



Role of Phonics Instruction in Developing Reading, Spelling and Dictation Skills of Grade 1 and Grade 2 Students: A Quasi-Experimental Study in Private Schools of Lahore, Pakistan

Hira Jamil¹ Dr. Amir Hashmi² Zobia Kanwal³

¹ MPhil Scholar, Department of Arts and Humanities, Superior University, Lahore, Punjab, Pakistan.

² Professor, Department of Arts and Humanities, Superior University, Lahore, Punjab, Pakistan.

³ Lecturer, Superior University, Lahore, Punjab, Pakistan.

Corresponding Author: Hira Jamil, **Correspondence through:** buzzingbeesclassroom@gmail.com

Vol. 5, Issue 1, 2026

Article Information

Received:

2026-03-10

Revised:

2026-05-06

Accepted:

2026-06-28

ABSTRACT

The present study examined the effect of systematic phonics instruction on the reading, spelling and dictation skills of Grade 1 and Grade 2 students in private English-medium schools in Lahore. A quasi-experimental pre-test–post-test control group design was employed with 80 students drawn from intact classes through purposive sampling: 40 students (20 per grade) received a six-week systematic phonics programme, and 40 continued with traditional instruction. Literacy was measured with a 37-mark researcher-developed test of reading, spelling and dictation administered in parallel forms, and the data were analysed through independent-samples and paired-samples t-tests with effect sizes. After the intervention, the experimental group significantly outperformed the control group in reading, $t(78) = 17.72$, spelling, $t(78) = 16.69$, dictation, $t(78) = 12.17$, and overall achievement, $t(78) = 21.30$ (all $p < .001$), and its overall score rose from 46.8% to 89.5% of the maximum. The effect sizes were very large ($d = 2.72$ – 4.76). The study concludes that systematic phonics is a promising approach to foundational English literacy in early primary classrooms and recommends its structured inclusion in Grade 1 and Grade 2 teaching, supported by teacher training and decodable materials.

Keywords: *Phonics Instruction, Early Literacy, Reading, Spelling, Dictation, Primary Education, Quasi-Experimental Design, Pakistan.*

Citation: APA

Jamil, H., Hashmi, A & Kanwal, Z (2026) Role of phonics instruction in developing reading, spelling and dictation skills of Grade 1 and Grade 2 students: A quasi-experimental study in private schools of Lahore, Pakistan, *Journal of Climate and Community Development*, 5(1), 351-361.



Introduction

Reading and writing are the gateways through which children gain access to almost every other area of the school curriculum. What children learn about print in the first two years of schooling tends to shape their later academic trajectories, and difficulties that are not addressed early are notoriously hard to remediate later (Snow et al., 1998). A central part of this early learning is the discovery that written English is an alphabetic code in which letters and letter combinations (graphemes) represent speech sounds (phonemes). Children who crack this code can work out unfamiliar words for themselves, whereas children who rely on memorising the visual shapes of whole words soon reach the limits of what memory alone can hold (Adams, 1990; Castles et al., 2018).

Phonics instruction teaches this code directly. It shows children how sounds map onto letters, how sounds are blended to read a word and how a spoken word is segmented into its sounds in order to spell it. Large syntheses of research have concluded that systematic phonics produces better word-reading outcomes than approaches that teach letter-sound relationships incidentally or not at all, with the greatest benefits for beginning readers and for children at risk of reading difficulties (Ehri et al., 2001; National Reading Panel [NRP], 2000; Torgerson et al., 2006). The strength and scope of this advantage are still debated (Bowers, 2020; Fletcher et al., 2021), which makes evidence from new contexts particularly valuable.

In Pakistan, English is an official language and the medium of instruction in a large share of private schools, and it carries considerable social and economic prestige (Rahman, 2004; Shamim, 2008). Yet foundational English literacy remains weak: the most recent national household survey reported that only about half of rural Grade 5 children could read a simple English sentence of Grade 2 difficulty (ASER Pakistan, 2024). Although the Single National Curriculum introduced explicit phonics-related learning outcomes for the primary grades (National Curriculum Council, 2020), analyses of provincial textbooks and assessment schemes indicate that phonics is often taught and assessed through written exercises and memorisation rather than as an oral, sound-based skill (Malik & Asif, 2022). In many Lahore classrooms, early English reading is still taught through rote repetition of

textbook passages and sight words, which leaves children unable to decode unfamiliar words, spell accurately or write correctly from dictation.

