathira East Sub County in Nyeri County. Nyeri County is a county in the central region of Kenya and which comprises eight Sub Counties namely: Nyeri Central, Mathira West, Mathira East, Kieni East, Kieni West, Nyeri South, Mukurweini and Tetu.

Materials and Procedures

The materials used in this study included the Yopp-Singer Test of Phoneme Segmentation and an interview schedule. The Yopp-Singer Test of Phoneme Segmentation was originally designed for English speaking kindergarteners; however, it has also been used to test phonemic awareness among first grade learners and older children. The Yopp-Singer Test of Phoneme Segmentation is individually administered orally by the teacher. In the current study, the Yopp-Singer Test of Phoneme Segmentation was administered by the researchers in the school context in order to test whether the Grade One learners in Mathira East Sub County of Nyeri County could distinguish the basic phonemes within the spoken word (cf. Appendix A). Learners were given the following directions upon administration of the test. For example,

Today we're going to play a word game. I'm going to say a word and I want you to break the word apart. You are going to say the word slowly, and then tell me each sound in the word in order. For

example, if I say “old: you should say “/o/-l/-d/”. (The researcher says the sound, not the letters.) Let's try a few words together.

Each learner was given the list of 22 words and asked to segment the words into phonemes in a timeframe of between 5 to 15 minutes per learner (Yopp, 1995). The researchers kept the assessment playful and game-like. For example, can you tell me all the sounds you hear in the word “dog”? If the learner responded correctly, the researcher said, "That's right". If the learner gave an incorrect response, the learner would be corrected. The researcher circled the numbers of all the correct answers. If the learner responded with a partial segmentation (“/d/-/og/”), the researcher would record the response as given, then, say something like: “That's close, but you only separated some of the sounds. Please separate all of them like this: dog is “/d/, /o/,/g/”. If a learner restated the word, the researcher would encourage the separation of the sounds saying, “Yes, the word is “dog.” If the learner continued to restate the word, the researcher would record that response. If the learner segmented the word correctly, the researcher would circle the correct answer and scaffold the learner by saying “very good”. Each test was marked and scores for each learner recorded. Correct responses were only those that involved articulation of each phoneme in the target word (cf. Appendix B). The learner's score was the number of items correctly segmented into all constituent phonemes.

An interview schedule was also used as an instrument of data collection (cf. Appendix C). Two linguists with a bias in language education were also interviewed by the researcher in order to recommend the best strategies of enhancing phonemic awareness.

Data Presentation and Analysis

The data for this study were qualitatively analysed. The learners were categorised into *phonemically aware, demonstrating emerging phonemic awareness and lacking phonemic awareness*. For example, learners who segmented all or nearly all of the items correctly (17-22 items correctly) were considered phonemically aware. Learners who correctly segmented some items (7-16 correct) were categorised as displaying emerging phonemic awareness. Learners who segmented only a few items or none at all (0-6 items correct) were categorised as lacking appropriate levels of phonemic awareness. Data were then presented in terms of pie charts.

Findings and Discussion

This study set forth to assess phonemic awareness among Grade One learners of Public Primary Schools in Mathira East District of Nyeri County, Kenya. Based on this objective, the study classified learners into *phonemically aware*, *demonstrating emerging phonemic awareness* and *lacking phonemic awareness* as shown in the Figure 1 below:

