

**European Journal of Education Studies** 

ISSN: 2501 - 1111 ISSN-L: 2501 - 1111 Available online at: <u>www.oapub.org/edu</u>

DOI: 10.46827/ejes.v10i6.4871

Volume 10 | Issue 6 | 2023

# EFFECTIVENESS OF FULLER APPROACH IN TEACHING READING AMONG GRADE 3 PUPILS

## Christian E. Goyja<sup>i</sup>

Ramon Magsaysay Memorial Colleges, Graduate School, General Santos City, Philippines

## Abstract:

The purpose of this study was to determine the effectiveness of the Fuller approach in teaching reading among Grade 3 pupils in Domnar-Lopez Copada Integrated Indigenous People School, Maasim 3 district, Division of Sarangani, for the School Year 2021-2022. The study used an experimental single group utilizing pre-test and post-test. Frequency counts and percentage with the used of t-test to determine the significant difference in the pre-test and post-test scores of Grade 3 pupils utilizing Fuller approach in enhancing the reading capacity. It was found out that Fuller approach was effective in enhancing the reading capacity of Grade 3 pupils by the used of different Fuller materials.

**Keywords**: prevalent conflict management style and the dominant school climate of public elementary school

## 1. Introduction

The Department of Education, through the curriculum instruction division, reported that 5 out of ten or 50 percent of the grade 3 learners belong to frustrated readers, and out of 50 percent, 40 percent or 4 out of 10 are non-readers. It is an alarming issue in the field. Regional Memorandum 205 series of 2021 instructed the area, emphasizing the importance of an enhanced reading program at all levels (Oclarit et al., 2021).

Furthermore, reading is essential in every man's life because we learn not only by experience but also based on what we are reading with comprehension and proper pronunciation (Xie et al., 2017). The researcher observed that the Philippine Informal Reading Inventory (Phil-IRI) results in Grade 3 Guava in the institution where he is currently teaching 35 pupils who are struggling with reading comprehension. With this, the proponent wanted to find out the utilization of the Fuller approach in enhancing the reading capacity of grade 3 pupils.

Thus, reading as described by different writers as a source of communication may be referred to as an interaction between the author and the reader. Furthermore, reading

<sup>&</sup>lt;sup>i</sup> Correspondence: email <u>christianegoyja@gmail.com</u>

Copyright © The Author(s). All Rights Reserved.

is two essential elements of a reader and text. They argue that the interaction between the two is a usually silent mental activity in which individuals draw on their perception as they negotiate the material. Characterize reading as obtaining meaning from written text (Lyster et al., 2017).

Furthermore, reading is a topic of enormous societal importance because it relates to literacy concerns. Reading is linked to a variety of cognitive processes in terms of learning. Learning to read and write can have a significant effect on a child's life, as well as expose them to humanity's collective knowledge. The first stage, readiness, includes the abilities that young children develop before they may benefit from regular reading instruction, but they can also gain from exposure and discovery experiences. Reading's value in many developing nations should not be underestimated but rather stressed. It necessitates a review of classroom programs by regular classroom teachers, school administration, parents or caregivers, and, most all, curriculum developers to meet the needs of beginning readers in schools (Orchard et al., 2021)

Teaching reading to Domnar Lopez-Copada Integrated IP School learners has also been challenging in this context. Also, various programs and initiatives were undertaken to equip teachers with different pedagogies in teaching learners the concepts in comprehension with ease and through simple processes. However, for learners, stereotyping in reading has always remained the same as it is complicated, affecting their motivation to learn. Also, the literacy skills level of the learners may have influenced their comprehension of reading simple words and sentences (Harris et al., 2020).

Thus, this study aims to develop the learners' reading capacity by using a Fuller approach. Also, the study attempts to assess the effectiveness of the Fuller materials and whether they can improve the reading capacity of the learners among Grade 3 learners.

#### 2. Literature Review

The following pieces of literature are based on the different researches which are found to have similarities and have bearing on the study about the effectiveness of Fuller approach in teaching reading among grade 3 pupils.

The Fuller Technique for word recognition in English is one of many methods and strategies for teaching word attack abilities. The Fuller approach is one of the components of the Four-Pronged Approach to teaching beginning reading. The alphabet, phonics, and complete word operations are all combined in this word recognition method. Before adopting the Fuller Technique, the child must be able to name and shape each alphabet letter. The child can tell which letters are vowels and which are consonants, as well as the sounds that each letter makes (Tibi et al., 2021)

Additionally, there are sequences in teaching the letters in the Fuller approach. The first letter we teach is Mm, followed by Ss, Ll, Tt, Hh, Cc, Rr, Nn, Bb, Gg, Pp, Dd, Jj, Ww, Vv, Zz, and Yy. X is a final sound in all beginning reading words (as to mix, fix, six, ax); the sound of x is taught when these words are introduced. K has the same sound as the familiar sound of C. The beginning readers often need clarification when the sound of K is introduced. A few beginning words start with k (Badillo et al., 2020).

Furthermore, the sound of Q is not introduced this early because, again, this needs to be clarified for the child with the c sound. No beginning reading words start with Q, and it is always followed by U (as to queen, quilt, quiz). Step 2 is to introduce the letter sound. If the target letter is Mm. so the learner will sound it out, the sound of the letter Mm is "mmm". Then the teacher will show the pictures, and they will name the images again. In Step 3 they will introduce or review the letterform. The teacher will demonstrate how to write the Big M and the small m. He will show how to write the capital M and the small m correctly (Macfarlane et al., 2018).

Moreover, the teacher will ask the child to write the letter Mm on air, the floor, and his palm. Then the child will report on the board and next on paper to develop gross and fine motor skills. In step 4 Exercises/ games/ contests: for example, show a Bingo Card with pictures that all start with the sound of Mm. Show a target pattern. Say the word with emphasis on the beginning sound. Ask the child to identify the pictures. He can say "Bingo!" if he completes the given pattern. Lastly, the things to remember are to start each lesson with a review of the previous consonant learned, the difficulty increases with each class, and mastery of new words must be done through a fun way–games, exercises, and contests that will surely interest a young child (Veldman et al., 2019).

In addition, the most common way to read is the Fuller approach nowadays. It requires the readers first to acquire skills of familiarizing the names and sounds of letters in the alphabet. Building vocabulary is also one of the focuses of this approach. Hence, giving importance and meaning to the reading materials (Eghbaria et al., 2022).

It is crucial to understand how reading motivation is conceptualized before looking into the practices used to help kids become motivated readers. The reading explanation is described as a propensity to engage and persevere in an inappropriate reading activity. In addition, reading motivation is defined as an individual's values, beliefs, and behaviors related to reading. The method aims, and results of any particular reading assignment for an individual are all influenced by these reading values, attitudes, and habits. As a result, teachers must recognize that each student's motivation for reading will differ. Students' diverse reading experiences, values, and beliefs about what a task is and can do, for example, all impact any given reading job (Boulhrir et al., 2018).

Furthermore, because motivation is so important in reading, teachers must provide students with the abilities they need to read and apply strategies that encourage students to read independently. To put it another way, simply teaching a child to read will not be sufficient. Teachers, on the other hand, must make active efforts in their classroom procedures to encourage youngsters to develop a love of reading (López et al., 2019).

Early intervention with reading education is being emphasized nationwide, with the goal of pupils being capable readers by the third grade. Younger kids are expected to have their reading skills examined due to pressure from educational and political forces. Evidence suggests that kids who do not develop phonemic awareness as a prerequisite for good reading achievement will only benefit partially from reading instruction and that low reading scores have been connected to phonics and phonemic awareness deficiencies. As a result, many schools' K-3 curriculum has emphasized phonemic awareness, pronunciation, and word identification (Marsh et al., 2019).