Pakistani research on phonics has so far concentrated on technology-supported programmes in public schools and has commonly relied on single-group designs or focused on phonics sub-skills alone (Malik et al., 2024; Rashid et al., 2025). Much less is known about whether classroom-based systematic phonics, delivered by regular teachers with ordinary materials, improves the three interlinked skills that dominate early literacy assessment in Pakistani primary schools, namely reading, spelling and dictation, when compared with a traditionally taught control group. The present study addresses this gap in private English-medium schools in Lahore.

The study pursued three objectives: (1) to assess the effectiveness of phonics instruction in improving the reading, spelling and dictation skills of Grade 1 and Grade 2 students; (2) to compare the literacy performance of students taught through phonics with that of students taught through traditional methods; and (3) to propose evidence-based strategies for implementing phonics instruction in Pakistani primary schools. Accordingly, two research questions were posed. RQ1 – Do students taught through systematic phonics differ significantly from students taught through traditional methods in reading, spelling, dictation and overall literacy achievement after the intervention? RQ2 – Do students taught through systematic phonics show a significant gain in overall literacy achievement from pre-test to post-test?

To answer these questions, the following null hypotheses were tested at the .05 level of significance: H_{01} – There is no significant difference between the experimental and control groups in post-test reading scores. H_{02} – There is no significant difference between the experimental and control groups in post-test spelling scores. H_{03} – There is no significant difference between the experimental and control groups in post-test dictation scores. H_{04} – There is no significant difference between the experimental and control groups in post-test overall literacy scores. H_{05} – There is no significant difference between the pre-test and post-test overall literacy scores of the experimental group.

This study is significant in three respects. Theoretically, it tests predictions of the Simple View of Reading and of phase theories of word learning in a second-language setting where most children begin to read English with limited oral proficiency in the language. Empirically, it offers a controlled comparison with effect sizes across three related skills, including dictation, which has rarely been treated as an outcome of phonics despite its prominence in Pakistani classrooms. Practically, it provides teachers, school leaders and curriculum developers with evidence on a low-cost, classroom-based approach to strengthening foundational literacy.

Literature Review

The present study draws on two complementary accounts of how children learn to read words. The first is the Simple View of Reading, which holds that reading comprehension is the product of decoding and language comprehension (Gough & Tunmer, 1986). Because the relationship is multiplicative, a child with good oral language but weak decoding will still understand little of what is on the page, which places decoding at the centre of early reading instruction. The second is Ehri's (2005) phase theory, in which children progress from a pre-alphabetic phase, where words are recognised from visual cues such as shape or logos, through partial and full alphabetic phases to a consolidated phase in which larger spelling units are read as chunks. Moving from the partial to the full alphabetic phase requires knowledge of grapheme–phoneme correspondences and the ability to blend and segment sounds, which are precisely the skills that phonics teaches. Share's (1995) self-teaching hypothesis adds that each successful decoding of a new word acts as a learning trial that stores the word's spelling in memory, so that decoding gradually builds the large sight vocabulary on which fluent reading depends. Instructionally, the study is framed by principles of explicit teaching, in which new skills are modelled, practised under guidance and then applied independently (Rosenshine, 2012), with support pitched within the learner's zone of proximal development (Vygotsky, 1978).

The empirical case for phonics rests largely on research syntheses. The National Reading Panel's meta-analysis found that systematic phonics produced a moderate overall advantage over non-

systematic or no-phonics instruction ($d = 0.41$), with larger effects when instruction began in kindergarten or Grade 1 (Ehri et al., 2001; NRP, 2000). A later systematic review of randomised trials in the United Kingdom confirmed a positive effect on word reading but reported smaller and less certain effects on spelling and comprehension (Torgerson et al., 2006), whereas a longitudinal study in Scotland found that children taught through synthetic phonics remained ahead of their peers in word reading and spelling for several years (Johnston & Watson, 2005). The consensus is not unqualified. Bowers (2020) argued that the advantage of systematic phonics over alternative methods has been overstated, while Fletcher et al. (2021) countered that the weight of evidence still favours explicit and systematic phonics as a core component of comprehensive early reading instruction. Castles et al. (2018) similarly concluded that phonics is the essential starting point for learning to read an alphabetic script, even though skilled reading ultimately requires much more than decoding.

