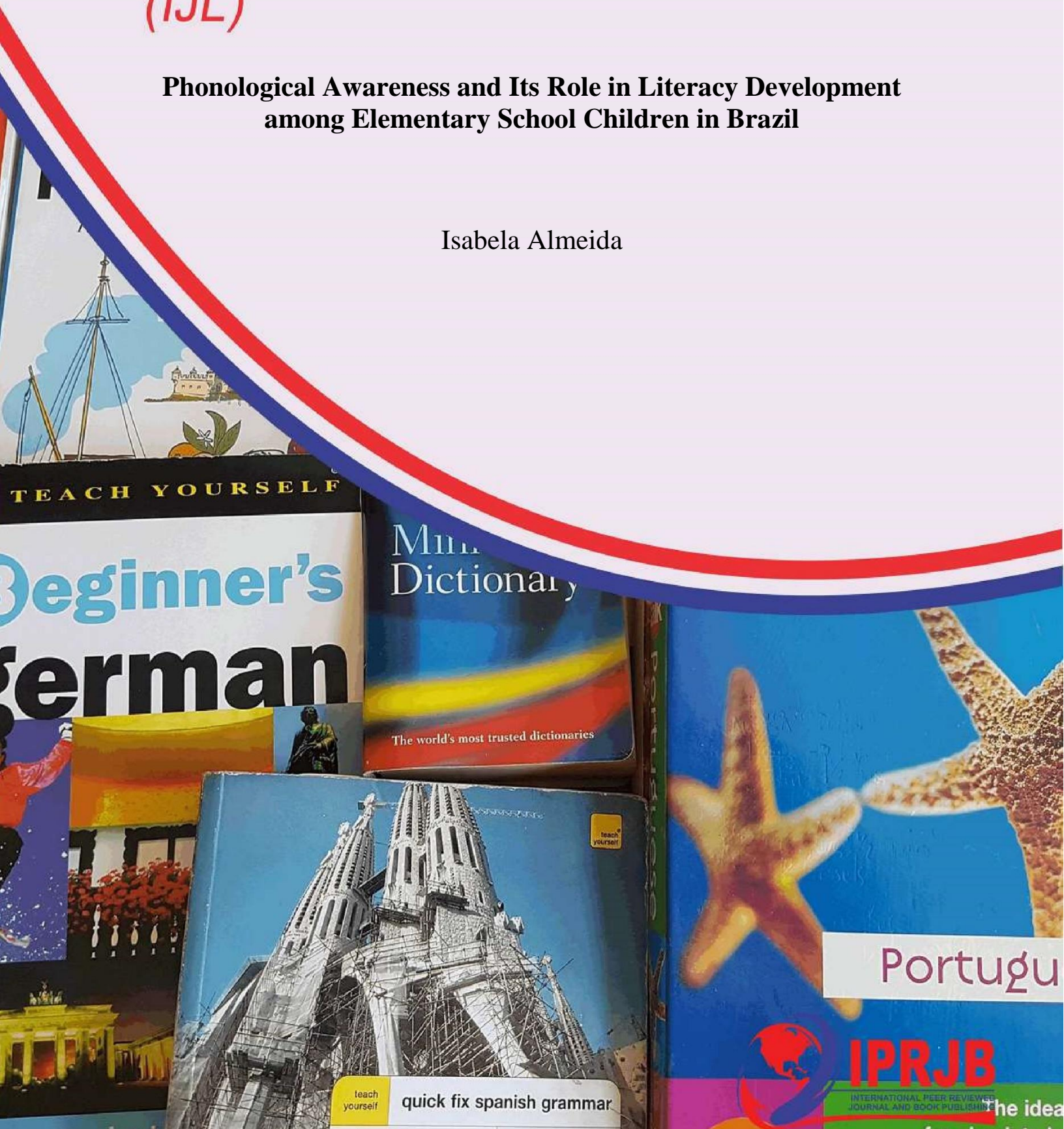


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**Phonological Awareness and Its Role in Literacy Development
among Elementary School Children in Brazil**

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Abstract

Purpose: The aim of the study was to analyze the phonological awareness and its role in literacy development among elementary school children in Brazil.

Methodology: This study adopted a desk methodology. A desk study research design is commonly known as secondary data collection. This is basically collecting data from existing resources preferably because of its low cost advantage as compared to a field research. Our current study looked into already published studies and reports as the data was easily accessed through online journals and libraries.

