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Effectiveness of Phonological Awareness Instruction in Reading Achievement among Students with Reading Difficulties in Bhutan

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Abstract

Robust research is available to provide empirical evidence of phonological awareness as the predictor of reading success. Phonological awareness, which is one of the early literacy skills, is referred to as the ability to recognize, identify, and attend to the sounds of a language, and it is a critical skill for reading development (Verissimo et al., 2021). The purpose of this study was three-fold: (a) to identify phonological awareness deficits among students with reading difficulties, (b) to investigate the significant impact of phonological awareness instruction on reading achievement among students with reading difficulties, and (c) to design and implement an intervention program using phonological awareness instruction for special education needs (SEN) teachers. The textbooks were selected for their sociocultural relevance to Bhutanese students. The key findings revealed that phonological awareness instruction significantly improved students' reading skills, highlighting its effectiveness as a targeted intervention for students with reading difficulties. Therefore, it is argued that the current findings call for English language teachers to implement targeted phonological awareness intervention as per the need of students with reading difficulties.

Keywords: Children with reading difficulties, phonological awareness instruction, reading achievement, reading difficulty, Bhutan

Introduction

In Bhutanese education system, the medium of instruction in teaching and learning for all the subjects is British English except for the Dzongkha subject taught in national language Dzongkha from pre-primary to university education. Therefore, English is the second language for Bhutanese children and from the social linguistics perspective a language is considered as second language when it is used alongside national language in schools and colleges, for business transaction, and for official use (Saville-Troike, 2012). However, while acquiring a second language has diverse opportunities, it also entails significant challenges. Many students are confronted with the task of overcoming the language barrier that adversely affects their literacy development. Moreover, although there exists a wide volume of research literature on the discovery and intervention for reading difficulties of native English speakers, research in reading difficulties experienced by English as second language learners is limited (Rosenman & Madelaine, 2012).

English, being the medium of instruction in Bhutan, dictates that students must have a high proficiency in English reading comprehension in order to perform effectively with other subjects such as science, mathematics, and social studies. Wangmo (2013) and Pem and Sukavatee (2022) confirmed that the lower proficiency in reading skills and lack of English reading comprehension abilities lead to poor performance in learning other academic subjects. Furthermore, the Education Sector Review Commission (2008) reported that the students encountered pressing educational issues in later years of life when they lacked rudimentary language competencies at their primary level of education.

Studies have emphasized comprehensive model of the reading acquisition namely phonological awareness as a pre-requisite for efficient word reading that lead to successful reading comprehension in native English speakers (Mihai et al., 2014; Nkurunziza, 2024; Skibbe et al., 2016). Similarly, the strong relationship between phonological awareness deficits and reading difficulties is also well documented (Gu & Bi, 2020; Peng et al., 2021; Taha, 2021). Phonics instruction is a focus in the pre-primary and primary schools but a majority of students with reading difficulties continue to struggle to read at the appropriate grade level (Pem & Sukavatee, 2022; Weru & Oteino, 2024). Additionally, the lack of phonological awareness skills hinders struggling readers from learning how to decode and spell words effectively (Ryder et al., 2008). Numerous studies (Denton, 2013; Gillon, 2018; Kelly et al., 2019) have already provided scientific evidence on the merits of phonological awareness in reading programs. However, despite decades of reading comprehension research, limited amount of time is spent using evidence-based methods in classrooms (Elleman & Oslund, 2019).

Research on reading difficulties for population of English language learners is a recent concept, and researchers have only recently begun to investigate the efficacy of phonological

awareness instruction to non-native English speakers (Wood et al., 2009). Similarly, there is very little research conducted on the phonological awareness in Bhutan's context and particularly among students with reading difficulties. Therefore, this research intended to address this knowledge gap by investigating efficacy of phonological awareness instructions into the emergent reading programs in Bhutan and drawing implications for students with reading difficulties, students without reading difficulties, teachers, and policy. The main research objective was to investigate the effectiveness of using phonological awareness for reading instruction to increase reading achievement among students with reading difficulties. To achieve this objective, the following research questions were posed for this study:

- (a) What are the areas of phonological awareness deficits experienced by students with reading difficulties?
- (b) What is the significant impact of phonological awareness instruction on reading achievement among students with reading difficulties?
- (c) What are the appropriate intervention programs for phonological awareness instruction that can be designed and implemented by special education teachers?