Furthermore, due to an overemphasis on standardized testing outcomes to measure literacy growth, elementary school reading programs have become automated and test-driven rather than content- and meaning-driven. Despite public and professional attention, "*current practice is very much at odds with the best we know about helping students become authentically literate*". Students are being prevented from learning to read for meaning, the most significant and practical kind of reading, due to the current emphasis on basic literacy (Inoue et al., 2018).

Effective word-recognition procedures allow youngsters to swiftly and instinctively convert written words' letters or spelling patterns into speech sounds, allowing them to recognize words and instantly access their meanings. Children must learn to recognize words quickly and efficiently to concentrate on the importance of what they are reading. As children learn to read increasingly complex novels, word-identification strategies will help them acquire the correct pronunciation of words that they have never heard before in print. Students' semantic and syntactic knowledge can then be used to verify the correctness of their word identification attempts (Hebert et al., 2018).

Furthermore, children must learn to recognize words using their sound and spelling skills as critical techniques. Children should also be able to collaborate with larger groups of people, word families, spelling patterns, and onsets and rimes. Identifying root words, prefixes, and suffixes and understanding multisyllabic terms are the focal points of more sophisticated word-identification procedures. Before they have the sound-letter knowledge to sound out some common words, they must first recognize them. Furthermore, some words are irregular, which means they are difficult to read using the sounding-out method (Chen et al., 2021).

The program should introduce certain irregular and other sight words in logical order. These words should be reviewed frequently in class and in the written materials that the students read. However, the value of teaching youngsters how to use word-identification procedures to figure out words should not be overshadowed by the presentation of some words as sight words (Jensen et al., 2018).

Moreover, a lack of reading fluency is a reliable predictor of reading comprehension problems, according to research that relates comprehension deficiencies with reading fluency. Fluent readers can focus successfully on comprehension by processing deeper levels of meaning in the text because they have control over surfacelevel text processing. Students with difficulty with fluency avoid reading activities and need help with word identification, comprehension, and motivation. When readers' ability to absorb text accurately is reduced due to a lack of adequate fluency, they typically choose to refrain from engaging in reading behaviors such as creating words (Torppa et al., 2020)

Furthermore, the three crucial elements of reading fluency that students must acquire for efficient understanding are word decoding accuracy, automatic processing, and prosodic reading. Readers must be able to decode words easily and regularly; many less experienced readers must gain the basic decoding abilities required for the successful task. Slow word recognition reduces automaticity and impairs reading comprehension (Barwasser et al., 2022).

Lastly, emerging readers may make decoding errors and require much work to read words correctly, so they do not have the cognitive ability to understand what they are reading. These readers may read terms correctly but need to link them in a way that makes their oral reading meaningful. Less-skilled readers need to apply appropriate monitoring tactics and fully digest the material. Slow readers process less text, recall less information, and have more difficulty integrating prior knowledge (Wagner et al., 2019). The ability of children to think of individual words as sound sequences is crucial to their knowledge of the alphabetic principle. Children learn to recognize rhyming words and build their rhymes to get this awareness. They also know that sentences are made up of individual words, that words are made up of syllables, and that words are made up of sounds that may be separated and manipulated in many ways. Finally, they discover that sounds isolated or segmented from observations can be reassembled to make new words. Unfortunately, some children have difficulty separating or segmenting the sounds in spoken words and then reassembling the sounds (Nichols et al., 2018).

However, this part of phonemic awareness is what allows youngsters to use their knowledge of sound-letter relationships to sound out printed words. First, it is crucial to distinguish between phonemes and words. Phonemes refer to the individual sounds that make up a word. They are sound's tiniest units. The rhyme is a word's remaining set of phonemes, while the onset is the first single phoneme or first consonant cluster. Phonemes are more prominent than rimes, while syllables are minor (Jiao et al., 2018).

Moreover, the challenge of finding the ideal title for a paragraph involves the reader connecting text pieces and discovering the primary idea is a good measure of a student's successful comprehension. The National Reading Panel proposed that reading education encompass phonemic awareness, phonics, fluency, vocabulary, and understanding in a report published in 2000. For improving reading skills, research supports guided oral reading fluency teaching (Chen et al., 2020).

Furthermore, cooperative learning, discussion, and strategic questioning can improve reading comprehension. Collaborative learning can serve as an umbrella over several specific instructional avenues. As such, it leaves a wide range of possibilities for implementation. The numerous studies that maintain students' reading ability can increase when they work cooperatively with other students in well thought-out. Through cooperative groups, students can be involved in various levels of the core curriculum and be exposed to optional learning approaches. Teachers can address diverse students' needs when implementing collaborative groups. They reported increased reading fluency and accuracy through Partner Reading (Chi et al., 2018).

Acquiring the sound-letter relations that underpin written English is critical for children's early reading development. Many children with reading difficulties benefit from the explicit and systematic instruction of these sound-letter relationships, known as phonics. In addition, children with reading difficulties benefit from a series of phonics lessons that allows them to apply what they have learned to read words and important stories (Niolaki et al., 2022).

Furthermore, phonics training is typically classified as either explicit or implicit. The sounds associated with the letters are discovered in isolation and then blended to form words in clear phonics training. The teacher informs students of the sound that each letter represents. "The letter 1 makes the sound /llll/," for example. Once children have mastered several correspondences, including one or two vowels, they can read words by combining the sounds of the letters. Students who have acquired the sound-letter mails/I/ /a/ /m/ and /p/, for example, can read "lamp" using a blending approach (Petscher et al., 2020).

Dynamic Indicators of Basic Early Literacy Skills is one way to get crucial oral reading fluency information (DIBELS). It assesses essential pre-reading skills that lead to proficient decoding, word-level reading, and comprehension of related material. Oral reading fluency norms are a helpful tool for evaluating reading ability. It can be assessed, diagnosed, and tracked using norms. The measurements provide information about the reader's skills and weaknesses. Teachers can use national oral reading fluency norms to develop, implement, and evaluate effective educational programs (Rakhlin et al., 2019).

Furthermore, to suit individual learning needs, reliable monitoring mechanisms are required. Teachers should use assessment outcomes in a variety of ways. For example, when a teacher examines a student's reading level, they can study the data and determine which curriculum would be most beneficial for each student. Information about the students' word recognition skills, text type, background knowledge, and ability to make inferences should be included in the data used to determine reading levels (Fischer et al., 2020).

When it comes to teaching reading, many different ways can be used. The majority of children classify themselves as good or bad readers in the first grade. Therefore, teachers must adjust appropriate methodological solutions to each child's needs to build reading skills. Schools should first establish a balanced reading program that incorporates phonemic awareness, word-building skills, and reading comprehension to get reading right in the early grades. Furthermore, other experts believe that because early development in reading and spelling is dependent on phonological awareness, an area that has been shown to improve instruction, phonological awareness training should be the initial step in building decoding and spelling skills (Steinbrink et al., 2019).

Moreover, Phonics Instruction is the most effective method for teaching novices to read. Phonics is a method of teaching reading that emphasizes the learning of letter-sound correspondences and their application in reading and spelling. The fundamental goal of phonics training is to teach young readers how letters are linked to sounds (phonemes) to produce letter-sound correspondences and spelling patterns and how to apply this information in their reading. Phonics training can be given systematically or haphazardly (Wright et al., 2022).