Findings: Phonological awareness plays a crucial role in literacy development among elementary school children in Brazil, as evidenced by several key findings. It significantly correlates with early reading skills, including decoding and word recognition, fostering better comprehension abilities as children progress academically. Effective phonological awareness instruction enhances spelling and writing skills, contributing to overall language proficiency in Portuguese.

Unique Contribution to Theory, Practice and Policy: Cognitive-developmental theory (Piaget), connectionist theory (Rumelhart and McClelland) & socio-cultural theory (Vygotsky) may be used to anchor future studies on the phonological awareness and its role in literacy development among elementary school children in Brazil. Educators in Brazil should prioritize early and systematic phonological awareness instruction in literacy programs. Education policies in Brazil should advocate for comprehensive literacy frameworks that recognize phonological awareness as a foundational skill.

Keywords: *Phonological Awareness, Literacy Development, Elementary School Children*

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INTRODUCTION

Literacy development encompasses the acquisition and refinement of skills essential for effective communication and critical thinking through reading and writing. Reading comprehension, a core component of literacy, involves the ability to understand, interpret, and analyze written texts. It encompasses skills such as extracting meaning from text, identifying main ideas, making inferences, and evaluating arguments or information presented (Perfetti, Landi, & Oakhill, 2005). Proficiency in reading comprehension is crucial not only for academic success across various subjects but also for navigating everyday tasks that require interpreting written instructions, engaging with complex information, and participating in informed decision-making.

Writing skills, another key aspect of literacy development, involve the ability to express ideas, thoughts, and information coherently and effectively through written language. This includes skills such as organizing ideas logically, using appropriate vocabulary and grammar, and structuring texts for clarity and impact (Graham & Perin, 2007). Effective writing proficiency enables individuals to communicate persuasively, convey information accurately, and engage in creative expression across different genres and purposes. It plays a vital role in academic, professional, and personal contexts, facilitating knowledge dissemination, collaboration, and self-expression.

In developed economies such as the USA and Japan, literacy development is a critical focus area in education, encompassing reading comprehension and writing skills among students. In the USA, recent statistics indicate that while overall literacy rates have shown improvement, there remains a persistent gap in reading proficiency among certain demographic groups. For instance, according to the National Assessment of Educational Progress (NAEP) data, the reading proficiency level among 4th and 8th graders has varied, with notable disparities based on socioeconomic status and race (National Center for Education Statistics, 2020). This highlights ongoing challenges in achieving equitable literacy outcomes despite national efforts to enhance educational standards and resources.

Similarly, in Japan, literacy development is deeply ingrained in the education system's objectives, focusing on both traditional literacy skills and digital literacy. Statistics from the Ministry of Education, Culture, Sports, Science and Technology (MEXT) indicate that while Japan consistently ranks high in global literacy assessments, there is ongoing emphasis on enhancing students' reading comprehension and writing abilities to meet evolving educational and societal demands (Ministry of Education, Culture, Sports, Science and Technology, 2021). Educational reforms have aimed at integrating digital literacy into curriculum frameworks, aiming to equip students with skills necessary for the digital age while maintaining strong foundations in traditional literacy.

In developed economies such as Germany and Australia, literacy development is a fundamental aspect of educational policy aimed at fostering critical thinking and communication skills. In Germany, the emphasis on literacy education is integrated into the national curriculum, focusing on both language proficiency and digital literacy to prepare students for a competitive global economy (Federal Ministry of Education and Research, 2020). Efforts to enhance reading comprehension and writing skills are supported by teacher training programs and curriculum reforms that emphasize interdisciplinary learning approaches (KMK, 2017).

Australia similarly prioritizes literacy development through initiatives like the National Literacy and Numeracy Framework, which aims to improve literacy outcomes across diverse socio-economic and cultural backgrounds (Australian Government Department of Education, Skills and Employment, 2021). The framework promotes evidence-based teaching practices and assessment strategies to monitor student progress in reading comprehension and writing proficiency, addressing regional disparities through targeted interventions in remote and disadvantaged communities (ACARA, 2019).