Literature Review

Phonological awareness, which is defined as the ability to attend to the sounds of a language, is a critical skill for reading development (Anku, 2024; Verissimo et al, 2021). Explicit instruction in phonological awareness teaches readers the connection between speech and print (Layes et al., 2020). An important feature of phonological awareness instruction is teaching readers the relationship between graphemes in written language and phonemes in spoken language (Milankov, 2021). Further, Ehri's theory of orthographic mapping (Ehri, 2005) indicates that understanding letter-sound relationships is crucial for children's reading and spelling abilities, both within and beyond the text.

More recent studies have extensively documented the effectiveness of phonological awareness instruction for overcoming reading difficulties among beginner readers (Layes et al., 2020; Milankov, 2021; Verissimo, 2021). In fact, converging research from literally hundreds of experimental and training studies have demonstrated a strong association between phonological awareness knowledge and reading and spelling achievement (Anku, 2024; Melby-Lervåg et al., 2012). Further, Ryder et al. (2008) and Stevenson (2023) reported that children in a reading intervention program emphasizing phonological awareness improved their ability to recognize words and comprehend the reading text. It was also noted that children who developed phonological awareness skills also learnt how to read fluently and accurately at a faster rate (Ntino, 2024; Zhou et al., 2023). The inclusion of phonological awareness training in discriminating rhyme, alliteration and phonemic sounds increased the reading rate of children with reading difficulties (Denton et al., 2013; Otaiba et al., 2010). Phonological awareness instruction is also recommended for teaching literacy

skills to bilingual children (Palle et al., 2019; Soto et al., 2019). It was found that young bilingual preschoolers who were taught nursery rhymes and alliteration activities developed the listening skills necessary for learning English as a second language (Palle et al., 2019; Soto et al., 2019).

Reading is a complex cognitive skill that requires the reader to recognise words and comprehend the text (Elleman & Oslund, 2019). Struggling readers often struggle to learn how to read because of their inability to recognize and manipulate the sounds of their native language (Stuart, 2005). The lack of phonological awareness skills hinders struggling readers from learning how to decode and spell words effectively (Ryder et al., 2008).

Studies (Mihai et al., 2014; Skibbe et al. 2016; Verissimo et al., 2021) have supported phonological awareness as the most powerful predictor of the ease of initiating reading acquisition and subsequent reading achievement. In fact, there are studies (Ferraz et al., 2018; Memisevic et al., 2022) that proved the importance of phonological awareness particularly in word recognition, reading fluency and accuracy, and reading speed and comprehension, emphasizing the need for early intervention of this meta skill (Wanzek et al., 2019). In addition, numerous studies (El Sayed et al., 2024; Lindeblad et al., 2016; Young, 2024) have supported the use of assistive technology and other manipulatives as reading interventions and supporting phonological awareness instruction for students with reading difficulties. The assistive technology included graphic organizers, tablets, audiobooks and digital books, screen readers, and text-to-speech software programs to name a few.

This intervention of phonological awareness instruction confirmed the prevention in development of learning disabilities (Amorim et al., 2020; Anku, 2024; Ntino, 2024), and such prevention is particularly important because learning disabilities can lead to consequences such as students dropping out of school, developing low self-esteem, and demonstrating maladaptive behaviors. Particularly, students from underprivileged backgrounds who are at risk for reading difficulties later developed emotional and behavioral difficulties as well (Menting et al., 2011). Worryingly, study suggests students of rural background in Bhutan lack reading skills because of limited exposure to pleasurable reading materials, reading programs, and insufficient parental support at home, resulting in poor academic learning (Pem & Sukavatee, 2022). Further, Wangmo (2017) asserted that students with reading difficulties in Bhutan did not receive any targeted intervention leading to retention in the same grade but their ‘underlying memory process were equal to their peers who had been promoted’ (Wangmo, 2017) in the next grade. Studies (Wangmo, 2017; Wigfield et al., 2016) have confirmed that retention of students in the same grade greatly increases the likelihood of less motivation in learning, reduced satisfaction with school and at risk of dropping out of school.

Despite the robust empirical evidence regarding predictors of success in reading utilizing phonological awareness, teachers in schools are not always aware of this evidence and do not know how to apply it in their real classroom practice (Verissimo et al., 2021). It is no different in Bhutan’s context, where a study by Wangmo (2013) confirmed that teachers in Bhutan have limited knowledge of how to teach students with special needs. In addition, inadequate curriculum materials and lack of specific skills programs in supporting reading contributed to the presence of students with

reading difficulties in Bhutanese classrooms.