Spelling is closely related to reading but is not simply its mirror image. To spell a word, a child must segment its spoken form into phonemes and retrieve an appropriate grapheme for each, drawing increasingly on knowledge of orthographic patterns and morphology as development proceeds (Treiman, 2017). Children's spellings typically move from representing only the most salient sounds, through accurate spelling of short-vowel words, to mastery of vowel patterns and longer words (Bear et al., 2016). A meta-analysis of 53 studies showed that explicit spelling instruction improves spelling and also carries over to phonological awareness and reading (Graham & Santangelo, 2014), and encouraging young children to represent the sounds they hear when writing has been found to strengthen their later word reading (Ouellette & Sénéchal, 2008). Roberts and Meiring (2006) likewise reported that first graders taught phonics through spelling-focused activities outperformed their peers in reading, spelling and writing. Dictation brings these processes together. To write a dictated word or sentence correctly, a child has to listen attentively, hold the spoken input in working memory, segment each word into its sounds and encode those sounds in writing (Nation & Newton, 2009). Dictation is a routine teaching and assessment activity in Pakistani primary

classrooms, yet it is rarely examined as an outcome of phonics instruction.

Evidence from contexts in which English is a second or foreign language is thinner. A synthesis of 15 experimental and quasi-experimental studies with primary-level EFL learners found that phonological and phonics instruction was consistently effective for phonemic awareness and non-word reading, but that its effects on real-word reading and comprehension were smaller and less consistent, and many of the studies had methodological weaknesses (Huo & Wang, 2017). In Jordan, first graders taught through Jolly Phonics for five weeks outperformed a conventionally taught group on a reading test (Nasrawi & Al-Jamal, 2017). In Pakistan, Malik et al. (2024) reported significant gains in letter-sound knowledge, blending and segmenting among 60 kindergarten and Grade 1 learners in a government school after 27 weeks of phonics supported by digital tools, although the study used a single-group design. Rashid et al. (2025) similarly found that technology-enhanced phonics improved the phonics skills of Grade 3 and Grade 5 learners in public schools. At the level of the system, Malik and Asif (2022) found that Punjab Textbook Board materials and assessment schemes treat phonics mainly as a written exercise, which encourages memorisation rather than the oral association of sounds with letters.

Taken together, this literature establishes a strong theoretical rationale for teaching phonics early but also reveals two gaps that the present study addresses. First, controlled comparisons of classroom-based phonics delivered by regular teachers without specialised technology are scarce in Pakistan, particularly in the private English-medium sector, where many children first learn to read in English. Second, few studies have examined reading, spelling and dictation together, even though these three skills form the core of early English literacy assessment in Pakistani schools.

Material and Methods

Research Design

A quantitative quasi-experimental design with a non-equivalent pre-test–post-test control group was employed (Shadish et al., 2002). This design is widely used in school-based research when institutional arrangements prevent the random assignment of individual students, as was the case here, because children are taught in intact class sections that cannot be reorganised for research purposes. The independent variable was the method of instruction (systematic phonics versus traditional instruction), and the dependent variables were students' scores in reading, spelling, dictation and overall literacy achievement. Both groups were tested before and after a six-week intervention, and the pre-test was used to establish the equivalence of the groups at baseline. This article reports the quantitative strand of a larger M.Phil. study.

Population and Sample

The population comprised Grade 1 and Grade 2 students enrolled in private English-medium schools in Lahore. These grades were selected because they mark the stage at which children are formally introduced to decoding, spelling and writing in English, and private schools were chosen because English is the medium of instruction in this sector. Schools were selected through purposive sampling on four criteria: (a) the school followed a structured primary curriculum; (b) it had Grade 1 and Grade 2 sections; (c) its administration and teachers were willing to cooperate; and (d) it permitted classroom access for testing and instruction. Intact sections were then allocated to the experimental or control condition in consultation with school administrators. The final sample consisted of 80 students, with 40 in each group and equal numbers of Grade 1 and Grade 2 students in each group (Table 1). This balanced allocation reduced the risk that differences between the groups could be attributed to grade level.