This method places a strong emphasis on teaching using well-designed language. It implies that learning is an inherent element of normal language development and that children should learn to read like they learn to listen and speak. Children should be actively learning about the meaning of print in this method, and they should progressively come to use print in the same way they do spoken language. One proponent of whole language training believes that students must understand the importance of print as a pre-linguistic strategy in reading instruction (Taylor et al., 2020). Moreover, teachers are encouraged to make students frequently write to learn to compose meaningful phrases, paragraphs, and chapters just by reading. The youngsters read words and sentences as whole sentences rather than letter sounds, stressing the gestalt of reading. This technique is sometimes referred to as the top-down process because it concentrates on the readers, who, according to proponents, do not begin reading with their minds completely blank, but instead contribute information to the act of reading based on previous experience with the language and their world. Fluent readers add more details to the written text than the text contains. As a result, readers do not pay close attention to the words and components, instead relying on prior knowledge to guess the meaning as they read (Young et al., 2019).

The method of shared reading originated in New Zealand. In this method, a teacher presents a book to a class or group of children, reads a text to and later with them, and closes with a story-related activity. In short instructional excursions, the teacher focuses on new words, rhymes, punctuation marks, sounds, and blends, all within the story's context (Toub et al., 2018).

Moreover, shared reading may be one of the most effective teaching methods since it fosters a tight relationship between a kid and the teacher, in which the child receives much support and encouragement. As they mimic or imitate the teacher while reading a book together, a child learns in various ways, including book and print awareness, print functions, and listening comprehension. The teacher initially provides' scaffolding' in the Vygotskian approach but progressively withdraws as the pupils grow accustomed to the book's vocabulary. While sharing the text between the instructor and the students, much incidental learning occurs, including new vocabulary, letter-sound relationship prediction skills, and sentence structures (Troseth et al., 2020).

Practices that allow students to communicate and interact with and about texts have the potential to encourage pupils to read more. Students connect socially by reading books, borrowing books, discussing books, and writing about books with classmates. Intrinsic motivation is increased when these types of social activities are included in the classroom. Learning clubs are also influential because they are formed in response to each school's specific literacy demands and interests. According to the researchers, learning clubs can be a powerful vehicle for driving engagement and enthusiastic learners across curriculum areas to utilize literacy to build learning (Le et al., 2019).

Furthermore, aside from learning clubs, activities like literature circles, where students can discuss their reading with other students, positively impact reading motivation. Students' motivation to read is influenced by both their availability to a wide range of books and the social value they place on discussing those books with their classmates. Opportunities for sharing and discussing books are a key aspect in producing engaged, motivated readers and support the notion that social interactions favor reading accomplishment (Toste et al., 2020).

Additionally, the students stated that social contact with literature stimulated them to read. Teachers can use library read-aloud and conversations, book swaps, and literature circles to facilitate social connections regarding books. While there are numerous ways to provide students with opportunities for social contact, the most critical component remains that an effort must be made to center these encounters around texts, thereby pushing students to read (Westerlaken et al., 2019).

Moreover, silent guide reading is one of the leading teaching techniques used at all school levels, from new entrants to form two classes. The basis of guided reading is a teacher and a child or group of children silently reading a story with periodic discussion. The text is introduced to the reader, who is then 'guided' through it during the reading session (Tang et al., 2019).

Additionally, guiding can consist of asking questions and getting the children to answer by reading silently through or referring to the text and reading sections aloud and then discussing their answers with the group. It can also take place between the children and the teacher. Guided silent reading could benefit children who do not concentrate on reading texts when alone. Through this, their attention is focused on what is to be read, and as they ask questions about what has been read, they come to comprehend the text (Vula et al., 2017).

In this approach, teachers take time to read the text to children while they are listening. The benefits of being read to as children are more likely to develop a love of good books and good literature if the reading is done well. Children gain practice in visualizing events and objects which are removed in time and place. This decontextualizing ability to think about things out of context is essential in much of school work. Children expand their vocabulary and understanding of good sentence structure. This a suitable method, especially in teaching reading to begin readers. Children listen attentively as the teacher reads a word or sentence (Pike et al., 2021).

As a result, they capture the sounds of words and eventually gain sufficient vocabulary. Children gain a lot in comprehension, re-telling ability, and understanding of stories teachers read. All in all, the above approaches, if employed by teachers, can provide a solid foundation on which skills like decoding, fluency, vocabulary, and comprehension could be instilled in children and thus become excellent readers. It leads us to another important part of this study which is the reading environment that supports reading development (Treffers et al., 2022)

Besides, these are areas a child can access in preparation for reading. To prepare children for reading instruction in the early grades, they should be exposed to highquality language and literacy environments in their homes, daycare centers, and preschools. Beginning readers need to be exposed to conducive and motivating reading environments that are; environments that can prompt the child through play, talking, singing, rhyming, and conversations. In addition, the classroom climate established by the teacher can majorly impact pupils' motivation and attitudes toward learning. The type of classroom climate generally considered to facilitate pupils' learning best is purposeful, task-oriented, relaxed, warm, supportive, and has a sense of order (Khan et al., 2017). Moreover, today researchers have gone beyond specific readiness skills like fine motor skills and the ability to tell right from the left as identification for a child is ready to read. Growing up as a reader depends mainly on the child's language and print knowledge. They further maintain that a wide range of experiences with printed and spoken languages, from infancy through early childhood, strongly influence a child's future success in reading. The classroom must feature accessible print that supports children's daily reading and writing, whereby each classroom has a sizeable library of children's books, with featured authors and books available in groupings (Lederberg et al., 2019)

In addition to the above, each classroom uses charts, poems, lists, and big books for instruction, and their wall includes displays of children's work. Such a literate environment supports children by providing resources and prompts that celebrate and encourage literate behaviors. School and classroom environments must contain signs or labels that could be read aloud to children, thus improving their reading skills, such as a library, head teacher's office, bathrooms, kitchen, etc. In other words, the general physical environment of the school contributes highly to the success or failure of learners in their reading performance (Howard, et al., 2021)

Likewise, the home can provide a robust literacy environment if parents offer literacy experiences for their children by reading, buying books, teaching them to read, and expressing high educational expectations. It may also enhance or hamper children's ability to function at school, depending upon the degree of stress or supportiveness in the home. The importance of contact between family and school. Parent-school collaboration is related positively to the children's reading, writing, and vocabulary development (Altena et al., 2020).

Furthermore, the types of family behaviors related to intellectual development and schools include parental demands for language development in the form of providing good language models, enlarging the child's vocabulary and emphasizing correctness of usage; and parental provision for learning in the home and beyond in the form of providing a place for the child to read and do homework, establishing set times for house works providing books and magazines, taking the child to museums and libraries and establishing a model the parent and one who reads and respects scholarship (Goudeau et al., 2021)

Moreover, parents' encouragement through appreciation and motivation of any kind, like; buying simple gifts, reading charts, letter books, and even saying thank you to a child after every struggle as they practice lesson is fundamental to developing children's reading skills. The main focal point of this chapter was to convey some of the theoretical and empirical occurrences in real life from other countries and settings concerning reading (Cabell et al., 2019).

Furthermore, reading, its importance, and reading skills development were viewed first concerning reading programs. The Language of Instruction, mainly about the development of reading skills in children, approaches or methods teachers use in teaching reading to school beginners and reading environments towards the promotion of reading skills has also been highlighted (Perkins et al., 2018).

Additionally, kids need to have a solid understanding of the alphabet so they may create their sentences and messages. Therefore, their understanding of the alphabet substantially predicts children's success in learning to read. The ability to rapidly and precisely recognize, say, and write the letters of the alphabet gives children an edge while learning to read. On the other hand, youngsters who enter school with a limited understanding of letters require a great deal of logically planned practice to learn how to recognize, name, and write letters (Aljojo et al., 2018).

Similarly, children who struggle with reading and spelling must have the chance to write and connect their writing to their reading and spelling. Children's phonetic guesses or made-up spellings of words should be encouraged at first to encourage writing. Children become aware of how words are spelled as they learn to read and write them. Learning more about spelling patterns helps kids advance more quickly in reading and writing. Spelling education and the reading program might be integrated into the first grade. Spelling instruction needs to be planned and systematic as kids advance (Hebert et al., 2018).