Methodology

Design

This study employed a qualitative case study involving six students who received a phonological awareness intervention for 15 minutes, twice a week, over eight weeks. The case study method enabled the researchers to conduct an in-depth assessment of the participants and to deepen their understanding of the nature of reading difficulties. An important implication of the case study is the opportunity to adjust the intervention program to suit individual participant (Yin, 2018). The need to make individually appropriate adjustments is not only at the beginning of the intervention procedure but over the course of the entire intervention.

Materials

The Gough-Kastler-Roper (GKR) phonological awareness test (Roper, 1984) was the assessment instrument used to measure awareness in six areas namely – segmentation, blending, deletion of initial phoneme, deletion of final phoneme, initial phoneme substitution and final phoneme substitution. The GKR test has been effectively utilized in previous research, including randomized controlled trials and case studies, to assess phonological awareness in diverse populations (Evans et al., 2014; Tse & Nicholson, 2014). The teachers also developed lessons for reading using selected commercially available phonological awareness books in English based on their suitability to sociocultural context of Bhutanese students. These reading lessons were developed in consultation with the researchers and lesson observation sheets were used. Further, supplementary pictures were used from Internet sources in addition to the phonological picture story books provided.

Participants

A total of six students with reading difficulties were selected for this case study. The students are all enrolled in a public primary school that supported SEN program in Paro, Bhutan. The students were selected based on the teachers' recommendation and the assessment of Individualized Education Plan (IEP) for each of the students. The students' ability in phonological awareness was assessed using the GKR phonological awareness test (Roper, 1984) to determine their levels of phonological awareness before intervention and considered as crucial. Three teachers were selected, and each teacher was responsible for teaching two students.

Data Collection Procedures

The six selected students with reading difficulties underwent a period of eight weeks of intervention, receiving 15 minutes of phonological awareness instruction for two days per week. Prior to providing the intervention with the six students, the teachers were trained in administering phonological awareness materials that consisted of GKR phonological test, phonological awareness books and pictures. During the intervention the teachers were required to use the materials as prescribed by the researchers. The students' performance was monitored and recorded individually by the assigned teacher administering the GKR phonological test and lesson observation sheet. Series of lessons were developed using the commercially available phonological awareness English textbooks as well as supplementary picture materials obtained from Internet sources. Individualized instruction was given for each child in the study. The teachers collected and recorded data using GKR phonological test for each student for each intervention session. A focussed group interview was conducted at the end of the intervention period to elicit information on the teachers' perspectives on the appropriate design and implementation of an intervention program using phonological awareness.

Data Analysis

The results derived from GKR phonological test assessed each of the child's ability to identify, blend, and manipulate the sounds of speech. The recorded semi-structured interviews were transcribed verbatim and analysed using thematic analysis (Braun & Clarke, 2021) in identifying themes.

Results

The major goal of the present study was to investigate whether reading intervention using phonological awareness is effective to significantly improve the reading ability of children with reading difficulties. All three SEN teachers agreed that phonological awareness instruction immensely enhanced the reading skills of the six students as compared to their initial reading assessment. For example, one of the teachers compared how these children in the initial phase of the intervention faced difficulties in pronouncing initial sounds and CVC words, and made so much progress with one to two sessions of intervention program provided:

Within one to two weeks of start of this program, after teaching these children, especially the children who do not have the initial sound, they are able to read the CVC words. And then also the children who are not able to read the CVC words have improved in reading and are able to read the two syllable words. (T1)

Similarly, T2 supported that without the awareness of phonics and initial sounds in these children, reading of words will not be possible and that this intervention of using phonological awareness instruction have immensely supported in reading basic words efficiently. For instance, the T2 said:

.... the child has to be very much familiar and aware with sounds ... the phonics. This is very essential and if the child cannot have the sound of the letters, how can he read the words. I think this program has made our kids to learn and at least read some basic words.

However, the discussion for this section will focus on two children of whom one showed the most significant improvement and another who showed the least improvement. In representing the outcomes of this case study, the results of two students have been discussed. The discussion is based on the research questions posed for this study.

Phonological Awareness Deficits

Child A

Child A lives with her divorced father who works as a cook in the school. She is sociable, loves to play basketball and is an obedient student. Initially, it was observed that Child A was unable to read certain letter sounds of some alphabets for example the sound for 'x', 'j,' 'q,' 'w,' and 'z.' Her reading ability was hindered by her inability to blend and segment letter sounds as evident from the outcomes of GKR phonological test. It was also observed that she was only able to read two-syllable words during reading sessions.