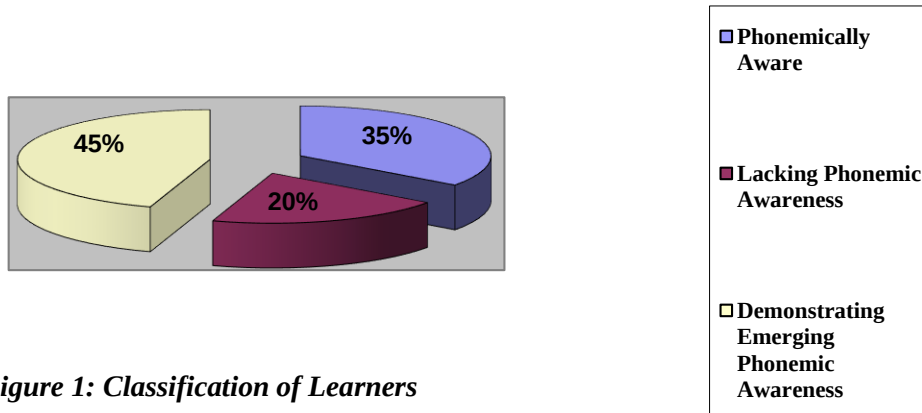


Figure 1: Classification of Learners

58 of the learners were identified as *having phonemically awareness*, 74 of the learners were identified as *demonstrating emerging phonemic awareness* while 32 were identified as *lacking phonemic awareness*. The learners lacking phonemic awareness demonstrated difficulty with letter / sound correspondence and were unable to decode unknown words.

Second, the study found that learners experienced what we have referred to in this study as consonant displacement pronunciation problem which was manifested in various ways. For example, the learners had problems segmenting words with the voiceless palato-alveolar fricative sound /ʃ/ (she), the voiced dental fricative /ð/ (that), the voiceless dental fricative /θ/ (three) and the voiced palato-alveolar affricate /dʒ/ (job) in the following words in the Yopp-Singer Test of Phoneme Segmentation. This is a very common problem among speakers of English as a second language. The problem emanates from a situation where an English consonant sound does not occur in the speaker's first language as a phoneme. The speaker therefore pronounces the consonant that is nearest to the target sound in terms of the place or manner of articulation.

Third, voicing problems were also noted in the articulation of the word “dog”. Two learners articulated it as “tog” instead of dog. The learners ended up substituting the voiced consonant with the voiceless consonant that has a similar place and manner of articulation.

Fourth, prenasalization of consonants was also noted in a few cases. This was evident because the English language morphology does not allow the existence of a nasal and a consonant cluster in the word initial position. However, many Kenyan languages have this kind of cluster (nasal + consonant+ in the word initial position). Some learners transferred this kind of structure to English, resulting in errors. For example, the words “dog”, “by” and “do” were pronounced as /ndɒg /, /mbaɪ / and /ndʊ/ respectively.

The study also identified pronunciation problems with vowel sounds. For example, the study identified cases of vowel displacement in learners. The learners, therefore, had difficulties producing those vowel sounds that do not occur in their first language. This is because almost all Kenyan languages do not have corresponding number of vowel sounds to English. The most problematic sounds were the *high, long, back* and *rounded vowel* /u:/ as in *grew* /gru:/ which was pronounced with a *short* /ʊ/ and the *diphthongs* /aɪ/ and /eɪ/ as in *wave, race* and *lay*. The learners, probably because of the challenge of producing such vowel sounds which do not exist in their first languages would articulate the vowel sound in the English language that is nearest to the target sound. The learners also exhibited what one of the linguists referred to as the simplification of diphthongs. The English language has 8 diphthongs, while most Kenyan languages do not have any. Many learners, therefore, simplified the diphthongs by replacing them with vowels (monophthongs). For example, *wave* and *race* was pronounced as /wɪv/ and /rɪv/ respectively.

The linguists with a bias in language education interviewed by the researchers in this study noted that that *orthographic awareness* and *phonological awareness* depend on each other and ultimately work in concert to help the learner break the code of an alphabetic writing system. The linguists also noted that effective early interventions can decrease the number of students exhibiting reading difficulties in later elementary and secondary grades. The linguists opined that “there is a need to explicitly including phonemic awareness in emergent literacy activities in a playful context”. This finding concurs with Kourea’s (2007) argument that intensive instruction in phonemic / phonological awareness increases the scores of first-grade students on letter / sound and phoneme segmentation fluency. It has also been found that “phonemic awareness activities should be playful and engaging, interactive and social, and should stimulate curiosity and experimentation with language” (Yopp & Yopp, 2000, p.132).

The linguists identified the following strategies of enhancing phonemic awareness: phonemic segmentation, phonemic manipulation (*phoneme substitution* (when the initial sound,

middle sound or the final sound in a word is replaced / substitute with another sound); *phoneme addition and phoneme deletion*), phonemic blending, phoneme isolation and the use of oddity tasks. According to Yopp (1992), phonemic segmentation involves the decomposition of a syllable into its component phonemes. One of the linguists had this to say:

Effective phonemic instruction should incorporate explicit instruction in sound manipulation activities. Children should be given the opportunity to read a variety of books and practise segmenting while reading. The manipulations of individual segments help the learner to acquire abstract representations of phonemes. Teaching young readers to segment words into individual phonemes is one of the best practices in helping children learn to read.