However, many kids benefit from reading books with plenty of words they know or can decode. This kind of organized approach is essential for some kids. The reading level of the child should be considered when selecting stories. More books can be read by kids who have reading difficulties as they improve. The book's ability to be decoded or predicted is no longer a limitation. Few studies specifically address the decodability level of texts that best supports young readers' fluency. Various sources have suggested various decodability thresholds (Santy et al., 2021)

Consequently, a weak foundation in oral language may impede children's progress in reading. Children must be familiar with the vocabulary and sentence structures they encounter in their stories and school texts to comprehend written language. Formative oral language experiences in the classroom are essential for all children. Still, they are especially so for children with reading disabilities and those with fewer opportunities to develop the language needed for reading (Cole et al., 2019).

Consequently, kindergarten instruction should provide opportunities for children to listen and speak. These opportunities can come from giving and following directions, class discussions, storybook reading, and games. Children's comprehension of written language depends mainly on their practical use and understanding of oral language. Language experiences are a central component of good reading instruction. Children learn much about the world, themselves, and each other from spoken language (McGlynn et al., 2019).

On the other hand, one issue with reading digital texts is how speed and precision affect reading comprehension while reading from a screen. The further problems center on how reading comprehension is affected by the ability to browse and alter digital text and the non-tactile character of digital text. The outcomes of studies that have looked into these issues have been mixed. According to one study, pupils who read informational text on a screen had a better understanding than students who read from printed materials. In another study, students who read linear expository materials on a computer screen exhibited lower reading comprehension than those who read identical text on paper (Felszeghy et al., 2019).

Furthermore, it appears that the format of the digital text, whether long pages that require students to scroll to view the text or single pages that appear and fill the screen after a click on a link, has no bearing on comprehension, as students have demonstrated that they can comprehend digital informational text in either format. These contradictory findings could be because much research focused on a single element to identify a problem that impacts screen readers whereas, in reality, there are other variables at play. Therefore, because there is contradictory research, another variable must be at play (Goodwin et al., 2020).

Lastly, educators must recognize significant differences between reading print text and digital text and that reading comprehension is sometimes dictated by the structure or layout of the text on the screen, even if the research is ambiguous in these specific circumstances. They responded to animated icons, hypertext, sound effects, and the continuous paths between and within screens for internet and intranet reading. All fall under the category of online processing. Because these different qualities of the digital text identified by Walsh are also employed to generate meaning, they are considered multimodal features. If instructors want to ensure that their students can demonstrate that they understand digital writings when reading, they must focus on these critical aspects of reading digital texts (Moojen et al., 2020).

Today, many students spend more than two hours per day in front of screens, watching films, playing games, and surfing the internet. They scan text and other information fast while browsing the internet, spending less time on a page than is required to read the language on the screen. Despite these shifts in how pupils perceive information, reading comprehension, and literacy are equally as vital today as before the internet's early 1990s expansion (Mylona et al., 2020).

Moreover, information is shared and disseminated more readily in various media today than in the past. Educators are aware of changes in the presentation and usage of data and how these changes affect literacy. As a result, the concept of literacy has been altered and enlarged. The traditional literacy model, which focuses on reading and writing and applying those abilities in everyday life, has evolved into a multimodal literacy model that includes print-based, digital, multimedia, and spoken texts. State educational agencies have recognized their significance and have incorporated them into modern academic standards (Beck et al., 2017).

Likewise, some educational experts now advocate that teachers use reading comprehension strategy guides to bridge the gap between print and digital literacies. These strategy guides use print textbook content and complementary digital content to increase student comprehension. For example, students follow a written plan through a printed textbook while offering links to online activities in the Reading Road Map (Gamage et al., 2020).

Moreover, the Cloze Reading Comprehension Activity and the Survey-Question-Read-Recite-Review Guide are two more examples of reading comprehension guides built for reading print text that has been demonstrated to improve reading comprehension when print text is employed. Both of these factors may have an impact on digital text comprehension. With the rising usage of digital textbooks, educators must be able to develop reading comprehension strategies that will assist students in better understanding the multimodal digital informational material that is common in and out of the classroom today (Das et al., 2018).

## 3. Material and Methods

The study used the pre-experimental design. Specifically, the researcher utilized the onegroup pretest-posttest design. As with the posttest-only design, the one-group pretestposttest design is without a control group. It has, however, a pre-test or baseline observation ( $O_1$ ) which allows the investigator to determine the effects of the treatment by comparing pre-test and post-test ( $O_2$ ) results. This design is subject to validity threats: history, maturity, testing, instrumentation, and statistical regression. In addition, its external validity is poor, as illustrated below.



The Fuller approach to teaching reading was the basis for determining the performance level of grade 3 learners. They underwent the pre-test and post-test.

## 3.1 Research Locale

This study was conducted Domnar-Lopez Copada Integrated IP School. The total land area of the school is 25,000 square meters and is 2.7 kilometers away from the national highway. The inhabitants here were Tbolis. The school had a population of 441 students and 15 teachers from kinder to grade 10.

The subjects of the study were thirty-five (35) Grade III pupils in Domnar Lopez-Copada Integrated IP School, SY 2020-2021. There were 15 boys and 20 girls, and 35 underwent the experimental study.

To determine what contents/topics and skills were included in the 30-item pre-test and post-test questionnaires intended for Fuller lessons, the researcher carefully studied and analyzed the existing curriculum guide with the learning competencies in Grade 3 reading under the k to 12 curricula provided by the Department of Education (DepEd). Moreover, to validate the Fuller materials, the researcher made the questionnaire for the evaluators based on the following criteria: goals, notions, competency, purposes, relevance, and acceptability. As a result, the research instruments are aligned and improved with guidelines and processes for validation.

Initially, the proponent made a 60-item Test Instrument based on the Fuller approach. After completing the Instrument draft, he will be piloted to heterogeneously chosen 35 Grade 3 pupils from the neighboring school. After the pupils answer the instrument, it will be immediately retrieved from the students to analyze the reliability of each item. To do it, the proponent utilized the internal- Consistency Method. Using

this method, one could determine if the examinee passed or failed an item. A (1) is assigned for a pass and a (0) for a failure. (Please refer to Appendix I).

The process of obtaining the reliability coefficient in this method is determined by Kuder-Richardson Formula 20. Hence,

$$r = [N/N - 1] * [1 - (\Sigma pi * qi)/SD^2]$$

Where,

N was the number of items,

SD<sup>2</sup> was the variance of the score on the test defined as, and

pi, qi was the product of the proportion of passed and failed for article i.

The proportion of individuals passing item the symbol pi denotes me, and the proportion falls by qi, where qi = 1 - pi. The proponents will strictly observe the steps in applying the Kuder-Richardson Formula 20.

First, he computed the variance (SD<sup>2</sup>) off the test scores for the whole groups (please refer to Appendix J). Second, she determines the proportion passing each item; and sums for all the items. Third, it gives the  $\sum$ piqi value. (Refer to Appendix I). Finally, she substituted the calculated values in the formula.

After knowing the instrument's reliability, the proponent analyzed the item for here to see the index of difficulty and the index of discrimination of each item. To do this, the researcher strictly followed simple but effective procedures for item analysis:

**Step 1:** He arranged the test scores from the highest to the lowest. (Refer to Appendix N).

**Step 2:** He got one-third of the papers with the highest and one-third with the lowest. The middle one-third was set aside. (Refer to Appendix N).

**Step 3:** She counted the number of students in the upper and lower groups who chose the options. (Refer to Appendix O).

Step 4: He recorded the frequency from step 3. (Refer to Appendix O).