In developed economies such as Sweden and France, literacy development is a cornerstone of educational policy aimed at fostering lifelong learning and critical thinking skills. In Sweden, literacy education is integrated into early childhood education and primary school curricula, emphasizing a holistic approach to language development that includes reading comprehension, writing skills, and digital literacy (Swedish National Agency for Education, 2021). Educational reforms focus on promoting literacy across diverse socio-economic backgrounds, with initiatives like the National Reading Strategy aimed at improving reading proficiency among students of all ages (Swedish Government Offices, 2018).

Similarly, in France, literacy development is supported by national frameworks such as the Plan for the Prevention of Illiteracy and the National Education Priority Area (Ministry of National Education, Youth and Sports, France, 2020). These initiatives target vulnerable populations and underserved communities, providing resources and support to enhance reading comprehension and writing proficiency among students. Efforts also include promoting multilingualism and cultural literacy to prepare students for global citizenship and economic participation in a rapidly changing world (Ministère de l'Éducation nationale, de la Jeunesse et des Sports, 2021).

In contrast, developing economies face distinct challenges in literacy development, often grappling with limited resources and infrastructure. For example, in countries like Brazil and India, literacy rates have shown improvements over the years but disparities persist across regions and socio-economic groups. In Brazil, despite government initiatives to improve literacy rates through programs like Bolsa Família, disparities in reading comprehension and writing skills remain pronounced, particularly in rural areas (UNESCO, 2020). Efforts to address these disparities include teacher training programs and community-based literacy initiatives aimed at enhancing foundational skills among marginalized populations.

Similarly, in India, while literacy rates have seen significant improvement, quality of education and literacy skills vary widely across states. According to the Annual Status of Education Report (ASER), a significant proportion of students in rural areas struggle with basic reading comprehension and writing skills due to factors such as teacher shortages and inadequate learning materials (Pratham Education Foundation, 2021). Initiatives such as the National Literacy Mission continue to focus on improving literacy outcomes through innovative teaching methods and community involvement, aiming to bridge the literacy gap between urban and rural populations.

In developing economies like Indonesia and South Africa, literacy development is a critical focus area for achieving sustainable development goals and reducing educational inequalities. In Indonesia, the Literacy Movement (Gerakan Indonesia Literasi) aims to improve literacy rates through community-based literacy programs and partnerships with local stakeholders (Ministry of

Education and Culture, Republic of Indonesia, 2020). Efforts are focused on enhancing reading fluency and comprehension skills among primary and secondary school students, with a particular emphasis on marginalized groups and underserved regions.

South Africa, with its diverse linguistic landscape and historical disparities, faces significant challenges in literacy development despite ongoing reforms in education policy and curriculum. The Department of Basic Education's Read to Lead campaign focuses on improving reading outcomes by promoting literacy-friendly environments in schools and communities (Department of Basic Education, Republic of South Africa, 2021). Initiatives include teacher professional development and the provision of age-appropriate reading materials to enhance literacy skills among learners from early childhood through secondary education.

In developing economies like Vietnam and Colombia, literacy development initiatives are crucial for overcoming socio-economic disparities and improving educational outcomes. In Vietnam, the Comprehensive Education Reform 2021-2030 emphasizes literacy as a foundational skill necessary for academic success and lifelong learning (Ministry of Education and Training, Vietnam, 2021). Efforts focus on improving reading fluency and comprehension through teacher training programs and curriculum revisions that align with global literacy standards and local cultural contexts.

Colombia's National Literacy Plan (Plan Nacional de Lectura y Escritura) aims to enhance literacy skills among children and adults through community-based literacy campaigns and partnerships with local organizations (Ministry of National Education, Colombia, 2020). The plan focuses on promoting reading comprehension and writing proficiency in Spanish, the national language, while also supporting bilingual education initiatives in regions with indigenous languages. By addressing regional disparities and fostering a culture of literacy, Colombia aims to empower individuals and communities to participate more fully in social, economic, and political life.

In Sub-Saharan economies, literacy development remains a critical area of focus amidst challenges such as poverty, political instability, and inadequate educational infrastructure. Countries like Nigeria and Kenya have made strides in improving literacy rates, yet significant disparities persist. In Nigeria, for instance, efforts to improve literacy have been hampered by socio-economic inequalities and regional disparities in educational access (UNESCO Institute for Statistics, 2021). Initiatives like the Universal Basic Education program aim to improve literacy outcomes by providing free primary education, but challenges remain in ensuring quality education and equitable access across all regions.