According to Ukrainetz (2006), emphasis should be placed on segmenting words into phonemes. Segmentation operations like counting sounds or phonemes in a word, identification of syllables in a word and the identification of the onset and the vocalic or syllabic consonant in a word (Gathigia & Rutere, 2016).

Phoneme manipulation was also identified as an effective strategy of enhancing phonemic awareness by the linguists. The linguists noted that the ability to manipulate sounds to form different words in order to support the flexible use of sound knowledge is one component of the reading and writing process. One of the linguists posited that phonemic manipulation may take the form of phoneme substitution or phoneme deletion, that is, the learner being asked to pronounce a word after its first, middle, or last phoneme has been deleted or substituted. Phonemic manipulation may also occur when a learner is expected to add a phoneme to a word (Gathigia & Rutere, 2016). According to Massengill and Sundberg (2006), children should learn through “active” exploration of the relationships between letter names, the sounds of letter names, their visual characteristics and the motor movement involved in their formation.

In addition, the linguists proposed the blending of phonemes as an effective method of enhancing phonemic awareness instruction for elementary grade learners. According to Gathigia and Rutere (2016), phoneme blending is a practice in which phonemes in spoken and written language are blended. One of the linguists had this to say of blending of phonemes:

Systematic instruction in word recognition that employs the blending of phonemes is an important component of effective early reading process. Difficulties in learning to read are most commonly caused by weakness in understanding the blending of phonemes.

The linguist added that the ability to orally blend words may involve the blending of syllables, the blending of the onset and rime and lastly, the blending of phoneme with another phoneme in a

playful environment to scaffold phoneme awareness. This is in consonance with Yopp's (1992) postulation that phonemic awareness tasks need to be conducted while focusing on playful or game-like strategies.

Phoneme isolation was also identified as an effective strategy of enhancing phonemic awareness. According to Yopp (1992), phoneme isolation refers to the ability to recognise the separate phonemes in words. One of the linguists opined the following:

The first phoneme in a syllable is the easiest to identify, then the final phoneme, and lastly, the middle phoneme in that order. Therefore, a learner can be asked to name the first sound in a word, then, the last sound and then, finally, the middle sound in a word. This will help the teacher check that the children understand the concepts of first, last and middle before asking questions.

According to Turuk (2008), any strategy which emphasizes the importance of social and collaborative aspects of learning can scaffold and assist in the second language acquisition process.

The use of oddity tasks was also noted by the linguists as one of the effective strategy of enhancing phonemic awareness instruction for Grade One learners. According to Gathigia and Rutere (2016), oddity may involve the comparing and contrasting of sounds of words for rhyme and alliteration. In other words, oddity tasks require the learner to identify which word is different when presented with a set of three or four words. One of the linguists suggested that "a teacher can ask the learner which two words begin with the same sound or which two words end with the same sound from a list of words. Similarly, a teacher can also ask the learners which word does not have the same middle sound in a list of words". According to Torgesen and Mathes (1998), the use of oddity tasks enhances phonemic awareness and increases the learners understanding of the written word.

Recommendations

First, the study recommends the use of phonemic awareness strategies that take into cognizance the alphabetic principle and orthographic familiarity in the teaching of phonemes. Second, the study recommends the use of the Yopp-Singer Test of Phoneme Segmentation in the testing of phonemic awareness among Grade One learners. The appropriateness of the Yopp-Singer Test of Phoneme Segmentation, for example, stems from the fact that phonemic awareness intervention strategies require the adult to be able to hold the attention of every child and provide several practice opportunities with feedback on errors within a short session (Koutsoftas et al., 2009). Third, the study recommends the building of a solid literacy education which is a vital action required for the development of phonemic awareness in beginning readers. Thus, learners who

were classified as lacking phonemic awareness ability should be given training focusing on the spoken sounds of language. In addition, looking through a sociocultural lens, the study recommends that successful language classrooms instructions should be within the learner's zone of proximal development (ZPD) and that successful learning process cannot be an individual's unmediated or unassisted effort but a collaborative process. Therefore, learners need to expand and bridge their ZPD through support received from their language teachers. The social process, interactions and the use of scaffolding will strengthen the reciprocal relationship between the learner and the teacher as postulated by Vygotsky's (1978) theory which promotes a learning context in which the teacher acts as a facilitator of meaning construction during the instruction process.