Child B

Child B lives with his parents, and his father works as a carpenter. He is good at games and is physically fit. He enjoys mathematics. He struggles with low self-esteem and finds it hard to interact with his peers. It was observed that the child struggled with blending and segmenting words according to the outcomes of GKR phonological test. He also had difficulty identifying each letter sound in the correct order. For example, he couldnot pronounce 'pot,' 'yak,' 'nut,' and 'hut.' However, he was able to identify the initial sounds of words when presented with a series of pictures but had difficulty identifying the sounds of all letters.

Impact of Phonological Awareness Instruction

Child A

After the eight-week intervention, the researchers conducted evaluations using phonological awareness materials similar to those used by the teachers. It was evident that Child A was more confident to sound out all the different letters. She was able to read CVC and CVCC words

determined for grade three and four levels. She was also able to substitute and delete initial sounds of words for example the letter 'b' in 'band' when replaced with the letter 'w' for 'wand.' It was observed that she was able to apply strategies of phonological awareness whenever she had difficulty reading certain words in her textbook.

Child B

In evaluating the Child B, it was observed that he was able to read CVC words, but his reading was still slow and laborious. However, he has improved his proficiency in associating sounds with their corresponding letters and blending them to read CVC words. His reading has improved since the initial assessment due to ample opportunities to read aloud independently and the immediate corrective feedback provided by the respective teacher during the eight-week intervention.

Appropriate Intervention Program for Teachers

One of the main aims of this research was to identify appropriate intervention programs that can be designed and implemented by special education needs (SEN) teachers to enhance the reading skills of students with reading difficulties. Four thematic categories were identified from the focus group interview: (a) aspects of phonological awareness instruction that requires more emphasis, (b) the most important focus in designing phonological awareness instruction, (c) types of materials required to enhance reading proficiency, and (d) the challenges in implementing phonological awareness instruction.

Theme 1: Emphasis on aspects of phonological awareness

The emphasis on determining individual sound of letters is crucial for applying the skills of segmenting and blending. Only when the students are aware of letter sounds, can they blend and segment sounds to read words. For example, T3 said:

From my perspective, I feel that the first and foremost important thing is the sound. Because when they have the ability to identify and manipulate the individual sound in the spoken words then it is very crucial skill for developing the strong reading and spelling ability. After knowing the sounds then only they are able to read the CVC words, then only they are able to blend and segment. Then if sound is not there, then I think that blending and segmenting is out of topic.

Similarly, T2 emphasized determining the individual sound of letter(s) by an individual as crucial, as well as applying skills of blending and segmenting. This is what he said:

I think they have problem, firstly the sound letter sounds. We have taught them in the class but still they have problem, because they are not really sure about letter sounds phonics. Secondly, I think blending they could read in syllables, but it was quite difficult for them to

blend the sound. So, I think blending as well as segmenting I found it is very important. Because if we have this blending and segmentation basically, I think they can read some words.

Theme 2: Focus in designing phonological awareness instruction

Teachers emphasized the need to first consider conducting a pre-test for children with reading difficulties to understand where they struggle and then design phonological awareness instruction accordingly. T2 said, “In order to design the program, first is we need to pre-test the children and see like in which area they are lacking. ... if the child is still struggling with the initial sound, then we have to start from the initial sound”.

Segregating students according to the support required was another focus raised when T3 said, “The main thing is segregation. We have to segregate children according to their ability and then only we will be able to implement”.

Theme 3: Resources required for increasing reading proficiency

In terms of requirement of resources, all the teachers asserted that basic resources such as books, color printing, pictures, worksheets are very much necessary. In addition, it was also reported that there is a need for other materials besides the aforementioned resources, such as manipulatives, tactile materials, and smart screens, which will prove to be more beneficial. For instance, T1 reported, “Besides what Sir mentioned, I also feel we need to have manipulatives like tiles, magnetic letters, sand trays. So, through that we can be able to convince the child more because we have more to do with hands on practices”.

Theme 4: Challenges encountered in implementing phonological awareness instruction

All the teachers agreed that time constrain was the main challenge that they encountered in implementing the phonological awareness program. T2 said, “The time was limited for us as we have to do it after school for 15 minutes only. Similarly, T3 said, “Definitely we need a lot of time, without time a teacher cannot do it. So not having time is not important, but having spent quality time is much important with the kids”.

