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The effect of phonics instruction on reading skills among primary school students in a rural district in Sarawak, Malaysia

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ABSTRACT

Phonics instruction is widely recognised as essential for early literacy development, yet its effectiveness for upper primary remedial learners in rural districts of Sarawak, Malaysia, remains under-researched. This study examined the effectiveness of structured phonics instruction in improving reading skills among upper primary school students in this context. Sixty Year 4 and Year 5 pupils with low English proficiency (Pre-A1 and Low A1) were selected using purposive sampling. A quasi-experimental pre-test–post-test control-group design was employed. The treatment group received five weeks of phonics instruction based on the Remedial Instruction Toolkit, while the control group followed the standard English curriculum. Reading performance was assessed using the measures Recognising Sound Patterns, Recognising Individual Letter Sounds, and Reading Comprehension. Data were analysed using descriptive statistics and non-parametric tests, namely the Wilcoxon Signed-Rank Test and Mann-Whitney U Test. Results indicated significant within-group improvements across all three reading components in the treatment group, with the strongest gains observed in individual letter-sound recognition. Between-group comparison revealed a statistically significant difference only for Recognising Individual Letter Sounds. The findings suggest that structured phonics instruction is particularly effective in strengthening foundational decoding skills among struggling readers in rural and semi-rural English-as-a-foreign-language contexts.

Keywords: phonics instruction, phonological awareness, CEFR, rural education, Malaysia

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1 INTRODUCTION

Proficiency in English language skills is essential for academic success and future educational opportunities (Moats, 2020). In Malaysia, the Ministry of Education introduced the Remedial Instruction Toolkit to support primary school students who experience difficulties in English, particularly among Year 4 and Year 5 learners (Husler et al., 2021). The toolkit aligns with national curriculum documents, including the *Get Smart* textbooks, Scheme of Work, Common European Framework of Reference (CEFR) descriptors, and the Curriculum and Assessment Standards Document. It addresses key language components, including phonics, vocabulary, grammar, and language use. The present study focuses specifically on evaluating the effectiveness of the toolkit's phonics component in improving students' reading skills.

Phonics instruction plays a critical role in developing sound-letter correspondence and decoding abilities (National Reading Panel, 2000; Torgerson et al., 2006). Unlike whole-language approaches, phonics provides systematic and explicit instruction that enables learners to decode unfamiliar words independently. Its effectiveness has been widely documented, particularly among struggling readers and learners in under-resourced educational contexts. In the Malaysian context, English is primarily learned as a foreign language (EFL), with limited exposure beyond formal classroom instruction, thereby increasing learners' reliance on explicit classroom-based literacy instruction. Nevertheless, several challenges persist. Previous studies have reported gaps in teachers' knowledge and preparedness (Bae et al., 2019; Chapman et al., 2018; Moats, 2020), as well as inconsistent implementation of phonics instruction in Malaysian schools (Macasaet, 2021; Md Nawawi et al., 2021). Additional barriers, including limited professional training, insufficient teaching materials, and misconceptions about phonics, further constrain effective instructional delivery (Mohd Don & Knowles, 2021; Masturi et al., 2022; Nafgerin & Bakar, 2023).

Rural districts in Sarawak provide a meaningful context for investigating remedial literacy instruction. Many schools in this district are situated in rural and semi-rural areas, where students' opportunities to use English beyond formal schooling are limited, contributing to persistent challenges in literacy development among learners with low English proficiency (Mohd Zin et al., 2023). Despite the nationwide implementation of the Remedial Instruction Toolkit in 2022, empirical evidence regarding the effectiveness of its phonics component remains limited, particularly within rural and semi-rural school contexts. The lack of consistent, well-evaluated phonics instruction continues to contribute to reading difficulties and reduced academic confidence among struggling learners. This study, therefore, seeks to address this research gap by quantitatively examining the impact of the phonics component of the Remedial Instruction Toolkit on the reading skills of remedial primary school students in a rural district in Sarawak.

The following objectives guided this study: 1) To examine the effectiveness of phonics instruction delivered through the Remedial Instruction Toolkit in improving the reading skills of Year 4 and Year 5 students in the rural district. 2) To compare post-intervention reading performance, particularly in word recognition skills, between students who received phonics-based remedial instruction and those who followed the standard English curriculum.