Table 1: *Distribution of Participants by Grade and Study Group*

Grade	Experimental <i>n</i> (%)	Control <i>n</i> (%)	Total <i>n</i> (%)
Grade 1	20 (50.0)	20 (50.0)	40 (50.0)
Grade 2	20 (50.0)	20 (50.0)	40 (50.0)
Total	40 (100.0)	40 (100.0)	80 (100.0)

Note. Percentages are calculated within each column.

Research Instrument

Literacy achievement was measured with a researcher-developed test aligned with Grade 1 and Grade 2 English learning outcomes. The test had three sections with a combined maximum score of 37. The reading section (18 marks) was administered individually and required students to produce the sounds of seven letters, read aloud seven simple words, most of consonant–vowel–consonant (CVC) structure, and read four short sentences. The spelling section (12 marks) required students to write seven words spoken by the teacher and to complete five CVC words with a missing vowel. The dictation section (7 marks) required students to write five dictated words and two dictated sentences; a sentence was scored as correct only when both word order and spelling were accurate. Each item was scored dichotomously (1 = correct, 0 = incorrect). Parallel forms of identical structure and difficulty were used at pre-test and post-test to limit practice effects. Content and face validity were established through review by experienced primary school teachers and literacy specialists.

Intervention

The intervention lasted six weeks. The experimental group received systematic phonics instruction built around five components: letter–sound (grapheme–phoneme) correspondence; blending sounds to read words; segmenting words into their individual sounds; word recognition and decoding strategies; and the application of phonics knowledge to reading, spelling and dictation tasks. Lessons followed a sequential and cumulative order, beginning with simple CVC words and progressing gradually to more complex patterns. Teaching materials included letter cards, word lists, decodable books and age-appropriate classroom activities. The control group continued with the reading approach already in use in the schools, which relied mainly on whole-word reading and the

memorisation of sight words, with little explicit teaching of letter–sound relationships. Both groups were taught by their regular class teachers. Before the intervention, the researcher trained the teachers of the experimental group to deliver the phonics lessons so that the programme would be implemented as planned.

Data Collection and Analysis

Data were collected in three stages. The pre-test was administered to both groups before the intervention; the six-week phonics programme was then delivered to the experimental group while the control group continued with traditional instruction; and the post-test was administered to both groups at the end of the intervention under the same standardised conditions. The data were analysed in the Statistical Package for the Social Sciences (SPSS). Descriptive statistics (frequencies, percentages, means and standard deviations) summarised the sample and test scores. Independent-samples *t*-tests compared the groups at pre-test, to check baseline equivalence, and at post-test, to test H_{01} to H_{04} . A paired-samples *t*-test compared the pre-test and post-test overall scores of the experimental group to test H_{05} . Significance was set at $p < .05$ (two-tailed). To indicate the practical magnitude of the differences, Cohen's *d* was calculated from the pooled standard deviation for between-group comparisons, and d_z was derived from the paired *t* statistic for the within-group comparison (Lakens, 2013); 95% confidence intervals (CIs) were reported for mean differences. Effect sizes were interpreted against Cohen's (1988) benchmarks of 0.20 (small), 0.50 (medium) and 0.80 (large).

Ethical Considerations

Permission to conduct the study was obtained from the administrations of the participating schools before data collection began. Informed consent was obtained from the participating teachers and from the parents or guardians of all students. Participants

were assured that the study would have no bearing on students' academic records, and the identities of the schools, teachers and students were kept confidential.

Results and Discussions

Baseline Equivalence of the Groups

Before the intervention, the two groups performed at almost identical levels (Table 2). The mean differences were 0.12 points in reading, 0.08 in spelling and 0.06 in dictation; none of the *t*-tests

approached significance (all $p > .69$), and the effect sizes were negligible ($d = 0.07$ – 0.09). On the overall pre-test score, the experimental group averaged 17.33 and the control group 17.07 out of 37, which means that both groups began the study answering fewer than half of the items correctly (46.8% and 46.1%, respectively). This baseline equivalence strengthens confidence that post-test differences reflect the intervention rather than pre-existing differences between the intact classes, although a quasi-experiment cannot rule out every unmeasured difference.