Discussion

The positive impact of phonological awareness instruction in the present study supports the findings in previous research (Anku, 2024; Layes et al., 2020; Kelly et al., 2019; Stevenson, 2023; Verissimo, 2021). The benefits and improvement in reading ability as evident for all the students with learning difficulties in this study may be attributed to the direct impact of the intervention program. Despite growing evidence supporting the importance of research-based instruction in phonological awareness – one of the strongest predictors of later reading success in students with learning difficulties – such

instructional practices appear to have been implemented with students only recently. Interestingly, with the positive outcome of the intervention program for students with reading difficulties, it appears that these teachers conducted awareness training for mainstream English language teachers who have started implementing similar intervention programs to other group of students with reading difficulties. One can assume that the teachers in this study perceived this intervention program as an essential support mechanism for implementation by English teachers to support students with learning difficulties.

In agreement with other research findings (Palle et al., 2019; Reading Rockets, 2015), the teachers emphasized the need for students' ability to determine letter(s) individual sound (phoneme) as a primary requirement in learning to read or decode words efficiently. Specifically, they asserted the need for these children to be well aware of letter sounds before teaching to blend and segment. Both blending and segmenting are important reading and writing foundations. However, to read or decode a word, the reader must determine phoneme and blend these sounds together to read a word (Reading Rockets, 2015).

In line with the focus in designing phonological awareness instruction the teachers emphasized the early screening and identification in these students with learning difficulties by using pre-test assessment. This evidence confirms the previous work by Poulsen et al. (2017), in which it is asserted that early screening for reading difficulties before the onset of instruction is desirable because it allows intervention that is targeted at prevention rather than remediation of reading difficulties. It is a tragedy of the first order that while the teachers are aware of the costs of waiting too long, nothing much is done to support in identifying and helping these children before failure takes hold. Indeed, in the majority of cases, there is no systematic identification in the earlier years, and by that time, successful remediation becomes more difficult and costly. This finding reflects previous studies (Cats et al., 2015; King-Sears et al., 2019) that emphasizes the need for early identification of students with reading difficulties with conscious effort in terms of communication and collaboration between school SEN team and English teachers.

In addition, the teachers underlined the need to provide the right kind of phonemic awareness instruction depending on the need of the student and to be most efficient, as confirmed by numerous studies (Carson et al., 2013; Carson et al., 2019; Freeman, 2016) that a preventive program should be focused on the children who are most in need of special instruction particularly in the early stages of reading development. This is especially important to accurately target the right children very early in the process of reading instruction.

Interestingly, though the teachers agreed that basic resources such as books, color printing, pictures, worksheets to name a few are much necessary, it also appears that teachers are well aware of using manipulatives and assistive technology such as magnetic letters, sand trays and smart screens for further enhancing the phonological awareness instruction. Numerous studies (Audrey et al., 2006; Reading Rockets, 2015; Verismo et al., 2021) have indicated using assistive technology in literacy and other manipulatives have significantly reinforced phonological instruction therefore

increasing reading ability particularly for students with reading difficulties. Studies (Aftab et al. (2024); ElSayed & Ahmed, 2024) asserted that the integration of assistive technology namely text-to-speech software, graphic organizers, interactive and multimedia platforms (tablets, e-books etc.) in phonological awareness instruction significantly improved reading comprehension skills in students with learning disabilities. However, it is important that teachers and other professionals have a variety of approaches supported by research to teach these important skills where appropriate in Bhutan's context.

In understanding the challenges, the teachers highlighted the need for ample time to conduct phonological awareness instruction for successful implementation in supporting the students with reading difficulties. Studies (Palle, 2019; Slavin et al., 2009; Soto et al., 2019) have suggested greater intensity and duration of instruction is required because the increased explicitness of instruction for children who are at risk for reading failure requires that more things be taught directly by the teacher. This finding may be explained by the fact that the intervention program was conducted after school sessions for 15 minutes for two days per week and that the students engaged are students with reading difficulties.

In conclusion, phonological awareness ability is a critical predictor of early reading ability. The literature review overwhelmingly supports phonological awareness training as critical for children to be skillful and fluent beginner readers. Phonological awareness is a prerequisite for reading acquisition and a consequence for reading proficiency in later years. In addition, research findings (Layes et al., 2020; Vander Stappen & Van Reybroeck, 2018) also conclude that children with phonological awareness skills achieve higher scores for spelling and comprehension activities.