The theoretical framework for this study is grounded in Vygotsky's (1978) theory of the Zone of Proximal Development (ZPD), which conceptualises learning as occurring through guided interaction between learners and more knowledgeable others. Although proposed several decades ago, the ZPD remains highly relevant in contemporary literacy research, particularly in scaffolded instruction and guided reading interventions (Paige et al., 2023; Webber et al., 2024). In remedial classrooms, structured phonics instruction can function as instructional scaffolding, supporting learners' progression from assisted decoding towards independent reading.

In this study, phonics instruction delivered through the Remedial Instruction Toolkit serves as instructional scaffolding to support students' reading development. Through explicit modelling, guided decoding, and repeated practice, learners are assisted in mastering foundational reading skills before transitioning to more complex literacy tasks. This theoretical perspective provides a meaningful lens for examining the effectiveness of phonics instruction among remedial learners.

Empirical research has consistently highlighted challenges in implementing phonics instruction. Chapman et al. (2018) identified significant gaps in teachers' understanding of how to integrate phonics effectively into literacy lessons. Although phonics has gained increased attention in school curricula, teacher preparedness and instructional consistency remain ongoing concerns. Similar issues have been reported in the Malaysian context, particularly in rural schools where inconsistent implementation and limited professional support hinder effective delivery (Mohd Zin et al., 2023). Both Chapman et al. (2018) and Moats (2020) emphasised that without adequate training and clear instructional frameworks, phonics instruction may fail to achieve its intended outcomes.

Moats (2020) further stressed the importance of systematic, sequential instruction in foundational reading skills, arguing that decoding and word recognition must be firmly established before learners’ progress to higher-order literacy tasks. This approach is especially critical for remedial learners, including those from disadvantaged backgrounds or with learning difficulties. Targeted, structured instruction has been shown to reduce learning gaps and improve reading outcomes when implemented consistently.

Teacher knowledge of linguistic constructs also plays a crucial role in the effectiveness of phonics instruction. Bae et al. (2019) reported that many teachers, particularly in English as a Foreign Language (EFL) setting, possess a limited understanding of English orthography and morphology, which constrains their ability to support learners' reading development. Supporting this view, Aro et al. (2016) emphasised the importance of explicit instruction in language structures within teacher education programmes to strengthen instructional quality for struggling readers. Chapman et al. (2018) further highlighted the value of effective teacher prompting strategies, such as directing attention to initial sounds, spelling patterns, and rime units, to support accurate word identification during reading. Collectively, these studies demonstrate that phonics effectiveness depends not only on instructional materials but also on teachers' pedagogical knowledge and delivery practices.

While phonics instruction has been widely examined in early literacy development in Malaysia, limited empirical research has quantitatively examined its effects on specific reading subskills among upper primary remedial learners. In particular, evidence on sound pattern recognition, individual letter-sound knowledge, and reading comprehension in rural districts of Sarawak within English as a Foreign Language (EFL) context remains scarce. Furthermore, few studies have evaluated these outcomes using materials from nationally implemented programmes such as the Remedial Instruction Toolkit. This study, therefore, seeks to address these specific research gaps by examining the impact of the toolkit's phonics component on selected reading skills among Year 4 and Year 5 remedial students in these rural areas.

2 METHODS

This study adopted a quantitative research approach to examine the effectiveness of the phonics component within the Remedial Instruction Toolkit on the reading skills of Year 4 and Year 5 students in the Serian District, Sarawak. A quasi-experimental design was employed to compare learning outcomes between students who received structured phonics instruction and those who followed the standard English curriculum.

2.1 Design

A quasi-experimental pre-test–post-test control-group design was used to compare learning outcomes between students who received structured phonics instruction and those who followed the standard English curriculum. The treatment group received structured phonics instruction delivered through the Remedial Instruction Toolkit, while the control group continued with the regular English instructional programme. Both groups completed identical pre-tests and post-tests assessing Recognising Sound Patterns (RSP), Recognising Individual Letter Sounds (RILS), and Reading Comprehension (RC).

Participants were Year 4 and Year 5 students identified as having Pre-A1 or Low A1 proficiency levels according to the Common European Framework of Reference (CEFR). Written parental consent was obtained prior to participation. Students with higher CEFR proficiency levels or those outside the targeted year groups were excluded. All participants were enrolled in primary schools within the Serian District to ensure contextual consistency.