Table 2: Comparison of Pre-test Scores of the Experimental and Control Groups

Skill (maximum)	Experimental <i>M</i> (SD)	Control <i>M</i> (SD)	<i>t</i> (78)	<i>p</i>	<i>d</i>
Reading (18)	8.52 (1.41)	8.40 (1.36)	0.39	.698	0.09
Spelling (12)	5.63 (1.10)	5.55 (1.18)	0.31	.759	0.07
Dictation (7)	3.18 (0.86)	3.12 (0.82)	0.32	.748	0.07

Note. $n = 40$ per group. Independent-samples *t*-tests (two-tailed). *d* = Cohen's *d* based on the pooled standard deviation.

Effect of Phonics Instruction on Reading, Spelling and Dictation

After six weeks, the pattern had changed markedly (Table 3). The experimental group outperformed the control group in reading by 5.53 points, $t(78) = 17.72$, $p < .001$, $d = 3.95$; in spelling by 3.96 points, $t(78) = 16.69$, $p < .001$, $d = 3.73$; and in dictation by

2.25 points, $t(78) = 12.17$, $p < .001$, $d = 2.72$. On the overall score, the difference was 11.74 points, $t(78) = 21.30$, $p < .001$, $d = 4.76$. H_{01} , H_{02} , H_{03} and H_{04} were therefore rejected. Expressed as a proportion of the maximum score, students taught through phonics answered between 88.6% and 90.7% of the items in each skill correctly, whereas the control group answered about 58% correctly.

Table 3: Comparison of Post-test Scores of the Experimental and Control Groups

Skill (maximum)	Experimental <i>M</i> (SD)	Control <i>M</i> (SD)	Mean difference [95% CI]	<i>t</i> (78)	<i>p</i>	<i>d</i>
Reading (18)	15.95 (1.23)	10.42 (1.55)	5.53 [4.91, 6.15]	17.72	< .001	3.95
Spelling (12)	10.88 (0.90)	6.92 (1.20)	3.96 [3.49, 4.43]	16.69	< .001	3.73
Dictation (7)	6.30 (0.68)	4.05 (0.95)	2.25 [1.88, 2.62]	12.17	< .001	2.72
Overall (37)	33.13 (2.02)	21.39 (2.84)	11.74 [10.64, 12.84]	21.30	< .001	4.76

Note. $n = 40$ per group. Independent-samples *t*-tests (two-tailed). CI = confidence interval. *d* = Cohen's *d* based on the pooled standard deviation.

The reading result is consistent with the central claim of phase theory that explicit knowledge of grapheme–phoneme correspondences, combined with practice in blending, moves children from guessing words on the basis of partial cues to decoding them fully (Ehri, 2005). The reading test began with letter sounds and simple CVC words,

precisely the level at which such knowledge first pays off, and the gains therefore mirror the early-grade advantages reported in meta-analyses (Ehri et al., 2001; NRP, 2000) and in a comparable EFL context (Nasrawi & Al-Jamal, 2017). The spelling result supports the view that phonics strengthens encoding as well as decoding. Segmenting a spoken

word and assigning a grapheme to each sound was an explicit and repeated part of the intervention, whereas the control group's memorisation of whole words offered no strategy for spelling words that had not been memorised (Graham & Santangelo, 2014; Treiman, 2017). This finding is notable because the evidence on spelling from the United Kingdom has been less conclusive (Torgerson et al., 2006), and it suggests that when spelling is taught as the reverse of blending, as in the present programme, the benefits can be substantial, at least for regular short words.

Dictation showed the smallest standardised effect of the three skills, although the effect was still very large. Dictation places heavier demands than isolated spelling because the child must hold a spoken sequence in memory, segment each word and write the words in the correct order (Nation & Newton, 2009). The sentence items, which were scored as correct only when every word was accurate and correctly ordered, were among the most demanding in the test, and it is plausible that working memory and handwriting fluency, which phonics does not directly target, constrained some

children's performance. That the experimental group nevertheless reached a mean of 90% accuracy suggests that secure sound-letter knowledge freed attention for these additional demands, in line with evidence that practice in representing sounds in writing supports broader literacy development (Ouellette & Sénéchal, 2008).