The findings of the current study have important practical implications for teachers. Specifically, the findings of this study highlight the need for teachers to recognize that instruction in phonological awareness can facilitate the development of foundational reading skills. Particularly, the emphasis should be placed on the early screening and identification of children who are at risk for reading difficulties. An in-depth understanding of the relationship between phonological awareness and reading acquisition can support teachers in designing effective instructional programs aimed at preventing delays in the development of phonological skills. Further, empirical research related to phonological awareness instruction and children with reading difficulties is extremely limited within Bhutan's unique socio-cultural context and remains a significant challenge for academics and practitioners. This gap hinders both scholarly inquiry and the professional development of academics and practitioners in the field of reading difficulties and phonological awareness. The findings from this current study are expected to address this gap by contributing meaningfully to the expansion of contextually relevant knowledge in Bhutan and provides a foundation for further research and evidence-based practice in this critical area of literacy development particularly for children with reading difficulties.

References

- Aftab, M. J., Irfan, N., & Amjad, F. (2024). Impact of assistive technology on reading comprehension skills in students with learning disabilities. *Annals of Human and Social Sciences*, 5(3), 387 – 402. [https://doi.org/10.35484/ahss.2024\(5-III\)35](https://doi.org/10.35484/ahss.2024(5-III)35)
- Amorim, A. N., Jeon, L., Abel, Y., Felisberto, E. F., Barbosa, L. N. F., & Dias, N. M. (2020). Using Escribo play video games to improve phonological awareness, early reading, and writing in preschool. *Educational Researcher*, 49(3), 188 – 197. <https://doi.org/10.3102/0013189X20909824>
- Anku, F. K. (2024). The impact of phoenomic awareness and phoenics instructions on the reading skills of learners with reading disabilities. *International Journal of Research and Scientific Innovation*. 11(1). 88 – 107.
- Audrey C. R, Dockstader, J., & Stewart, R.A. (2006). Hands-on and kinesthetic activities for teaching phonological awareness. *Early Childhood Education Journal*, 34(3), 195 – 201. <https://doi.org/10.1007/s10643-006-0130-y>
- Carson, K. L., Bayetto, A. E., & Roberts, A. F. B. (2019). Effectiveness of preschool-wide teacher-implemented phoneme awareness and letter-sound knowledge instruction on code-based school-entry reading readiness. *Communication Disorders Quarterly*, 40(2), 97 – 111.
- Carson, K. L., Gillon, G. T., & Boustead, T. M. (2013). Classroom phonological awareness instruction and literacy outcomes in the first year of school. *Language, Speech, and Hearing Services in Schools*, 44(2), 147 – 160.
- Catts, H. W., Nielsen, D. C., Bridges, M. S., Liu, Y., & Bontempo, D. (2015). Early identification of reading disabilities within an RTI framework. *Journal of Learning Disabilities*, 48, 281 – 297.
- Denton, C. A., Tolar, T. D., Fletcher, J. M., Barth, A. E., & Vaughn, S. (2013). Effects of tier 3 intervention for students with persistent reading difficulties and characteristics of inadequate responders. *Journal of Educational Psychology*, 105(3), 633-648. <https://doi:10.1037/a0032581>
- Ehri, L. C. (2005). Learning to read words: Theory, findings, and issues. *Scientific Studies of Reading*, 9(2), 167 – 188.
- Elleman, A. M., & Oslund, E. L. (2019). Reading comprehension research: Implications for practice and policy. *Policy Insights from the Behavioral and Brain Sciences*, 6(1), 3 – 11. <https://doi.org/10.1177/2372732218816339>
- ElSayed, E.R., & Ahmed, M.A.S. (2024). Leveraging assistive technology in language learning; The effectiveness of text-to-speech (TTS) on improving phonemic awareness and orthographic knowledge of Dyslexic children. *SVU-International Journal of Educational Sciences*, 7(13), 3 – 47. <https://dx.doi.org/10.21608/musi.2024.290580.1161>