2.2 Participants

The study recruited students from rural and semi-rural primary schools in the Serian district, Malaysia. The estimated population consisted of 702 Year 4 and Year 5 students. Participants were selected based on Pre-A1 or Low A1 proficiency levels, as defined by the Common European Framework of Reference (CEFR). In contrast, students with higher proficiency levels or outside this year groups were excluded. Using purposive sampling, 60 eligible students were recruited based on accessibility, administrative cooperation, and availability. Participants were randomly assigned to the treatment (n = 30) and control (n = 30) groups. Although the sample size was

smaller than the general recommendation (Krejcie & Morgan, 1970), it was deemed appropriate because nonparametric tests (Wilcoxon Signed-Rank and Mann-Whitney U) were used, which are suitable for small, non-normally distributed samples. Written parental consent was obtained prior to participation, and all students were enrolled in primary schools within the Serian district to ensure contextual consistency.

2.3 Procedure

Prior to data collection, administrative permissions were obtained from the Ministry of Education Malaysia (KPM), the Sarawak State Education Department (JPNS), and the principals of participating schools. Ethical approval was secured through the Ministry of Education Malaysia (e-RAS 2.0 system). Participation was voluntary, and informed consent was obtained from parents or guardians of all student participants.

Data were then collected during regular school hours to maintain an authentic classroom learning environment. The treatment group received structured phonics instruction over five weeks, with two to three instructional sessions per week, each lasting approximately 30 minutes. Instruction was delivered by trained English teachers who were familiar with the Remedial Instruction Toolkit. The researcher did not conduct the lessons but monitored implementation procedures to ensure consistency across instructional sessions. The structure and sequence of the phonics lessons followed the weekly instructional plan outlined in the Remedial Instruction Toolkit (see Table 1). The control group continued with the standard English curriculum without explicit phonics instruction.

The data collection process comprised three phases: pre-testing, intervention, and post-testing. Pre-tests were administered to both the treatment and control groups to establish baseline reading performance. During the intervention phase, the treatment group received structured phonics instruction, while the control group followed the standard English curriculum. At the conclusion of the five-week intervention period, identical post-tests were administered to both groups using the same instruments and procedures. This design enabled a direct comparison of reading progress between the treatment and control groups.

2.4 Instruments

Reading performance was measured using classroom-based instruments adapted from the Remedial Instruction Toolkit. Three components of reading development were assessed: Recognising Sound Patterns (RSP), Recognising Individual Letter Sounds (RILS), and Reading Comprehension (RC). These constructs were selected based on established literacy research identifying phonological awareness, letter-sound knowledge, and comprehension as core indicators of reading proficiency (Moats, 2020; Paige et al., 2023).

Content validity was supported through alignment of the assessment tasks with the learning objectives, assessment guidelines, and CEFR descriptors provided in the Remedial Instruction Toolkit. Due to the classroom-based nature of the instruments and the limited sample size, formal reliability coefficients were not calculated. However, consistency was enhanced through standardised administration procedures and the use of identical instruments across pre-test and post-test conditions.

Table 1. Sequence of phonics intervention activities for the treatment group.

Session	Phonics Focus	Learning Objective	Activity Description
Session 1	/s/ (as in *sat*), /æ/ (as in *pat*)	Recognise and sound out beginning, medial, and final sounds in words	Students are introduced to the phonemes /s/ and /a/. Words such as *sat, sap, sam, sad,* and *sag* are practised. Students roll a dice and read the word corresponding to the number rolled.
Session 2	/t/ (as in *tap*), /p/ (as in *pat*)	Blend phonemes (CVC, CCVC)	Students are introduced to the phonemes /t/ and /p/. Words such as *pat, tan, pan, tam, pam,* and *tap* are practised. Students use a word wheel to read the word it lands on.
Session 3	/t/ and /p/ review	Blend phonemes (CVC, CCVC)	Students practice blending words such as *sit, pan, pin, tin, tap, pit,* and *nap*. In pairs, Student A reads a word card while Student B blends the sounds (e.g., *s-i-t* → *sit*). Students then change roles.
Session 4	Review of previously learned sounds	Blend phonemes (CVC, CCVC)	Students review previously introduced words such as *at, sip, sat, pat, pip, nap, tan, sit, nip,* and *tap*. Students roll dice, move counters on a board game, and read the words they land on.
Session 5	/m/ and /d/	Recognise beginning, medial, and final sounds in words	Students are introduced to the phonemes /m/ and /d/. Words such as *dad, mum, man,* and *dan* are practised. Students roll a dice and read the row of words corresponding to the number rolled.
Session 6	/g/ and /ɒ/ (*o* as in *hot*)	Blend phonemes (CVC, CCVC)	Students are introduced to the sounds *o*f o and *g*. Words such as *hot, pond, get, girl,* and *gone* are practised. Students use a word wheel to read the word it lands on.
Session 7	/c/ and /ck/	Blend phonemes (CVC, CCVC)	Students practice reading words such as *cat, cup, cap, kick, sock, duck,* and *neck*. Flashcards are used for spelling and reading activities. Students read and spell the words aloud.
Session 8	Review activity	Segment phonemes (CVC, CCVC)	Students are shown pictures representing words such as *pen, bag, sit, ant, cat, bin, sad,* and *tap*. Students roll a dice and spell the word corresponding to the number rolled.