**Step 5:** He estimated the index of difficulty. She used the following formula:

## Index of problem = $\sum X x 100$

 $\Sigma$ X is the sum of scores of the correct answer of the upper and lower groups and N is the number of cases in both the upper and lower groups. Difficulty refers to the percentage of getting the correct answer for each item. The smaller the percentage, the more complex the item is. The majority criterion (50% plus one) is the basis for interpreting the difficulty index, whether the item is difficult or easy. When the item has a 50% difficulty index, it is neither easy nor difficult; the lower the percentage, the more complex the item is.

Step 6: the researcher estimated the item discriminating power. In assessing the item discriminating power, she compared the correct responses from the upper and lower groups. The index of discrimination can be easily computed by using this formula:

Index of discrimination = <u>RU -- RL</u> NG

Where:

RU is the proper response of the upper group; RL is the correct response of the lower group; and NG is the students' member.

The discriminating power of an item is at most 1.00. A maximum of positive discriminatory power is revealed by an index of 1.00. It is obtained only when all uppergroup students choose the correct answer and not one in the lower group. Negative discriminating power is obtained when more students in the lower group got the correct answers than the upper group. Moreover, a zero-discriminating power (0.00) is attained when the equal frequency of the upper and lower groups receives the correct answer. The items having negative and zero discriminating power should be revised or improved.

In the item analysis, the proponent will decide to retain the items that passed the index of difficulty and discrimination. Other items which marked revision or improvement were carried out. To accomplish this, the 60-item test underwent face validation. It will be validated by the three (3) experts who are Masters and with expertise in teaching reading. The instrument was validated using the following criteria. Clarity of direction and indicators, presentation and organization, suitability of indicators, adequacy of indicators in every category, congruency to the purpose, the impartiality of the researcher, and appropriateness of the options and evaluation rating system. Through their expertise, revisions, and improvements will be made.

Out of the 60-item Test in reading that went through validation and piloting, the researcher will develop an official 30-item Test that will be used in the pre-test and post-test activities for her experimental research design.

The pre-test in reading will be conducted in July 2021 among the 15 subjects of the study, and the pre-test will be conducted after two months of the experiment. The result will be analyzed by comparing the pre-test and post-test to determine the effectiveness of the Fuller approach.

The researcher asked permission and approval to conduct the study from the District Supervisor and the Principal of Domnar Lopez Copada Integrated IP School, Maasim 3 District, Division of Sarangani. The researcher made lessons with a Fuller approach. The experts validated the lesson and materials. The researcher made 60 pretest questions based on the lessons in a Fuller approach. The researcher conducted a pilot test in the nearby school in Maasim 3 district for 30 Grade 3 pupils. The researcher conducted a pretest on the subject of the study. The researcher conducted classes using the Fuller approach, using radio-based plug and play, utilizing different lessons in the Fuller approach. The researcher monitored the study's conduct with the help of their parents for two months. The researcher conducted a post-test. The researcher analyzed the test result by comparing the pre-test and post-test.

#### 4. Results and Discussion

## 4.1 Pre-test scores of Grade 3 Pupils

It can glean that of the 35 respondents, pupil number 4, 10, 12, 21, 22, 23, 25, 26, 28, 29, 30, and 34 got the score of 19, 20, 22, 20, 20, 21, 19, 20, 20, 19, 20 and 20 respectively got a high score during the pre-test, or there were only twelve pupils who got the high score during the pre-test. In contrast, only pupil number 33 got a score of 25 with a very high description.

On the other hand, pupils' number 1, 11, 14, 16, 18, 20, 24, and 31, with scores of 13, 18, 18, 17, 14, 17, 15, and 17, respectively, got an average score, or only 8 out of 35 students had an average score during the pre-test. It could be noticed that some of the students got a low score on the pre-test, they were pupil number 2, 3, 5, 6, 7, 8, 13, 15, 19, 27, 32, and 35 with scores of 10, 11, 7, 8, 9, 9, 10, 10, 10, 11, 12 and 7 or there were 12 out of 35 pupils got a low score during the pre-test, while pupil number 9 and 17 got a very low score result with the scores of 4 and 6.

Generally, the mean of the 35 pupils for the pre-test is 14.8 or 49 percent, which is described as average.

## 4.2 Post-test Scores of Grade 3 Pupils

Table 3 below presented the post-test of grade 3 struggling learners in reading after the treatment, using frequency counts and percentage distribution of post-test scores of the learners.

Again, an improvement was observed. Moreover, found that out of 35 respondents, seven pupils got very high scores; was pupil number 4, 10, 11, 12, 14, 20, 21, 22, 23, 24, 25, 26, 28, 29, 30, and 33 with the scores of 27, 26, 26, 28, 25, 25, 26, 25, 25, 25, 27, 27, 26 and 28 compared to the pre-test that most of the pupils showed improvement.

On the other hand, seven pupils got high scores this was pupil number 1, 3, 13, 15, 16, 17, 18, 19, 27, 31, and 34 with scores of 19, 20, 19, 19, 22, 20, 22, 24, 19, 21 and 24 respectively. They met the needed requirements to pass the test.

Finally, seven pupils or pupil numbers 2, 5, 6, 7, 8, 32, and 35 with a score of 16, 15, 16, 16, 17, 18, and 16 got the average score. While only one pupil got a low score on the post-test, this was pupil number 9, with a score of 12, respectively.

Generally, the mean scores for the post-test of 30 pupils were 22.11 or 73.7 percent, described as average.

Improving all students' reading skills to narrow the reading achievement gap is one of the essential goals of the No Child Left Behind Act (NCLB) and the Every Student Succeed Act (ESSA) (Sanders et al., 2019).

## 4.3 Effectiveness of the Fuller Approach

Table 5 shows the effectiveness of the Fuller approach in enhancing the reading capacity of grade 3 pupils with uncorrelated data used since the population is enormous. The data reveals that the computed t-value was 17.87 is greater than the tabular value of 1.65,

leading to the rejection of the null hypothesis. It means that the use of a Fuller approach was effective in improving the reading capacity of grade 3 learners.

#### 5. Recommendations

Based on the conclusions of the study, it is recommended that the teachers are encouraged to use the Fuller approach in teaching reading, a Fuller approach may be implemented, especially during this pandemic, to increase performance and have meaningful experiences among learners, school Committee may evaluate the reproduction of reliable materials in Fuller lessons for learners, stakeholders and other community linkages may encourage support of the programs in school in improving the reading capacity of the learners by making reading materials will be used during this pandemic and similar study may conduct on the same school with the specific quarter

#### 6. Conclusion

Based on the data collected, a conclusion was established based from the pre-test result with the mean scores of grade- three pupils were 14.8, described as average, while based on the post-test result, the mean score of grade 3 pupils were 22.11, described as high. Using a Fuller approach effectively improves the performance of grade 3 learners in reading.

#### Acknowledgements

The researcher expresses his heartfelt gratitude to the Almighty God for providing his with wisdom, strength, hope, and blessings, as well as for enabling him to succeed despite adversity. The researcher also wishes to express his heartfelt gratitude to the individuals listed below for their assistance in completing her study project. Professor Johnny S. Bantulo, EdD, his adviser, because this study project would not be possible without him. He considers himself fortunate and grateful to his adviser for all of her help, time and effort, generous and approachable aid, willingness and patience in reviewing and enhancing this piece of work. His panel of examiners, Dr. Noe P. Garcia, Dr. Francisco M. Espinosa, and Dr. Analisa T. Amada, provided suggestions and technical assistance for the study's improvement. He appreciates his panel of examiners' suggestions and recommendations for completing this study successfully. Special thanks are also extended to individuals who, in some way or another, contributed to the completion of this research endeavor by providing the research outline and text, as well as advice and research assistance; and most importantly, those who cared for and loved her for providing emotional support, encouragement, and inspiration.