- Evans, A., Arrow, A., & Greaney, K. (2014). A brief analogy strategy-based intervention supports the development of invented spelling and decoding. *Kairaranga*, 15 (2), 7 – 16.
- Ferraz, E., Gonçalves, S., Freire, T., Paula, L., Patrícia, M., & Pinheiro, A. (2018). Effects of a phonological reading and writing remediation program in students with dyslexia: Intervention for specific learning disabilities. *Folia Phoniatrica et Logopaedica*, 70 (2), 59 – 73. <https://doi.org/10.1159/000489091>
- Freeman, N.B. (2016). Speaking of stories: An exploration of oral stories as an intervention in speech sound disorders. *Storytelling, Self, Society*, 12(2), 207 – 247. <https://doi.org/10.13110/storselfsoci.12.2.0207>
- Gu, C., & Bi, H.Y. (2020). Auditory processing deficit in individuals with dyslexia: A meta-analysis of mismatch negativity. *Neuroscience & Biobehavioral Reviews*, 116, 396 – 405.
- Gillon, G. T. (2018). *Phonological awareness: From research to practice* (2nd ed.). Guilford Press.
- Kelly, C., Leitão, S., Smith-Lock, K., & Heritage, B. (2019). The effectiveness of a classroom-based phonological awareness program for 4–5-year-olds. *International Journal of Speech-Language Pathology*, 21(1), 101 – 113.
- King-Sears, M. E., Stefanidis, A., & Brawand, A. (2019). Barriers to the implementation of specialized reading instruction in secondary co-taught classrooms: An exploratory study. *Teachers and Teaching*, 25(4), 434 – 452.
- Layes, S., Guendouz, M., Lalonde, R., & Rebai, M. (2022). Combined phonological awareness and print knowledge training improves reading accuracy and comprehension in children with reading disabilities. *International Journal of Disability, Development and Education*, 69(4), 1185 – 1199. doi:10.1080/1034912X.2020.1779914
- Lindeblad, E., Nilsson, S., Gustafson, S., & Svensson, I. (2016). Assistive technology as reading interventions for children with reading impairments with a one-year follow-up. *Disability and Rehabilitation: Assistive Technology*, 12 (7), 713 – 724. <https://doi.org/10.1080/17483107.2016.1253116>
- Melby-Lervåg, M., Lyster, S. A. H., & Hulme, C. (2012). Phonological skills and their role in learning to read: A meta-analytic review. *Psychological Bulletin*, 138(2), 322-352.
- Memisevic, H., Dedic, A., Biscevic, I., Hadzic, S., Pasalic, A., & Malec, D. (2022). Identifying predictors of reading speed and reading comprehension in Bosnian. *Applied Neuropsychology: Child*, 11(3), 297 – 306.
- Menting, B., van Lier, P. A. C., & Koot, H. M. (2011). Language skills, peer rejection, and the development of externalizing behavior from kindergarten to fourth grade. *Journal of Child Psychology and Psychiatry*, 52(1), 72 – 79.
- Mihai, A., Friesen, A., Butera, G., Horn, E., Lieber, J., & Palmer, S. (2014). Teaching phonological awareness to all children through storybook reading. *Young Exceptional Children*, 18(4), 3 – 18. <https://doi.org/10.1177/1096250614535221>
- Milankov, V., Golubović, S., Krstić, T., & Golubović, Š. (2021). Phonological awareness as the

- foundation of reading acquisition in students reading in transparent orthography. *International journal of environmental research and public health*, 18(10), 5440. <https://doi.org/10.3390/ijerph18105440>
- Ntino, B. (2024). Effect of phonemic awareness instruction on reading performance of pupils with Dyslexia in Jos South, Plateau State. *BW Academic Journal*. <https://bwjournal.org/index.php/bsjournal/article/view/2194>
- Nkurunziza, S. (2024). The role of phonological awareness in early reading development. *European Journal of Linguistics*, 3(3), 15 – 26.
- Otaiba, S. A., Lake, V. E., Greulich, L., Folsom, J. S., & Guidry, L. (2010). Preparing beginning reading teachers: An experimental comparison of initial early literacy field experiences. *Reading and Writing*, 23(5), 637 – 664.
- Palle, N., Berntsson, A., Miniscalco, C., & Persson, C. (2019). The effectiveness of phonological intervention in pre-school children: A single subject research design. *Logopedics, Phoniatrics Vocology*, 33(1), 1 – 7.
- Pem, K., & Sukavatee, P. (2022). The effects of extensive reading on the reading fluency and reading comprehension of primary grade students in a Bhutanese ESL context. *An Online Journal of Education*, 17(1). <https://doi.org/10.14456/ojed.2022.10>
- Peng, P., Wang, M., & Wang, Y. (2021). The effectiveness of phonological awareness interventions for English language learners: A meta-analysis. *Review of Educational Research*, 91(1), 48 – 85.
- Poulsen, M., Nielsen, A. V., Juul, H., & Elbro, C. (2017). Early identification of reading difficulties: A screening strategy that adjusts the sensitivity to the level of prediction accuracy. *Dyslexia*, 23(3), 251 – 267. <https://doi.org/10.1002/dys.1560>
- Reading Rockets. (2015). *Phonological and phonemic awareness*. <https://www.readingrockets.org/teaching/reading-basics/phonemic>
- Rosenman, S., & Madelaine, A. (2012). Predicting literacy achievement in young English language learners: A question of language proficiency or of learning difficulty? *Australian Journal of Learning Difficulties*, 17, 17 – 34. <https://doi.org/10.1080/19404158.2012.665376>
- Ryder, J. F., Tunmer, W. E., & Greaney, K. T. (2008). Explicit instruction in phonemic awareness and phonemically based decoding skills as an intervention strategy for struggling readers in whole language classrooms. *Reading and Writing*, 21, 349 – 369.
- Saville-Troike, M. (2012). *Introducing second language acquisition* (2nd ed.). Cambridge University Press.
- Skibbe, L. E., Gerde, H. K., Wright, T. S., & Samples-Steele, C. R. (2016). A content analysis of phonological awareness and phonics in commonly used Head Start curricula. *Early Childhood Education Journal*, 44, 225 – 233.