Note. Each instructional session lasted approximately 30 minutes.

3 RESULTS

3.1 Pre-Test and Post-Test Mean Scores by Group (RSP, RILS, and RC)

Descriptive statistics were computed to summarise students' performance. Figure 1 presents the pre-test and post-test mean scores for Recognising Sound Patterns (RSP), Recognising Individual Letter Sounds (RILS), and Reading Comprehension (RC) for both the treatment and control groups. Overall, improvements were observed across all three reading components in the treatment group, with more limited gains evident in the control group.

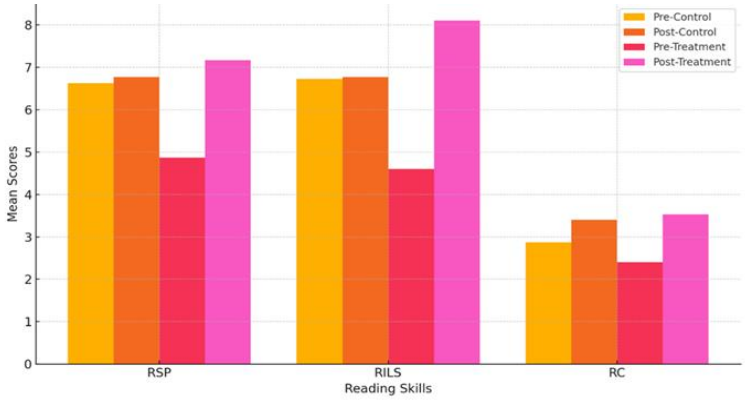

Figure 1. Pre-test and post-test mean scores for RSP, RILS, and RC by group (treatment vs control). Error bars are not shown.

Detailed descriptive statistics are presented in Table 2. Median scores indicated increases across all measured components for the treatment group, whereas the control group demonstrated only modest improvement, particularly in reading comprehension.

Table 2. Descriptive statistics for treatment and control groups ($N = 60$).

Measure	Group	Mean	Standard deviation	Median
preRSP	Control	7.13	1.91	7.00
	Treatment	6.90	1.90	6.50
postRSP	Control	6.97	2.06	7.00
	Treatment	7.93	1.53	8.00
preRILS	Control	7.80	1.92	8.00
	Treatment	8.00	1.60	8.00
postRILS	Control	7.97	1.54	8.00
	Treatment	8.73	1.44	9.00
preRC	Control	2.83	2.25	2.00
	Treatment	1.90	1.40	2.00
postRC	Control	4.30	1.58	4.50
	Treatment	3.67	2.28	3.00

3.2 Test of Normality

The Shapiro-Wilk test was used to assess the data distribution. As shown in Table 3, several variables did not meet the assumption of normality ($p < .05$). Consequently, non-parametric statistical procedures were applied for subsequent analyses.

Table 3. Shapiro-Wilk normality test results.

Variable	Shapiro-Wilk *p* (Control)	Interpretation (Control)	Shapiro-Wilk *p* (Treatment)	Interpretation (Treatment)
preRSP	0.167	Normal ($p > .05$)	0.039	Not normal ($p < .05$)
postRSP	0.048	Not normal ($p < .05$)	0.035	Not normal ($p < .05$)
preRILS	0.006	Not normal ($p < .05$)	0.008	Not normal ($p < .05$)
postRILS	0.003	Not normal ($p < .05$)	< .001	Not normal ($p < .05$)
preRC	0.001	Not normal ($p < .05$)	0.009	Not normal ($p < .05$)
postRC	0.070	Normal (p > .05)	0.008	Not normal (p < .05)

The Wilcoxon Signed-Rank Test was used to examine within-group improvements from pre-test to post-test. Within-group analyses revealed statistically significant improvements for the treatment group across all three reading components following the phonics intervention. Significant gains were observed in Recognising Sound Patterns, Recognising Individual Letter Sounds, and Reading Comprehension (see Table 4). These results indicate consistent improvement in both decoding-related skills and overall reading performance following structured phonics instruction.