Conclusions

The objective of this study was to assess phonemic awareness among Grade One learners of Public Primary Schools in Mathira East District of Nyeri County, Kenya. In light of the findings and recommendations of this study, we conclude that learners of Grade One in Public Primary Schools in Mathira East District of Nyeri County, Kenya can be classified into the following: *Learners having phonemically awareness; learners demonstrating emerging phonemic awareness; and learners lacking phonemic awareness*. Consequently, the study concludes that scaffolding explicit phonemic awareness strategies is necessary to ensure that learners lacking phonemic awareness achieve success in reading and writing. Scaffolding will allow teachers to move away from the direct instruction of a traditional classroom and search for a richer educational tool. Second, the study concludes that phonemic awareness is essential in developing alphabetic principle and orthographic familiarity which are necessary for learning to read. According to Shapiro (2011), if a child cannot identify initial sounds or blend sounds together they are unlikely to develop later reading skills. Third, the study concludes that skills like phoneme blending, phoneme segmentation, phoneme manipulation (*phoneme substitution, phoeneme addition and phoneme deletion*), phoneme isolation and the use of oddity tasks are important strategies for enhancing phonemic awareness.

References

- Adams, M.J. (1990). *Beginning to read: Thinking and learning about print*. Cambridge, MA: MIT Press.
- Aljaafreh, A., & Lantolf, J. P. (1994). Negative feedback as regulation and second language learning in the zone of proximal development. *The Modern Language Journal*, 78, 465-83.

- Bodrova, E., & Leong, D.J. (1996). *Tools of the mind: The Vygotskian approach to early childhood education*. Englewood Cliffs, NJ, Merrill / Prentice Hall.
- Cunningham, A. E. (1990). Explicit versus implicit instruction in phonemic awareness. *Journal of Experimental Child Psychology*, 50, 429–444.
- DIBELS Data System (2008). Dibels measures. Retrieved October 10, 2008 from <https://dibels.uoregon.edu/resources.php>
- Ehri, L. C. (2005). Learning to read words: Theory, findings, and issues. *Scientific Studies of Reading*, 9(2), 167-188.
- Ellis, R. (2000). Task-based research and language pedagogy. *Language Teaching Research*, 4(3), 193-220.
- Gathigia, M.G., & Rutere, A.M. (2016). Phonemic awareness instructional strategies for elementary grade learners in Nyeri County, Kenya: Towards best practices. Paper presented at *Laikipia University Third International Conference* held from May 24 to 27, 2016.
- Gibson, E. J., & Levin, H. (1975). *The psychology of reading*. Cambridge, MA: MIT Press.
- Hammond, J. (Ed.) (2002). *Scaffolding teaching and learning in language and literacy education*. Newtown, Australia: PETA.
- Juel, C. (1988). Learning to read and write: A longitudinal study of 54 children from first through fourth grades. *Journal of Educational Psychology*, 80, 437–447.
- Kao, P. (2010). Examining second language learning: taking a sociocultural stance. *Arecls*, 7, 113-131.
- Kourea, L. (2007). *The effects of a supplemental reading intervention package on the reading skills of English speakers and English Language Learners in three urban elementary schools: A follow-up investigation* (Unpublished doctoral dissertation), The Ohio State University, USA.
- Koutsoftas, A. D., Harmon, M. T., & Gray, S. (2009). The effect of Tier 2 intervention for phonemic awareness in a response - to -intervention model in low -income preschool classrooms. *Language, Speech, and Hearing Services in Schools*, 40 (2), 116 -130.
- Massengill, D., & Sundberg, M. (2006). A unique, neurologically integrated approach designed to simultaneously teach letter sounds and formations. *Reading Improvement*, 43 (3), 111-128.
- Mason, J.M. (1984). Early reading from a developmental perspective. In P.D. Pearson, R. Barr, M.L. Kamil., & P. Mosenthal (Eds.), *Handbook of reading research* (pp. 505–543). New York: Longman.
- McGee, L. M., & Lomax, R. G. (1990). On combining apples and oranges: A response to Stahl and Miller. *Review of Educational Research*, 60 (1), 133-140.
- Moats, L. C. (1999). *Teaching reading is rocket science*. Washington, DC: American Federation of Teachers.
- National Reading Panel (2000). *Teaching children to read: an evidence-based assessment of the scientific research literature on reading and its implications for reading instruction*. Washington DC: National Reading Panel.
- Ohta, A. S. (2000). Rethinking interaction in SLA: Developmentally appropriate assistance in the zone of proximal development and the acquisition of grammar. In J. P. Lantolf (Ed.), *Sociocultural theory and second language learning* (pp. 51-78). Oxford: Oxford University Press.
- Putman, L. L. (2005). *A study to examine the effects of emphasizing phoneme-grapheme correspondence and de-emphasizing letter names in early literacy skills in kindergarten children* (Unpublished doctoral dissertation), University of Oregon, USA.