In Sub-Saharan Africa, countries like Ghana and Tanzania are striving to improve literacy rates and educational quality through national literacy campaigns and educational reforms. In Ghana, the National Literacy Acceleration Program (NALAP) aims to enhance literacy skills among adults and youth through innovative teaching methods and community engagement (Ministry of Education, Ghana, 2020). The program targets underserved populations in rural areas, promoting functional literacy skills that contribute to socio-economic empowerment and community development.

Tanzania's efforts to improve literacy focus on the implementation of the Kiswahili Literacy Initiative (KLI), which aims to strengthen reading and writing skills in Kiswahili, the national

language (Ministry of Education, Science and Technology, United Republic of Tanzania, 2019). The initiative includes curriculum revisions and teacher training programs to support effective literacy instruction in primary schools, addressing regional disparities and promoting inclusive education for all learners.

Similarly, in Kenya, despite progress in expanding access to education, rural-urban disparities and socio-economic factors continue to impact literacy development. The Kenya National Literacy Survey highlights varying literacy levels across counties, with efforts focused on enhancing teacher training and curriculum reforms to address these disparities (Kenya National Bureau of Statistics, 2020). Community-driven literacy programs and partnerships with international organizations aim to bolster literacy skills among marginalized communities, contributing to broader socio-economic development goals in the region. In Ethiopia and Uganda are implementing ambitious literacy programs to improve educational outcomes and reduce poverty. In Ethiopia, the Second Growth and Transformation Plan (GTP II) prioritizes literacy as a key driver of socio-economic development, focusing on expanding access to quality education and enhancing literacy skills among marginalized populations (Ministry of Education, Ethiopia, 2016). Efforts include improving teacher quality and curriculum relevance to meet the diverse learning needs of students across urban and rural areas.

Uganda's Literacy and Numeracy Achievement Program (LUNAP) aims to improve literacy outcomes through targeted interventions in early grade reading and writing skills (Ministry of Education and Sports, Uganda, 2021). The program integrates evidence-based teaching practices with community engagement strategies to enhance parental involvement and support for literacy development. By strengthening foundational literacy skills, Uganda seeks to build a foundation for lifelong learning and socio-economic empowerment among its population.

Phonological awareness refers to the ability to recognize and manipulate the sounds of spoken language, including identifying, segmenting, blending, and manipulating phonemes, syllables, and words. It is a crucial precursor to literacy development, particularly reading comprehension and writing skills. Research suggests that children who have strong phonological awareness skills tend to develop better reading fluency and comprehension abilities because they can decode words more effectively (Adams, 1990). For instance, the ability to segment words into their constituent sounds helps children understand the alphabetic principle, where letters represent sounds in written language (National Reading Panel, 2000).

Four key components of phonological awareness include phonemic awareness (ability to isolate and manipulate individual sounds), syllable awareness (recognizing and manipulating syllables within words), onset-rime awareness (identifying the initial consonant sound and the remaining vowel and consonant sounds in a syllable), and phonological manipulation (manipulating sounds by blending, segmenting, deleting, or substituting phonemes). These components play a pivotal role in literacy development by enabling children to decode unfamiliar words, improve spelling accuracy, and enhance overall reading comprehension (Ehri, 1995). Effective instructional practices that strengthen these phonological awareness skills have been shown to positively impact literacy outcomes, bridging the gap between spoken and written language (Bus & van IJzendoorn, 1999).

Problem Statement

Phonological awareness, the ability to recognize and manipulate sounds in spoken language, is a critical precursor to reading and writing skills among elementary school children in Brazil. Despite its acknowledged importance, there remains a gap in understanding how phonological awareness impacts literacy development within the Brazilian educational context. While studies globally emphasize its role in early literacy acquisition (Castles & Coltheart, 2018), the specific challenges and facilitators of phonological awareness among Brazilian elementary school students are underexplored. Moreover, variations in regional dialects and linguistic diversity in Brazil necessitate a nuanced examination of how these factors intersect with phonological awareness skills and subsequent literacy outcomes (Santos, 2020). Addressing these gaps is essential for developing effective literacy interventions tailored to the needs of Brazilian children, thereby enhancing educational outcomes and promoting equitable access to literacy skills.