#### About the Author(s)

Christian E. Goyja is a public school teacher of the Division of Sarangani, Region XII, Philippines.

#### References

- Adkins, R. (2010). Conflict Management Styles Quiz, Elemental Truths. Retrieved October 21, 2014, from <u>https://facultyombuds.ncsu.edu/files/2015/11/Conflict-management-stylesquiz.pdf</u>
- Ahaddin, M. A., Jatmiko, B., & Supardi, Z. A. I. (2020). The improvement of critical thinking skills of primary school students through guided inquiry learning models with integrated peer instructions. *Studies in Learning and Teaching*, *1*(2), 104-111.
- Aljojo, N., Munshi, A., Almukadi, W., Hossain, A., Omar, N., Aqel, B., & Alshamasi, A. (2018). Arabic Alphabetic Puzzle Game Using Eye Tracking and Chatbot for Dyslexia. *International Journal of Interactive Mobile Technologies*, 12(5).
- Altena, E., Baglioni, C., Espie, C. A., Ellis, J., Gavriloff, D., Holzinger, B., ... & Riemann, D. (2020). Dealing with sleep problems during home confinement due to the COVID-19 outbreak: Practical recommendations from a task force of the European CBT-I Academy. *Journal of sleep research*, 29(4), e13052.
- Badillo, S., Banfai, B., Birzele, F., Davydov, I. I., Hutchinson, L., Kam-Thong, T., ... & Zhang, J. D. (2020). An introduction to machine learning. *Clinical pharmacology & therapeutics*, 107(4), 871-885.
- Barwasser, A., Urton, K., Grünke, M., Sperling, M., & Coker, D. L. (2022). Fostering word fluency of struggling third graders from Germany through motivational peertutorial reading racetracks. *Reading and Writing*, 35(1), 29-53.
- Beck, J., Greenwood, D. A., Blanton, L., Bollinger, S. T., Butcher, M. K., Condon, J. E., ...
  & Wang, J. (2017). 2017 National standards for diabetes self-management education and support. *Diabetes Care*, 40(10), 1409-1419.
- Boulhrir, T. (2017). Twenty-first century instructional classroom practices and reading motivation: Probing the effectiveness of interventional reading programs. *International Journal of Education and Literacy Studies*, 5(3), 57-66.
- Cabell, S. Q., Zucker, T. A., DeCoster, J., Melo, C., Forston, L., & Hamre, B. (2019). Prekindergarten interactive book reading quality and children's language and literacy development: Classroom organization as a moderator. *Early Education and Development*, 30(1), 1-18.
- Cai, S., Liu, E., Shen, Y., Liu, C., Li, S., & Shen, Y. (2020). Probability learning in mathematics using augmented reality: impact on student's learning gains and attitudes. *Interactive Learning Environments*, 28(5), 560-573.
- Cassidy, J., Ortlieb, E., & Grote-Garcia, S. (2021). What's Hot in Literacy: New Topics and New Frontiers are Abuzz. *Literacy Research and Instruction*, 60(1), 1-12.
- Chen, W., Chang, M. W., Schlinger, E., Wang, W., & Cohen, W. W. (2020). Open question answering over tables and text. *arXiv preprint arXiv:*2010.10439.
- Chen, Y. J. I., Cunningham, A. E., Rabe-Hesketh, S., Hinshaw, S. P., & Irey, R. C. (2021). The Effect of Orthographic Neighbors on Second-Grade Students' Spelling Acquisition. *Reading Research Quarterly*, 56(1), 119-141.

- Chi, M. T., Adams, J., Bogusch, E. B., Bruchok, C., Kang, S., Lancaster, M., ... & Yaghmourian, D. L. (2018). Translating the ICAP theory of cognitive engagement into practice. *Cognitive science*, 42(6), 1777-1832.
- Cole, R., Reynders, G., Ruder, S., Stanford, C., & Lantz, J. (2019). Constructive Alignment Beyond Content: Assessing Professional Skills in Student Group Interactions and Written Work. In *Research and Practice in Chemistry Education* (pp. 203-222). Springer, Singapore.
- Cox, C. (2020). Literature-based teaching: A student response-centered classroom. In *Reader response in elementary classrooms* (pp. 29-49). Routledge.
- Das, R., Munkhdalai, T., Yuan, X., Trischler, A., & McCallum, A. (2018). Building dynamic knowledge graphs from text using machine reading comprehension. *arXiv preprint arXiv:1810.05682*.
- Eghbaria-Ghanamah, H., Ghanamah, R., Shalhoub-Awwad, Y., Adi-Japha, E., & Karni, A. (2022). Long-term benefits after a rhyme-repetition based intervention program for kindergarteners: Better reading and spelling in the first grade. *Developmental Psychology*, *58*(2), 252.
- Felszeghy, S., Pasonen-Seppänen, S., Koskela, A., Nieminen, P., Härkönen, K., Paldanius, K., ... & Mahonen, A. (2019). Using online game-based platforms to improve student performance and engagement in histology teaching. *BMC medical education*, 19(1), 1-11.
- Fischer, C., Pardos, Z. A., Baker, R. S., Williams, J. J., Smyth, P., Yu, R., ... & Warschauer, M. (2020). Mining big data in education: Affordances and challenges. *Review of Research in Education*, 44(1), 130-160.
- Förster, N., Kawohl, E., & Souvignier, E. (2018). Short-and long-term effects of assessment-based differentiated reading instruction in general education on reading fluency and reading comprehension. *Learning and Instruction*, *56*, 98-109.
- Gamage, K. A., Wijesuriya, D. I., Ekanayake, S. Y., Rennie, A. E., Lambert, C. G., & Gunawardhana, N. (2020). Online delivery of teaching and laboratory practices: Continuity of university programmes during COVID-19 pandemic. *Education Sciences*, 10(10), 291.
- Goldberg, J. M., Sklad, M., Elfrink, T. R., Schreurs, K. M., Bohlmeijer, E. T., & Clarke, A. M. (2019). Effectiveness of interventions adopting a whole school approach to enhancing social and emotional development: a meta-analysis. *European Journal of Psychology of Education*, 34(4), 755-782.
- Goodwin, A. P., Cho, S. J., Reynolds, D., Brady, K., & Salas, J. (2020). Digital versus paper reading processes and links to comprehension for middle school students. *American Educational Research Journal*, 57(4), 1837-1867.
- Goudeau, S., Sanrey, C., Stanczak, A., Manstead, A., & Darnon, C. (2021). Why lockdown and distance learning during the COVID-19 pandemic are likely to increase the social class achievement gap. *Nature Human Behaviour*, *5*(10), 1273-1281.
- Harris, B. N., McCarthy, P. C., Wright, A. M., Schutz, H., Boersma, K. S., Shepherd, S. L., ... & Ellington, R. M. (2020). From panic to pedagogy: Using online active learning

to promote inclusive instruction in ecology and evolutionary biology courses and beyond. *Ecology and evolution*, *10*(22), 12581-12612.