- Reading, S., & Van Deuren, D. (2007). Phonemic awareness: When and how much to teach? *Reading Research and Instruction*, 46(3), 267-285.
- Reutzel, R., & Cooter, R. (2005). *The essentials of teaching children to read: What every teacher needs to know*. Upper Saddle River, NJ: Pearson.
- Robertson, C., & Salter, W. (1995). *The phonological awareness kit*. East Moline, Illinois: Linguisticsystems.
- Schilling, S. G., Carlisle, J. E., & Scott, S. E. (2007). Are fluency measures accurate predictors of reading achievement? *The Elementary School Journal*, 107 (5), 429-448.
- Shapiro, E.S. (2011). *Academic skills problems*. New York: Guilford.
- Simmons, D. C., Kame'enui, E. J., Harn, B., Coyne, M. D., Stoolmiller, M., Santoro, L. E., Smith, S. B., Beck, C. T., & Kaufman, N. K. (2007). Attributes of effective and efficient kindergarten reading instructional time and design specificity. *Journal of Learning Disabilities*, 40 (4), 331-347.
- Skiba, R.J., Michael, R.S., Nardo, A.C., & Peterson, R. (2002). The color of discipline: Sources of racial and gender disproportionality in school punishment. *The Urban Review*, 34(4), 317-342.
- Spear-Swerling, L. (2006). Children's reading comprehension and oral reading fluency in easy text. *Reading and Writing*, 19 (2), 199-220.
- Stanovich, K. E. (1986). Matthew effects in reading: Some consequences of individual differences in the acquisition of literacy. *Reading Research Quarterly*, 21, 360-407.
- Stanovich, K. E. (1993). Does reading make you smarter? Literacy and the development of verbal intelligence. In H. Reese (Ed.), *Advances in child development and behaviour* (pp. 133-180). San Diego, CA: Academic Press.
- Stanovich, K. E., & Cunningham, A. E. (1992). Studying the consequences of literacy within a literate society: The cognitive correlates of print exposure. *Memory & Cognition*, 20, 51-68.
- Staubitz, J. E., Cartledge, G., & Yurick, A. L. (2005). Repeated reading for students with emotional or behavioral disorder: Peer- and trainer-mediated instruction. *Behavioral Disorders*, 31 (1), 51-64.
- Stone, A. (1998). The metaphor of scaffolding: Its utility for the field of learning disabilities. *Journal of Learning Disabilities*, 3 (4), 344-364.
- Therrien, W. J. (2004). Fluency and comprehension gains as a result of repeated reading: A meta-analysis. *Remedial and Special Education*, 25 (4), 252-261.
- Tompkins, G. E. (2010). *Literacy for the 21st Century: A balanced approach*. Boston, MA: Pearson Inc.
- Torgesen, J.K., Al Otaiba, S., & Grek, M.L. (2005). Assessment and instruction for phonemic awareness and word recognition skills. In H.W. Catts & A.G. Kamhi (Eds.), *Language and reading disabilities* (pp. 127-156). Boston, MA: Allyn & Bacon.
- Torgesen, J. K., & Bryant, B. R. (1994). *Test of phonological awareness examiners manual*. Austin, TX: PRO-ED.
- Turuk, M.C. (2008). The relevance and implications of Vygotsky's sociocultural theory in the second language classroom. *Arecls*, 5, 244-262.
- Uhry, J. K. (1999). Phonological awareness and reading: Research, activities and instructional materials. In J. R. Birsh (Ed.), *Multisensory teaching of basic language skills* (pp.63-84). Baltimore: Brookes Publishing Company.