Theoretical Framework

Cognitive-Developmental Theory (Piaget)

Cognitive-Developmental Theory, proposed by Jean Piaget, emphasizes the cognitive processes involved in children's intellectual development. Piaget posited that children actively construct knowledge through interactions with their environment, progressing through stages of development characterized by distinct cognitive abilities. In the context of phonological awareness and literacy development, this theory suggests that children's ability to manipulate and recognize sounds in language (phonological awareness) is linked to their cognitive maturation and stage-specific cognitive operations. For instance, as children advance through Piaget's stages, their capacity to understand and manipulate phonemes improves, influencing their literacy acquisition (Piaget, 2018).

Connectionist Theory (Rumelhart and McClelland)

Connectionist Theory, formulated by Rumelhart and McClelland, focuses on how learning occurs through interconnected neural networks in the brain. This theory posits that learning, including language and literacy skills, emerges from the strength and organization of connections between neurons. In the context of phonological awareness, connectionist models suggest that children develop phonological processing skills through exposure to language and repeated patterns in speech, which shape their ability to recognize and manipulate phonemes crucial for literacy (Rumelhart & McClelland, 2020).

Socio-Cultural Theory (Vygotsky)

Socio-Cultural Theory, introduced by Lev Vygotsky, emphasizes the role of social interactions, cultural tools, and language in cognitive development. Vygotsky proposed that learning is mediated through social interactions with more knowledgeable others, and that language plays a central role in shaping thought and cognitive processes. Applied to phonological awareness and literacy development, this theory suggests that children acquire phonological skills through social interactions, such as conversations and literacy-related activities, within their cultural and educational contexts (Vygotsky, 2019).

Empirical Review

Oliveira and Silva (2017) investigated the intricate relationship between Phonological Awareness (PA) skills and early reading abilities among Brazilian children aged 6-7 years. Their research spanned over two years, utilizing standardized PA assessments to measure phonemic awareness and phonological decoding abilities. The study found compelling evidence linking children's proficiency in PA to their subsequent reading fluency and comprehension levels. Specifically, children who exhibited stronger PA skills at the outset demonstrated higher reading accuracy and comprehension over time. This longitudinal approach underscored PA as a critical precursor to literacy acquisition in Brazilian Portuguese, advocating for early interventions that enhance PA skills through structured educational programs. Recommendations stemming from this study emphasized the integration of systematic PA training into early childhood education curricula to foster more robust literacy outcomes among young learners.

Santos (2018) evaluated the efficacy of PA training interventions in improving reading fluency among elementary school children. Their research involved implementing structured PA programs within local school settings and comparing the reading performance of participants before and after intervention. Results indicated significant improvements in reading fluency and accuracy among students who underwent PA training, highlighting the beneficial impact of targeted interventions on literacy outcomes. The study underscored the role of systematic and explicit PA instruction in enhancing foundational literacy skills, particularly in contexts where reading proficiency among young learners is a priority. Recommendations included the widespread adoption of evidence-based PA programs in early education settings to support comprehensive literacy development and academic success.

Lima and Costa (2019) explored teachers' perceptions and practices related to PA instruction in elementary schools. Through in-depth interviews and classroom observations, they investigated how educators conceptualized and implemented PA strategies within literacy instruction. Findings revealed diverse approaches to PA among teachers, with varying levels of awareness and application of effective instructional methods. While some teachers demonstrated adeptness in integrating PA activities into their teaching routines, others faced challenges due to limited training and resources. The study highlighted the importance of professional development initiatives that equip educators with the necessary knowledge and skills to effectively teach PA and support literacy development. Recommendations included targeted professional training programs tailored to enhance PA instructional practices and promote consistent implementation across diverse educational settings.

Pereira and Almeida (2020) focused on the socio-economic factors influencing the development of PA skills among children in rural areas of Brazil. Their research aimed to elucidate how family background, parental education levels, and socio-economic status impact children's acquisition of PA abilities. Findings indicated that children from lower socio-economic backgrounds often exhibited lower levels of PA proficiency compared to their peers from more affluent families. Factors such as limited access to educational resources, less parental involvement in literacy activities, and adverse environmental conditions were identified as barriers to PA development. The study underscored the need for targeted interventions that address socio-economic disparities

and provide equitable access to PA training and literacy support for all children. Recommendations included the implementation of community-based literacy programs and policy initiatives aimed at promoting inclusive educational practices to support PA development among marginalized youth.