In contrast, the control group demonstrated a statistically significant improvement only in reading comprehension, while changes in sound-based skills were not statistically significant. This suggests limited development in phonological processing for students who did not receive explicit phonics instruction.

Table 4. Within-group pre- to post-test improvements (Wilcoxon signed-rank test).

Group	Variable	*Z*	*p*-value	Effect size (*r*)	Interpretation
Treatment	pre vs post RSP	-4.48	< .001	0.82	Significant improvement
	pre vs post RILS	-4.73	< .001	0.86	Significant improvement
	pre vs post RC	-4.64	< .001	0.85	Significant improvement
Control	pre vs post RSP	-1.28	.200	0.23	Not significant
	pre vs post RILS	-0.41	.681	0.07	Not significant
	pre vs post RC	-2.71	.007	0.49	Significant improvement

3.3 Between-Group Comparisons (Mann-Whitney U Test)

The Mann-Whitney U Test was applied to compare post-test outcomes between the treatment and control groups. Between-group comparisons of post-test scores revealed a statistically significant difference in Recognising Individual Letter Sounds, indicating that students who received phonics instruction demonstrated stronger letter-sound knowledge compared to those following the standard curriculum. Differences in Recognising Sound Patterns and Reading Comprehension were not statistically significant (see Table 5).

Table 5. Post-test differences between groups (Mann-Whitney U test).

Variable	*U*-value	*p*-value	Interpretation
postRSP	317.50	.053	Not significant ($p > .05$)
postRILS	293.50	.044	Significant ($p < .05$)
postRC	367.00	.191	Not significant ($p > .05$)

The near-significant difference observed for Recognising Sound Patterns ($p = .053$) suggests a trend in favour of the treatment group. However, this finding should be interpreted cautiously and cannot be considered statistically conclusive.

Effect size analysis indicated that the phonics intervention produced educationally meaningful gains in foundational decoding skills, particularly in individual letter sound recognition. These findings suggest that structured phonics instruction may yield practical benefits even within a relatively short intervention period. It should be noted that Figure 1 does not include error bars, which limits visual interpretation of score variability and is acknowledged as a limitation of the present analysis.

4 DISCUSSION

This study examined the effectiveness of phonics instruction delivered through the Remedial Instruction Toolkit on three reading components: Recognising Sound Patterns, Recognising Individual Letter Sounds, and Reading Comprehension among Year 4 and Year 5 remedial learners in the rural district of Serian in Sarawak. The findings indicate that students who received structured phonics instruction demonstrated significant within-group improvements across all three reading components, whereas the control group showed improvement only in reading comprehension. These results highlight the instructional value of phonics in supporting foundational reading development, particularly in rural English-as-a-foreign-language contexts.

The most substantial gains were observed in the Recognising Individual Letter Sounds component, with between-group analysis revealing a statistically significant advantage for the treatment group. This finding aligns with previous research demonstrating that systematic phonics instruction strengthens decoding accuracy and phonemic awareness (Paige et al., 2023; Webber et al., 2024).

Similar outcomes were reported by Nietschke et al. (2024), who found that learners receiving explicit phonics instruction exhibited greater confidence and precision when decoding unfamiliar words. Collectively, these findings reaffirm the central role of letter–sound correspondence as a foundation for early reading development among struggling readers.

In contrast, differences between groups in Recognising Sound Patterns (p = .053) and Reading Comprehension (p = .191) did not reach statistical significance. Although trends favoured the treatment group, these outcomes suggest that a five-week intervention period may be insufficient to generate measurable group-level differences in more complex reading skills. Sound pattern recognition and reading comprehension often require sustained instructional exposure and repeated practice for consolidation. Reading comprehension, in particular, involves integrating decoding fluency, vocabulary knowledge, and background knowledge, which may limit the immediate transfer effects of short-term phonics instruction (Moats, 2020; Mohd Zin et al., 2023).