- Slavin, R. E., Lake, C., & Cheung, A. (2009). Effective programs for struggling readers: A best-evidence synthesis. *Educational Research Review*, 4(1), 1 – 26.
- Soto, X., Olszewski, A., & Goldstein, H. (2019). A systematic review of phonological awareness interventions for Latino children in early and primary grades. *Journal of Early Intervention*, 41(4), 1 – 26.
- Stevenson, L. C. (2023). Effective methods of teaching phonological awareness and phonics to individuals with reading difficulty [Master's thesis, Bethel University]. Spark Repository. <https://spark.bethel.edu/cgi/viewcontent.cgi?article=1974&context=etd>
- Taha, H. (2021). The role of phonological awareness in reading acquisition: A study among Arab children. *Journal of Psycholinguistic Research*, 50(2), 367 – 378.
- Tse, L., & Nicholson, T. (2014). The effect of phonics-enhanced big book reading on the language and literacy skills of 6-year-old pupils of different reading ability attending lower SES schools. *Frontiers in Psychology*, 5, 1222. <https://doi.org/10.3389/fpsyg.2014.01222>
- Verismo, L., Costa, M., Mirands, F., Pontes, C., & Castro, I. (2021). The importance of phonological awareness in learning disabilities' prevention: Perspectives of pre-school and primary teachers. *Frontiers*, 6, 1 – 7. <https://doi.org/10.3389/feduc.2021.750328>
- Vander Stappen, C., & Van Reybroeck, M. (2018). Phonological awareness and rapid automatized naming are independent phonological competencies with specific impacts on word reading and spelling: An intervention study. *Frontiers in Psychology*, 9, 320. <https://doi.org/10.3389/fpsyg.2018.00320>
- Wangmo, P. (2013). *An investigation of phonological processing and reading skills in Bhutanese primary students* [PhD Dissertation]. University of Newcastle, Australia.
- Wanzek, J., Otaiba, S. A., Petscher, Y., Lemons, C. J., Gesel, S. A., Fluhler, S., Donegan, R. E., & Rivas, B. K. (2020). Comparing the effects of reading intervention versus reading and mindset intervention for upper elementary students with reading difficulties. *Journal of Learning Disabilities*, 54(3), 203 – 220. <https://doi.org/10.1177/0022219420949281>
- Weru, C., & Otieno, M. (2024). The role of phonics instruction in developing early reading skills in public primary schools in Ikungi District, Tanzania. *Journal of Research Innovation and Implications in Education*, 8(4), 54 – 67.
- Wigfield, A., Gladstone, J.R., & Turci, L. (2016). Beyond cognition: Reading motivation and reading comprehension. *Society for Research in Child Development*, 10(3), 190 – 195. <https://doi.org/10.1111/cdep.12184>
- Wood, C., Wade-Woolley, L., & Holliman, A. J. (2009). Phonological awareness: Beyond phonemes. In C. Wood & V. Connelly (Eds.), *Contemporary perspectives on reading and spelling*. (pp. 7 – 23). Routledge.
- Yin, R. K. (2018). *Case study research and applications: Design and methods* (6th ed.). Sage Publications.

- Young, D. (2024). Leveraging assistive technology to promote inclusive English language teaching and digital literacy. In K.B. Prager & N. Bilge (Eds.), *Digital literacy at the intersection of equity, inclusion, and technology* (pp. 49 – 64). IGI Global Scientific Publishing.
<https://doi.org/10.4018/979-8-3693-2591-9.ch003>
- Zhou, Y., Xie, R., Wu, X., Nguyen, T. P., Xia, Y., Yu, Y., & Wang, Z. (2023). The effects of phonological awareness and morphological awareness on reading comprehension in early elementary school children: The mediating role of reading fluency. *Acta Psychologica Sinica*, 55(6), 930 – 940. <https://doi.org/10.3724/SP.J.1041.2023.00930>