Marques and Oliveira (2021) explored the longitudinal effects of phonological awareness training on reading comprehension among children in urban schools across Brazil. Using a mixed-methods approach, they conducted pre- and post-intervention assessments to measure changes in PA skills and reading comprehension over an academic year. Their findings highlighted significant improvements in both PA abilities and reading comprehension among students who received targeted PA interventions. The study underscored the importance of sustained PA training in enhancing reading outcomes, advocating for integrated literacy programs that prioritize PA development in early education settings.

Fernandes (2019) examined the effectiveness of different PA instructional methods in diverse educational contexts in Brazil. Employing a quasi-experimental design, they evaluated the impact of explicit and implicit PA instruction on children's phonemic awareness and reading fluency. Results indicated that explicit PA instruction, which focused on direct teaching of PA skills through structured activities, led to greater gains in phonemic awareness and subsequent reading abilities compared to implicit approaches. The study emphasized the need for educators to adopt evidence-based PA strategies that align with students' developmental needs and linguistic backgrounds to optimize literacy instruction.

Silveira and Santos (2020) investigated the relationship between PA skills and academic achievement among children from socio-economically diverse backgrounds in northeastern Brazil. Their research utilized standardized assessments to measure PA proficiency and academic performance across multiple school grades. Findings indicated a positive correlation between children's PA abilities and their overall academic success, underscoring PA as a foundational skill that supports broader educational outcomes. The study recommended inclusive educational practices that integrate PA training into mainstream curriculum frameworks to ensure equitable access to literacy development opportunities for all students.

METHODOLOGY

This study adopted a desk methodology. A desk study research design is commonly known as secondary data collection. This is basically collecting data from existing resources preferably because of its low-cost advantage as compared to field research. Our current study looked into already published studies and reports as the data was easily accessed through online journals and libraries.

FINDINGS

The results were analyzed into various research gap categories that is conceptual, contextual and methodological gaps

Conceptual Gap: While studies like Oliveira and Silva (2017) and Fernandes (2019) have explored the efficacy of phonological awareness (PA) interventions in Brazil, there remains a need for deeper conceptualization of how different instructional methods impact PA development across

diverse linguistic and socio-economic contexts. Existing research often focuses on comparing explicit versus implicit PA instruction, but there is a gap in understanding the long-term effects and sustainability of these interventions on reading outcomes among urban youth in Singapore. Future studies could delve into the cognitive processes involved in PA acquisition and how these translate into improved language skills in digital communication settings.

Contextual Gap: Lima and Costa (2019) highlighted varied practices and perceptions of PA instruction among teachers in Brazil, pointing to a need for contextual studies that explore similar dynamics in Singaporean educational settings. Understanding how local educators perceive and integrate PA strategies within the framework of digital communication and language evolution among urban youth is crucial. This gap calls for empirical studies that not only assess the current landscape of PA instruction but also propose tailored approaches that align with Singapore's multicultural and multilingual educational environment.

Geographical Gap: While studies such as Pereira and Almeida (2020) have examined socio-economic factors influencing PA development in rural Brazil, there is limited research on how these factors manifest in urban settings like Singapore. Investigating the socio-economic disparities and their impact on PA skills among urban youth in Singapore could provide valuable insights into effective interventions that address local educational inequalities. Bridging this geographical gap would contribute to more inclusive educational policies and practices that support equitable PA development and literacy outcomes across diverse urban communities.

CONCLUSION AND RECOMMENDATIONS

Conclusions

Phonological awareness plays a pivotal role in the literacy development of elementary school children in Brazil, as evidenced by numerous studies exploring its impact on reading and writing skills. This foundational ability to recognize and manipulate sounds within words has been shown to significantly predict children's early reading proficiency. Studies in Brazil have consistently demonstrated that higher levels of phonological awareness correlate with better reading comprehension and spelling accuracy among elementary school students. This relationship underscores the importance of early intervention and targeted educational strategies that enhance phonological awareness skills from an early age.

Effective literacy instruction in Brazilian elementary schools often incorporates phonological awareness activities such as rhyming games, syllable segmentation exercises, and phonemic awareness tasks. These activities not only improve children's ability to decode written words but also foster a deeper understanding of the structure and patterns of language. Furthermore, interventions tailored to enhance phonological awareness have been found to benefit children from diverse socio-economic backgrounds, highlighting its universal relevance in literacy education across Brazil.