Several contextual factors may also have influenced the findings. Although the Remedial Instruction Toolkit provides a structured instructional framework, variation in instructional pacing and delivery across classrooms may have affected intervention fidelity. This observation is consistent with Lory et al. (2023), who emphasised that instructional consistency is a critical moderator of intervention effectiveness. In addition, the relatively small sample size may have reduced the statistical power required to detect more subtle between-group effects.

From a theoretical perspective, the findings can be interpreted in terms of Vygotsky's Zone of Proximal Development. The structured phonics lessons functioned as instructional scaffolding, enabling learners to perform decoding tasks with guided support before progressing towards greater independence. This supports sociocultural perspectives of learning, which emphasise the role of teacher mediation in facilitating literacy development among low-proficiency learners.

Despite the observed positive outcomes, several limitations should be acknowledged. The five-week intervention may have been insufficient to capture longer-term effects, particularly in reading comprehension development (Lindström-Sandahl et al., 2023). The small sample and focus on selected schools within the Serian District limit the generalisability of the findings. Variations in instructional delivery and school-level resources may also have influenced learning outcomes (Lory et al., 2023). Future research should consider extending the intervention period, involving larger, more diverse samples, and incorporating qualitative data, such as classroom observations and teacher reflections. Such approaches may provide deeper insight into instructional fidelity and learner engagement. At the policy level, the Ministry of Education is encouraged to strengthen phonics-focused professional development, particularly for teachers in rural contexts. Early screening tools and clear instructional monitoring frameworks may further support timely identification and intervention for struggling readers.

In conclusion, this findings of the study have several important implications for remedial instruction. They emphasise the value of structured phonics instruction in remedial literacy programmes, particularly for strengthening students' letter-sound recognition skills. For rural and semi-rural schools such as those in the Serian District, the Remedial Instruction Toolkit offers a

practical framework for addressing foundational reading difficulties, consistent with broader evidence on structured remedial interventions for low-achieving learners (Papadogiannis et al., 2023). Professional development initiatives should prioritise explicit phonics pedagogy, consistent instructional delivery, and ongoing classroom support. Collaboration among teachers, school principals, and district education officers can further enhance the effectiveness of remedial instruction. With sustained implementation and appropriate support structures, phonics-based interventions can significantly improve literacy outcomes for struggling readers.

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AUTHOR CONTRIBUTIONS

The first author guided the conception and design of the study. The second author conducted the data collection and performed the statistical analyses. Both authors contributed to the interpretation of the results and the preparation of the manuscript and reviewed and approved the final version.

CONFLICT OF INTEREST

The authors declare that there is no conflict of interest.

DATA AVAILABILITY STATEMENT

The data supporting the findings of this study are available from the corresponding author upon reasonable request.

ETHICAL STATEMENT

This study was approved by the Ministry of Education Malaysia through the e-RAS 2.0 system. All participants provided informed consent prior to participation.

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REFERENCES

Aro, M., & Björn, P. M. (2016). Preservice and inservice teachers' knowledge of language constructs in Finland. *Annals of Dyslexia*, *66*, 111–126. https://doi.org/10.1007/s11881-015-0118-7

Bae, H. S., Yin, L., & Joshi, R. M. (2019). Knowledge about basic language constructs among teachers of English as a Foreign Language in China and South Korea. *Annals of Dyslexia, 69*, 136–152. https://doi.org/10.1007/s11881-018-00169-z

Chapman, J. W., Arrow, A. W., Braid, C., Greaney, K. T., & Tunmer, W. E. (2018). *Early literacy research project: Final report to the New Zealand Ministry of Education.* Massey University. https://www.educationcounts.govt.nz/__data/assets/pdf_file/0006/194532/Early-Literacy-Research-Project.pdf

Chapman, J. W., Greaney, K. T., Arrow, A. W., & Tunmer, W. E. (2018). Teachers' use of phonics, knowledge of language constructs, and preferred word identification prompts in relation to beginning readers. *Australian Journal of Learning Difficulties, 23*(1), 87–104. https://doi.org/10.1080/19404158.2018.1467937

Husler, G., Sothinathan, J., Joginder Singh, R. K., Koh, M. M. C., & John, A. M. (2021). *Remedial instruction toolkit.* Ministry of Education Malaysia. https://www.slideshare.net/slideshow/ri-toolkit-year-4-pdfmjbuhvjhfvjhnfnbhcgchbnvh/273110752

Krejcie, R. V., & Morgan, D. W. (1970). Determining sample size for research activities. *Educational and Psychological Measurement, 30*(3), 607–610. https://doi.org/10.1177/001316447003000308