Gains within the Experimental Group

The paired-samples *t*-test showed that the experimental group's overall score rose from 17.33 (*SD* = 2.71) to 33.13 (*SD* = 2.02), a mean gain of 15.80 points, $t(39) = 30.12$, $p < .001$, $d_z = 4.76$ (Table 4). H_{05} was therefore rejected. The gain is equivalent to 42.7 percentage points of the maximum score. The narrower spread of post-test scores suggests that the gains were broadly shared across the group, although it also partly reflects scores approaching the ceiling of the test. For comparison, the control group's overall mean rose from 17.07 to 21.39 over the same period, a gain of 4.32 points (11.7 percentage points) that can be attributed to ordinary classroom teaching and maturation. The experimental group's gain was thus more than three and a half times as large.

Table 4: Paired-Samples *t*-Test for Overall Literacy Scores of the Experimental Group

Measure (maximum)	Pre-test <i>M</i> (<i>SD</i>)	Post-test <i>M</i> (<i>SD</i>)	Mean gain [95% CI]	<i>t</i> (39)	<i>p</i>	<i>d_z</i>
Overall literacy (37)	17.33 (2.71)	33.13 (2.02)	15.80 [14.74, 16.86]	30.12	< .001	4.76

Note. $n = 40$. Paired-samples *t*-test (two-tailed). *CI* = confidence interval. $d_z = t/\sqrt{n}$ (Lakens, 2013).

Interpreting the Magnitude of the Effects

The direction of the findings is clear and consistent across all four outcomes, but their magnitude calls for careful interpretation. Effect sizes of $d = 2.72$ to 4.76 are several times larger than the mean effect of systematic phonics reported in meta-analyses ($d = 0.41$; Ehri et al., 2001) and well above the moderate median effects found in EFL studies (Huo & Wang, 2017). Several features of the design are likely to have amplified them. First, the test was researcher-developed and closely aligned with the content of the intervention, as its items consisted largely of letter sounds and CVC words of exactly the kind that the experimental group practised; measures of this kind, together with small samples, are known to yield considerably larger effects than independent standardised tests (Cheung & Slavin, 2016). Second, the experimental group's post-test scores approached the ceiling of the test, which

compressed their standard deviations and therefore inflated the standardised effect. Third, the control condition included little explicit letter-sound teaching, so the contrast between the two conditions was sharper than in studies that compare systematic phonics with other approaches that include some phonics. The results are therefore best understood as strong evidence that the programme taught the targeted code-based skills effectively, rather than as an estimate of the effect that phonics would have on broader reading achievement or comprehension in other schools.

Conclusions

This study provides evidence that systematic phonics instruction improves the reading, spelling and dictation skills of Grade 1 and Grade 2 students in private English-medium schools in Lahore. The two groups began at the same level, but after six

weeks the students taught through phonics outperformed their traditionally taught peers in every skill and in overall achievement, and their own scores nearly doubled. All five null hypotheses were rejected. The consistency of these results across reading, spelling and dictation supports the theoretical view that knowledge of the alphabetic code underpins both decoding and encoding (Ehri, 2005; Share, 1995), and it indicates that a relatively short, teacher-delivered programme using ordinary materials can produce meaningful change in the foundational literacy of young learners of English.

These conclusions should be read in light of the study's limitations. The sample was purposively drawn from private English-medium schools in a single city, and the groups were formed from intact classes rather than randomly assigned students, which restricts generalisation to public and low-fee private schools and leaves room for unmeasured group differences. The intervention lasted only six weeks, and no delayed post-test was administered, so the durability of the gains is unknown. The literacy test was short, researcher-developed and closely aligned with the taught content, the experimental group's scores approached its ceiling, and its internal-consistency reliability was not reported. Finally, the analysis did not adjust post-test scores for pre-test performance, compare Grade 1 and Grade 2 students or assess reading comprehension, and the fidelity with which teachers implemented the programme was not quantified.

Recommendations

Because phonics produced large gains in all three skills, school leaders should make systematic phonics a scheduled daily component of English teaching in Grades 1 and 2 rather than an occasional supplement. Lessons should follow a clear sequence from single letter-sound correspondences and CVC words to more complex patterns and

should explicitly connect blending for reading with segmenting for spelling and dictation. Dictation itself can be reframed from a memory test of previously learned words into a practice activity built on phonically regular words and sentences, so that children apply their sound-letter knowledge rather than recall memorised spellings. Schools should also provide decodable books, letter cards and word lists, which are inexpensive and proved sufficient in the present study.