- Hebert, M., Kearns, D. M., Hayes, J. B., Bazis, P., & Cooper, S. (2018). Why children with dyslexia struggle with writing and how to help them. *Language, Speech, and Hearing Services in Schools*, 49(4), 843-863.
- Ho, D., Liang, E., Chen, X., Stoica, I., & Abbeel, P. (2019, May). Population-based augmentation: Efficient learning of augmentation policy schedules. In *International Conference on Machine Learning* (pp. 2731-2741). PMLR.
- Hoehl, S., Keupp, S., Schleihauf, H., McGuigan, N., Buttelmann, D., & Whiten, A. (2019). 'Over-imitation': A review and appraisal of a decade of research. *Developmental Review*, 51, 90-108.
- Howard, J. L., Bureau, J., Guay, F., Chong, J. X., & Ryan, R. M. (2021). Student motivation and associated outcomes: A meta-analysis from self-determination theory. *Perspectives on Psychological Science*, 16(6), 1300-1323.
- Inoue, T., Georgiou, G. K., Parrila, R., & Kirby, J. R. (2018). Examining an extended home literacy model: The mediating roles of emergent literacy skills and reading fluency. *Scientific Studies of Reading*, 22(4), 273-288.
- Jandrić, P., Ryberg, T., Knox, J., Lacković, N., Hayes, S., Suoranta, J., ... & Gibbons, A. (2019). Postdigital dialogue. *Postdigital science and education*, 1(1), 163-189.
- Jeno, L. M., Adachi, P. J., Grytnes, J. A., Vandvik, V., & Deci, E. L. (2019). The effects of m-learning on motivation, achievement and well-being: A Self-Determination Theory approach. *British Journal of Educational Technology*, 50(2), 669-683.
- Jensen, J. L., Holt, E. A., Sowards, J. B., Heath Ogden, T., & West, R. E. (2018). Investigating strategies for pre-class content learning in a flipped classroom. *Journal of Science Education and Technology*, 27(6), 523-535.
- Jiao, Y., M. Severgnini, F., Martinez, J. S., Jung, J., Tan, H. Z., Reed, C. M., ... & Abnousi, F. (2018, June). A comparative study of phoneme-and word-based learning of English words presented to the skin. In *International Conference on Human Haptic Sensing and Touch Enabled Computer Applications* (pp. 623-635). Springer, Cham.
- Khan, K. S., Purtell, K. M., Logan, J., Ansari, A., & Justice, L. M. (2017). Association between television viewing and parent-child reading in the early home environment. *Journal of Developmental & Behavioral Pediatrics*, 38(7), 521-527.
- Kieran, L., & Anderson, C. (2019). Connecting universal design for learning with culturally responsive teaching. *Education and Urban Society*, *51*(9), 1202-1216.
- Knight, M. (2020). Chesterton, Dickens, and the Reading of a Theologically Minded Critic. *The Chesterton Review*, *46*(3/4), 357-366.
- Komalasari, K., & Saripudin, D. (2018). The Influence of Living Values Education Based Civic Education Textbook on Students' Character Formation. *International Journal* of Instruction, 11(1), 395-410
- Le, T. T. H., Tran, T., Trinh, T. P. T., Nguyen, C. T., Nguyen, T. P. T., Vuong, T. T., & Vuong, Q. H. (2019). Reading habits, socioeconomic conditions, occupational aspiration and academic achievement in Vietnamese junior high school students. *Sustainability*, 11(18), 5113.

- Lederberg, A. R., Branum-Martin, L., Webb, M. Y., Schick, B., Antia, S., Easterbrooks, S. R., & Connor, C. M. (2019). Modality and interrelations among language, reading, spoken phonological awareness, and fingerspelling. *The Journal of Deaf Studies and Deaf Education*, 24(4), 408-423.
- Light, J., Barwise, A., Gardner, A. M., & Flynn, M. (2021). Personalized early AAC intervention to build language and literacy skills: A case study of a 3-year-old with complex communication needs. *Topics in Language Disorders*, 41(3), 209-231.
- López Carrillo, D., Calonge García, A., Rodríguez Laguna, T., Ros Magán, G., & Lebrón Moreno, J. A. (2019). Using Gamification in a Teaching Innovation Project at the University of Alcalá: A New Approach to Experimental Science Practices. *Electronic Journal of E-learning*, 17(2), 93-106.
- Macfarlane, R., Morris, J., Zephaniah, B., Garvey, G., Bowman, E. O., & Matthews, C. (2018). *The lost words*. London, UK: Penguin.
- Marsh, J., Wood, E., Chesworth, L., Nisha, B., Nutbrown, B., & Olney, B. (2019). Makerspaces in early childhood education: Principles of pedagogy and practice. *Mind*, *Culture*, *and Activity*, 26(3), 221-233.
- McGlynn-Stewart, M., Murphy, S., Pinto, I., Mogyorodi, E., & Nguyen, T. (2019). Technology supported early literacy learning in a multilingual community preschool. *Education* 3-13, 47(6), 692-704.
- Moojen, S. M. P., Gonçalves, H. A., Bassôa, A., Navas, A. L., de Jou, G., & Miguel, E. S. (2020). Adults with dyslexia: how can they achieve academic success despite impairments in basic reading and writing abilities? The role of text structure sensitivity as a compensatory skill. *Annals of Dyslexia*, 70(1), 115-140.
- Moreno-Morilla, C., Guzmán-Simón, F., & García-Jiménez, E. (2021). Digital and information literacy inside and outside Spanish primary education schools. *Learning, Culture and Social Interaction, 28*, 100455.
- Mylona, I., Deres, E. S., Dere, G. D. S., Tsinopoulos, I., & Glynatsis, M. (2020). The impact of internet and videogaming addiction on adolescent vision: a review of the literature. *Frontiers in public health*, *8*, 63.
- Newstreet, C., Sarker, A., & Shearer, R. (2019). Teaching empathy: Exploring multiple perspectives to address Islamophobia through children's literature. *The Reading Teacher*, 72(5), 559-568.
- Nichols, W. D., Rasinski, T. V., Rupley, W. H., Kellogg, R. A., & Paige, D. D. (2018). Why Poetry for Reading Instruction? Because It Works!. *The Reading Teacher*, 72(3), 389-397.
- Niolaki, G., Vousden, J., Terzopoulos, A., Shepherd, D. L., Debney, L., & Masterson, J. (2022). Spelling predictors; investigating the role of phonological ability and rapid naming in a large cross-sectional British study. *Learning and Instruction*, 80, 101635.
- Oclarit, R. P., Tao, P., Casinillo, L. F. Jimenez, B. A., & Barron, T. (2021). Strengthening the Reading Comprehension of Students Using a Context Clue. *Journal of Education Research and Evaluation*, 5(3), 373-379.
- Orchard, J., Gaydon, P., Williams, K., Bennett, P., D'Olimpio, L., Çelik, R., ... & Tesar, M. (2021). Philosophy of education in a new key: A 'Covid Collective'of the

Philosophy of Education Society of Great Britain (PESGB). *Educational Philosophy and Theory*, 53(12), 1215-1228.