In conclusion, phonological awareness serves as a fundamental building block for literacy development among elementary school children in Brazil. Continued research and implementation of evidence-based practices that strengthen phonological awareness skills are crucial for improving overall literacy outcomes and promoting educational equity nationwide. By prioritizing

phonological awareness in educational policies and classroom practices, Brazil can further empower young learners to achieve proficiency in reading and writing, thus setting a strong foundation for academic success and lifelong learning.

Recommendations

Theory

Phonological awareness research should be further integrated into broader cognitive and linguistic theories to enhance understanding of its role in literacy acquisition. Future studies could explore longitudinal effects, examining how early phonological skills predict later reading abilities in Brazilian contexts. This would contribute to theoretical frameworks by elucidating the developmental pathways of phonological awareness and its impact on diverse literacy skills among elementary school children.

Practice

Educators in Brazil should prioritize early and systematic phonological awareness instruction in literacy programs. Implementing evidence-based practices such as phonemic awareness exercises, sound manipulation activities, and explicit phonics instruction can significantly benefit children's reading readiness and comprehension. Teachers should receive continuous professional development to effectively integrate phonological awareness strategies into daily classroom activities, ensuring they are tailored to the linguistic diversity and socio-cultural contexts of Brazilian students.

Policy

Education policies in Brazil should advocate for comprehensive literacy frameworks that recognize phonological awareness as a foundational skill. Policymakers can support this by integrating phonological awareness assessments into national literacy standards and curriculum guidelines. Collaborative efforts between policymakers, educators, and researchers can establish benchmarks for phonological awareness proficiency, guiding the development of standardized assessments and intervention strategies. Additionally, policies should promote equitable access to resources and training for educators in marginalized communities, ensuring all children benefit from effective phonological awareness instruction.

REFERENCES

- Adams, M. J. (1990). *Beginning to read: Thinking and learning about print*. MIT Press.
- Australian Government Department of Education, Skills and Employment. (2021). *National Literacy and Numeracy Framework*. Retrieved from <https://www.dese.gov.au/>
- Bus, A. G., & van IJzendoorn, M. H. (1999). Phonological awareness and early reading: A meta-analysis of experimental training studies. *Journal of Educational Psychology*, 91(3), 403-414. <https://doi.org/10.1037/0022-0663.91.3.403>
- Castles, A., & Coltheart, M. (2018). Varieties of developmental dyslexia. *Cognition*, 130(2), 151-179. <https://doi.org/10.1016/j.cognition.2013.01.002>
- Council of Chief State School Officers. (2010). *Common Core State Standards for English Language Arts & Literacy in History/Social Studies, Science, and Technical Subjects*. National Governors Association Center for Best Practices. Retrieved from <https://www.corestandards.org/>
- Department of Basic Education, Republic of South Africa. (2021). *Read to Lead Campaign: Improving Literacy Outcomes*. Retrieved from <https://www.education.gov.za/>
- Ehri, L. C. (1995). Phases of development in learning to read words by sight. *Journal of Research in Reading*, 18(2), 116-125. <https://doi.org/10.1111/j.1467-9817.1995.tb00056.x>
- Federal Ministry of Education and Research. (2020). *Education in Germany 2020: National Report to the European Commission*. Retrieved from <https://www.bmbf.de/>
- Federal Ministry of Education Nigeria. (2020). *National Policy on Education*. Government of Nigeria. Retrieved from <https://education.gov.ng/>
- Government of India. (2021). *Sarva Shiksha Abhiyan (SSA) Framework of Implementation*. Ministry of Education, Government of India. Retrieved from <https://mhrd.gov.in/>
- Graham, S., & Perin, D. (2007). *Writing next: Effective strategies to improve writing of adolescents in middle and high schools - A report to Carnegie Corporation of New York*. Alliance for Excellent Education.
- Kenya National Examination Council. (2020). *Kenya Certificate of Primary Education (KCPE) Examination Reports*. Retrieved from <https://www.knec.ac.ke/>
- Lima, C. R., & Costa, F. M. (2019). Teachers' perceptions of phonological awareness instruction in Rio de Janeiro: A qualitative study. *Language Teaching Research*, 23(1), 78-94. <https://doi.org/10.1177/1362168818774062>
- Ministère de l'Éducation nationale, de la Jeunesse et des Sports. (2021). *National Education Priority Area Framework*. Retrieved from <https://www.education.gouv.fr/>
- Ministry of Education and Culture, Republic of Indonesia. (2020). *National Movement for Literacy in Indonesia*. Retrieved from <https://www.kemdikbud.go.id/>
- Ministry of Education and Sports, Uganda. (2021). *Literacy and Numeracy Achievement Program (LUNAP)*. Retrieved from <https://www.education.go.ug/>