Lindström-Sandahl, H., Elwér, Å., Samuelsson, S., & Danielsson, H. (2023). Effects of a phonics intervention in a randomised controlled study in Swedish second-grade students at risk of reading difficulties. *Dyslexia, 29*(4), 290–311. https://doi.org/10.1002/dys.1751

Lory, C., Smith, J. E., Gregori, E., & Matijevic, J. (2023). Effects of individualised coaching on teacher implementation fidelity of systematic instruction with students with developmental disabilities. *Education and Training in Autism and Developmental Disabilities, 58*(1), 74–88. https://doi.org/10.1177/21541647230580001

Macasaet, B. T. B. (2021). How teaching practices affect reading literacy: A PISA 2018 investigation on Southeast Asian countries. *Journal of Comparative Education, 90*, 77–130. https://doi.org/10.53106/160957582021050090003

Masturi, S. Z., Kosnin, A. B. M., & Zainudin, F. (2022). The barriers in teaching English skills encountered by Malaysian rural-area preschool teachers: A preliminary study. *Journal of Positive School Psychology, 6*(2), 4696–4703.

Md Nawawi, N., Zuhaimi, N., Sabu, K., Mahamud, N. S. R., & Nasir, N. A. M. (2021). CEFR for languages and its effective implementation in secondary schools in Malaysia. *Asian Journal of Assessment in Teaching and Learning, 11*(1), 63–72. https://doi.org/10.37134/ajatel.vol11.1.6.2021

Moats, L. C. (2020). *Teaching reading is rocket science: What expert teachers of reading should know and be able to do.* American Educator. https://www.aft.org/ae/summer2020/moats

Mohd Don, Z., & Knowles, G. O. (2021). Synthetic phonics, the digital humanities, and the teaching of beginning learners of English. *Educatum Journal of Social Sciences, 7*(2), 1–9. https://doi.org/10.37134/ejoss.vol7.2.fa.1.2021

Mohd Zin, M. A., Tan, K. H., Mohd Rashid, S. M., & Mat Saad, S. (2023). Teachers' beliefs and teaching practices in teaching phonics to lower primary learners. *International Journal of Learning, Teaching and Educational Research, 22*(5), 587–604. https://doi.org/10.26803/ijlter.22.5.30

Nafgerin, G. G., & Bakar, K. A. (2023). The use of the jolly phonics method in improving English reading and writing skills among preschool students. *International Journal of Academic Research in Business & Social Sciences, 13*(12), 3726–3738. http://dx.doi.org/10.6007/IJARBSS/v13-i12/20219

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. https://www.readingrockets.org/resources/resource-library/report-national-reading-panel-teaching-children-read

Nietschke, Y., Monty, A., Dabrowski, A., Goundar, P., Ahmed, S. K., Wong, D., & Spink, J. (2024). *Strengthening foundational learning in the ASEAN region: A review of promising practices.* Australian Council for Educational Research. https://doi.org/10.37517/978-1-74286-740-3

Paige, D. D., Smith, G. S., & Rupley, W. H. (2023). A study of phonemic awareness, letter sound knowledge, and word reading in struggling adolescent students. *Literacy Research and Instruction, 62*(3), 260–279. https://doi.org/10.1080/19388071.2022.2138648

Papadogiannis, I., Wallace, M., Poulopoulos, V., Vassilakis, C., Lepouras, G., & Platis, N. (2023). An assessment of the effectiveness of the remedial teaching education policy. *Knowledge, 3*(3), 349–363. https://doi.org/10.3390/knowledge3030024

Torgerson, C. J., Brooks, G., & Hall, J. (2006). *A systematic review of the research literature on the use of phonics in the teaching of reading and spelling.* Department for Education and Skills. https://durham-repository.worktribe.com/output/1608197

Vygotsky, L. S. (1978). *Mind in society: The development of higher psychological processes* (M. Cole, V. John-Steiner, S. Scribner, & E. Souberman, Eds.). Harvard University Press.

Webber, C., Patel, H., Cunningham, A., Fox, A., Vousden, J., Castles, A., & Shapiro, L. (2024). An experimental comparison of additional training in phoneme awareness, letter-sound knowledge and decoding for struggling beginner readers. *British Journal of Educational Psychology, 94*(1), 282–305. https://doi.org/10.1111/bjep.12641