- Patel, P., Torppa, M., Aro, M., Richardson, U., & Lyytinen, H. (2022). Assessing the effectiveness of a game-based phonics intervention for first and second grade English language learners in India: A randomized controlled trial. *Journal of Computer Assisted Learning*, 38(1), 76-89.
- Perkins, K. M., Munguia, N., Moure-Eraso, R., Delakowitz, B., Giannetti, B. F., Liu, G., & Velazquez, L. (2018). International perspectives on the pedagogy of climate change. *Journal of Cleaner Production*, 200, 1043-1052.
- Peters, M. A., Wang, H., Ogunniran, M. O., Huang, Y., Green, B., Chunga, J. O., ... & Hayes, S. (2020). China's internationalized higher education during Covid-19: Collective student autoethnography. *Postdigital science and education*, 2(3), 968-988.
- Petscher, Y., Cabell, S. Q., Catts, H. W., Compton, D. L., Foorman, B. R., Hart, S. A., ... & Wagner, R. K. (2020). How the science of reading informs 21st-century education. *Reading research quarterly*, 55, S267-S282.
- Pike, M. A., Hart, P., Paul, S. A. S., Lickona, T., & Clarke, P. (2021). Character development through the curriculum: teaching and assessing the understanding and practice of virtue. *Journal of Curriculum Studies*, 53(4), 449-466.
- Rahman, K., Wahid, A., Afandi, I., Bali, M. M. E. I., & Hakim, L. (2019, June). Effectiveness of Teams Teaching-Hybrid Learning (TTHL) in Higher Education. In WESTECH 2018: Proceedings of 1st Workshop on Environmental Science, Society, and Technology, WESTECH 2018, December 8th, 2018, Medan, Indonesia (p. 263). European Alliance for Innovation.
- Rakhlin, N. V., Mourgues, C., Cardoso-Martins, C., Kornev, A. N., & Grigorenko, E. L. (2019). Orthographic processing is a key predictor of reading fluency in good and poor readers in a transparent orthography. *Contemporary Educational Psychology*, 56, 250-261.
- Rokhman, M. F., Lintangsari, A. P., & Perdhani, W. C. (2020). EFL learners' phonemic awareness: A correlation between English phoneme identification skill toward word processing. *JEES (Journal of English Educators Society)*, 5(2), 135-141.
- Sanders, S., Losinski, M., Parks Ennis, R., White, W., Teagarden, J., & Lane, J. (2019). A meta-analysis of self-regulated strategy development reading interventions to improve the reading comprehension of students with disabilities. *Reading & Writing Quarterly*, 35(4), 339-353.
- Santy, S., Bali, K., Choudhury, M., Dandapat, S., Ganu, T., Shukla, A., ... & Seshadri, V. (2021, June). Language Translation as a Socio-Technical System: Case-Studies of Mixed-Initiative Interactions. In ACM SIGCAS Conference on Computing and Sustainable Societies (pp. 156-172).
- Soto, C., Gutiérrez de Blume, A. P., Jacovina, M., McNamara, D., Benson, N., & Riffo, B. (2019). Reading comprehension and metacognition: The importance of inferential skills. *Cogent Education*, 6(1), 1565067.
- Steinbrink, C., Knigge, J., Mannhaupt, G., Sallat, S., & Werkle, A. (2019). Are Temporal and tonal musical skills related to phonological awareness and literacy skills?–

Evidence from two cross-sectional studies with children from different age groups. *Frontiers in psychology*, *10*, 805.

- Sunde, K., Furnes, B., & Lundetræ, K. (2020). Does introducing the letters faster boost the development of children's letter knowledge, word reading and spelling in the first year of school?. *Scientific Studies of Reading*, 24(2), 141-158.
- Tang, S., Asrifan, A., Chen, Y., Haedar, H., & Agussalim, M. (2019). The humor story in teaching reading comprehension. *Journal of advanced english studies*, 2(2), 77-87.
- Taylor, D., Grant, J., Hamdy, H., Grant, L., Marei, H., & Venkatramana, M. (2020). Transformation to learning from a distance. *MedEdPublish*, 9.
- Tibi, S., Edwards, A. A., Schatschneider, C., Lombardino, L. J., Kirby, J. R., & Salha, S. H. (2021). IRT analyses of Arabic letter knowledge in kindergarten. *Reading and Writing*, 34(3), 791-816.
- Torppa, M., Vasalampi, K., Eklund, K., Sulkunen, S., & Niemi, P. (2020). Reading comprehension difficulty is often distinct from difficulty in reading fluency and accompanied with problems in motivation and school well-being. *Educational Psychology*, 40(1), 62-81.
- Toste, J. R., Didion, L., Peng, P., Filderman, M. J., & McClelland, A. M. (2020). A metaanalytic review of the relations between motivation and reading achievement for K–12 students. *Review of Educational Research*, 90(3), 420-456.
- Toub, T. S., Hassinger-Das, B., Nesbitt, K. T., Ilgaz, H., Weisberg, D. S., Hirsh-Pasek, K.,
   ... & Dickinson, D. K. (2018). The language of play: Developing preschool vocabulary through play following shared book-reading. *Early Childhood Research Quarterly*, 45, 1-17.
- Treffers-Daller, J., Mukhopadhyay, L., Balasubramanian, A., Tamboli, V., & Tsimpli, I. (2022). How Ready Are Indian Primary School Children for English Medium Instruction? An Analysis of the Relationship between the Reading Skills of Low-SES Children, Their Oral Vocabulary and English Input in the Classroom in Government Schools in India. *Applied Linguistics*.
- Troseth, G. L., Strouse, G. A., Flores, I., Stuckelman, Z. D., & Johnson, C. R. (2020). An enhanced eBook facilitates parent–child talk during shared reading by families of low socioeconomic status. *Early childhood research quarterly*, *50*, 45-58.
- Vaughn, S., Martinez, L. R., Wanzek, J., Roberts, G., Swanson, E., & Fall, A. M. (2017). Improving content knowledge and comprehension for English language learners: Findings from a randomized control trial. *Journal of Educational Psychology*, 109(1), 22.
- Veldman, S. L., Santos, R., Jones, R. A., Sousa-Sá, E., & Okely, A. D. (2019). Associations between gross motor skills and cognitive development in toddlers. *Early human development*, 132, 39-44.
- Vula, E., Avdyli, R., Berisha, V., Saqipi, B., & Elezi, S. (2017). The impact of metacognitive strategies and self-regulating processes of solving math word problems. *International Electronic Journal of Elementary Education*, 10(1), 49-59.
- Wagner, R. K., Edwards, A. A., Malkowski, A., Schatschneider, C., Joyner, R. E., Wood, S., & Zirps, F. A. (2019). Combining old and new for better understanding and

predicting dyslexia. *New directions for child and adolescent development*, 2019(165), 11-23.

- Westerlaken, M., Christiaans-Dingelhoff, I., Filius, R. M., De Vries, B., De Bruijne, M., & Van Dam, M. (2019). Blended learning for postgraduates; an interactive experience. *BMC medical education*, 19(1), 1-7.
- Wright, H. B. M., Flores, M. M., Dunn, C., Shippen, M. M., & Darch, C. (2022). Teaching Letter Sound Correspondence to Preschool Students with Developmental and Intellectual Disabilities. *Education and Training in Autism and Developmental* Disabilities, 57(2), 204-215.
- Xie, Y., Chen, Y., Liu, L., Tao, P., Fan, M., Xu, N., ... & Yan, C. (2017). Ultra-high pyridinic N-doped porous carbon monolith enabling high-capacity K-ion battery anodes for both half-cell and full-cell applications. *Advanced Materials*, 29(35), 1702268.
- Young, C., Durham, P., Miller, M., Rasinski, T. V., & Lane, F. (2019). Improving reading comprehension with readers theater. *The journal of educational research*, 112(5), 615-626.
- Zamani, P., Haghighi, S. B., & Ravanbakhsh, M. (2021). The use of crossword puzzles as an educational tool. *Journal of Advances in Medical Education & Professionalism*, 9(2), 102.

Creative Commons licensing terms

Author(s) will retain the copyright of their published articles agreeing that a Creative Commons Attribution 4.0 International License (CC BY 4.0) terms will be applied to their work. Under the terms of this license, no permission is required from the author(s) or publisher for members of the community to copy, distribute, transmit or adapt the article content, providing a proper, prominent and unambiguous attribution to the authors in a manner that makes clear that the materials are being reused under permission of a Creative Commons License. Views, opinions and conclusions expressed in this research article are views, opinions and conclusions of the author(s). Open Access Publishing Group and European Journal of Education Studies shall not be responsible or answerable for any loss, damage or liability caused in relation to/arising out of conflicts of interest, copyright violations and inappropriate or inaccurate use of any kind content related or integrated into the research work. All the published works are meeting the Open Access Publishing requirements and can be freely accessed, shared, modified, distributed and used in educational, commercial and non-commercial purposes under a Creative Commons Attribution 4.0 International License (CC BY 4.0).