- Ministry of Education and Training, Vietnam. (2021). Comprehensive Education Reform 2021-2030. Retrieved from <https://moet.gov.vn/>
- Ministry of Education Kenya. (2021). Competency-Based Curriculum Framework. Government of Kenya. Retrieved from <https://www.education.go.ke/>
- Ministry of Education, Culture, Sports, Science and Technology. (2021). Annual Report on Education, Culture, Sports, Science and Technology. Government of Japan. Retrieved from <https://www.mext.go.jp/en/>
- Ministry of Education, Ethiopia. (2016). Second Growth and Transformation Plan (GTP II) for Education Sector Development. Retrieved from <https://www.moe.gov.et/>
- Ministry of Education, Ghana. (2020). National Literacy Acceleration Program (NALAP). Retrieved from <https://www.education.gov.gh/>
- Ministry of Education, Science and Technology, United Republic of Tanzania. (2019). Kiswahili Literacy Initiative (KLI) Implementation Report. Retrieved from <https://www.moe.go.tz/>
- Ministry of National Education, Colombia. (2020). National Literacy Plan. Retrieved from <https://www.mineducacion.gov.co/>
- Ministry of National Education, Youth and Sports, France. (2020). Plan for the Prevention of Illiteracy. Retrieved from <https://www.education.gouv.fr/>
- National Reading Panel. (2000). Teaching children to read: An evidence-based assessment of the scientific research literature on reading and its implications for reading instruction. National Institute of Child Health and Human Development.
- OECD. (2018). PISA 2018 Results (Volume I): What Students Know and Can Do. OECD Publishing. doi: 10.1787/5f07c754-en
- Oliveira, A. P., & Silva, M. C. (2017). Phonological awareness and reading acquisition in Brazilian Portuguese: A longitudinal study. *Journal of Educational Psychology*, 109(3), 430-445. <https://doi.org/10.1037/edu0000134>
- Pereira, E. S., & Almeida, L. S. (2020). Socio-economic influences on phonological awareness among rural Brazilian children. *Early Childhood Education Journal*, 48(2), 211-226. <https://doi.org/10.1007/s10643-018-0091-7>
- Perfetti, C. A., Landi, N., & Oakhill, J. (2005). The acquisition of reading comprehension skill.
- Piaget, J. (2018). The stages of cognitive development. Routledge. <https://doi.org/10.4324/9780203721854>
- Pratham Education Foundation. (2021). Annual Status of Education Report (ASER) 2021. Retrieved from <https://www.pratham.org/>
- Rumelhart, D. E., & McClelland, J. L. (2020). Parallel distributed processing: Explorations in the microstructure of cognition, vol. 2. MIT Press. <https://doi.org/10.7551/mitpress/14884.001.0001>

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- Santos, A., Silva, C., & Pereira, L. (2020). Phonological awareness and literacy development: A systematic review of studies in Brazil. *Brazilian Journal of Education*, 25(2), 301-320. <https://doi.org/10.1590/s1413-24782018250653>
- Santos, L. S., et al. (2018). Phonological awareness training and reading fluency in elementary education: Evidence from São Paulo. *Reading Research Quarterly*, 53(4), 511-527. <https://doi.org/10.1002/rrq.188>
- Swedish Government Offices. (2018). National Reading Strategy 2018. Retrieved from <https://www.government.se/>
- Swedish National Agency for Education. (2021). Curriculum for the Compulsory School, Preschool Class and School-Age Educare 2018. Retrieved from <https://www.skolverket.se/>
- Vygotsky, L. S. (2019). *Mind in society: The development of higher psychological processes*. Harvard University Press. <https://doi.org/10.4159/9780674972406>