- Ukrainetz, T.A. (2006). Scaffolding young children into phonemic awareness. In T.A. Ukrainetz (Ed.), *Contextualized language intervention: Scaffolding preK–12 literacy achievement* (pp. 429–467). Eau Claire, WI: Thinking Publications.
- Valleley, R. J. (2004). An examination of the effects of repeated reading with secondary students. *Journal of Behavioral Education, 12*, 55-76.
- Vygotsky, L. S. (1978). *Mind in society: The development of higher psychological processes*. Cambridge, MA: Harvard University Press.
- Walberg, H. J., & Tsai, S. L. (1983). Matthew effects in education. *American Educational Research Journal, 20*, 359–373.
- Yopp, H.K. (1988). The validity and reliability of phonemic awareness tests. *Reading Research Quarterly, 23*, 159–177.
- Yopp, H. K. (1992). Developing phonemic awareness in young children. *The Reading Teacher, 45*, (9), 696–703.
- Yopp, H. K. (1995). A test for assessing phonemic awareness in young children. *The Reading Teacher, 49* (1), 20-29.
- Yopp, H. K., & Yopp, R.H. (2000). Supporting phonemic awareness development in the classroom. *The Reading Teacher, 54* (2), 130–43.
- Yopp, H. K., & Yopp, R. H. (2000). Supporting phonemic awareness development in the classroom. *The Reading Teacher, 54* (2), 130-143.

Appendix A: Yopp-Singer Test of Phoneme Segmentation

Student's name _____ Date _____

Score _____

Directions: Today we're going to play a word game. I'm going to say a word and I want you to break the word apart. You are going to tell me each sound in the word in order. For example, if I say "old," you should say "/o/-l/-d/."

(Administrator: Be sure to say the sounds, not the letters, in the word.) Let's try a few together.

Practice items: (Assist the child in segmenting these items as necessary.) ride, go, man

Test items: (Circle those items that the student correctly segments; incorrect responses may be recorded on the blank line following the item.)

1. dog		12. lay	
2. keep		13. race	
3. fine		14. zoo	
4. no		15. three	
5. she		16. job	
6. wave		17. in	
7. grew		18. ice	
8. that		19. at	
9. red		20. top	
10. me		21. by	
11. sat		22. do	

Appendix B: Answer Key for the Yopp-Singer Test of Phoneme Segmentation

1. dog	/d/ - /ɒ/ - /g/	3	12. lay	/l/-/eɪ/	2
2. keep	/k/ - /i:/ - /p/	3	13. race	/r/- / eɪ / - /s/	3
3. fine	/f/-/ aɪ /-/n/	3	14. zoo	/z/ - /u:/	2
4. no	/n/- / əʊ /	2	15. three	/ θ /- /r/ - /i:/	3
5. she	/ʃ/- /i:/	2	16. job	/ dʒ /- / ɒ / - /b/	3
6. wave	/w/ - / eɪ / - /v/	3	17. in	/ɪ/ - /n/	2
7. grew	/g/- /r/- /u:/	3	18. ice	/ aɪ /-/s/	2
8. that	/ θ /- / æ /- /t/	3	19. at	/ ə /- /t /	2
9. red	/r/- /e/- /d/	3	20. top	/t/- / ɒ /- /p/	3
10. me	/m/- /i:/	2	21. by	/b/-/ aɪ /	2
11. sat	/s/ - / æ /- /t/	3	22. do	/d/- /u:/	2

Appendix C: Interview Schedule for Linguists

The purpose of this interview schedule is to get your views on the best strategies of enhancing phonemic awareness among Grade One learners.

(i) Do *orthographic awareness* and *phonological awareness* depend on each other? How?

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(ii) Do we need to include phonemic awareness in emergent literacy activities in a playful context?
Why?

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(iii) (a) What are the strategies of enhancing phonemic awareness in Grade One?

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(b). For each of the strategy above, explain how it should be implemented.

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