Teacher education institutions and in-service training providers should include practical training in phonics pedagogy, since the teachers of the experimental group required preparation before delivering the programme. Curriculum developers and textbook boards should strengthen the phonics strand of early-grade English materials and ensure that assessment schemes test phonics orally and through decoding and encoding tasks rather than written recall alone (Malik & Asif, 2022). Provincial education authorities could pilot structured phonics programmes in public and low-fee private schools, where children's exposure to English outside school is typically most limited, and parents can support learning by practising letter sounds and reading simple decodable texts with their children at home.

Future studies should draw larger samples from public and low-fee private schools in several districts, using random or cluster-random assignment where feasible. They should employ standardised or independently developed measures with reported reliability, include delayed post-tests to examine the durability of gains and use analysis of covariance to adjust for pre-test differences. Examining differences between grades, the effect of phonics on reading comprehension and vocabulary, and teachers' implementation fidelity and experiences would further clarify how phonics can best be introduced in Pakistani primary classrooms.

Declarations

Funding: This research received no specific grant from any funding agency in the public, commercial or not-for-profit sectors.

Conflicts of Interest: The authors declare no competing interests.

Ethics: Permission to conduct the study was granted by the administrations of the participating schools, and informed consent was obtained from the participating teachers and from the parents or guardians of all students.

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

Acknowledgements: The authors are grateful to the administrators, teachers, parents and students of the participating schools in Lahore for their cooperation.

References

- Adams, M. J. (1990). *Beginning to read: Thinking and learning about print*. MIT Press.
- ASER Pakistan. (2024). *Annual Status of Education Report: ASER-Pakistan 2023 national*. Idara-e-Taleem-o-Aagahi.
- Bear, D. R., Invernizzi, M., Templeton, S., & Johnston, F. (2016). *Words their way: Word study for phonics, vocabulary, and spelling instruction* (6th ed.). Pearson.
- Bowers, J. S. (2020). Reconsidering the evidence that systematic phonics is more effective than alternative methods of reading instruction. *Educational Psychology Review*, 32(3), 681–705. <https://doi.org/10.1007/s10648-019-09515-y>
- Castles, A., Rastle, K., & Nation, K. (2018). Ending the reading wars: Reading acquisition from novice to expert. *Psychological Science in the Public Interest*, 19(1), 5–51. <https://doi.org/10.1177/1529100618772271>
- Cheung, A. C. K., & Slavin, R. E. (2016). How methodological features affect effect sizes in education. *Educational Researcher*, 45(5), 283–292. <https://doi.org/10.3102/0013189X16656615>
- Cohen, J. (1988). *Statistical power analysis for the behavioral sciences* (2nd ed.). Lawrence Erlbaum Associates.
- Ehri, L. C. (2005). Learning to read words: Theory, findings, and issues. *Scientific Studies of Reading*, 9(2), 167–188. https://doi.org/10.1207/s1532799xssr0902_4
- Ehri, L. C., Nunes, S. R., Stahl, S. A., & Willows, D. M. (2001). Systematic phonics instruction helps students learn to read: Evidence from the National Reading Panel's meta-analysis. *Review of Educational Research*, 71(3), 393–447. <https://doi.org/10.3102/00346543071003393>
- Fletcher, J. M., Savage, R., & Vaughn, S. (2021). A commentary on Bowers (2020) and the role of phonics instruction in reading. *Educational Psychology Review*, 33(3), 1249–1274. <https://doi.org/10.1007/s10648-020-09580-8>
- Gough, P. B., & Tunmer, W. E. (1986). Decoding, reading, and reading disability. *Remedial and Special Education*, 7(1), 6–10. <https://doi.org/10.1177/074193258600700104>
- Graham, S., & Santangelo, T. (2014). Does spelling instruction make students better spellers, readers, and writers? A meta-analytic review. *Reading and Writing*, 27(9), 1703–1743. <https://doi.org/10.1007/s11145-014-9517-0>
- Huo, S., & Wang, S. (2017). The effectiveness of phonological-based instruction in English as a foreign language student at primary school level: A research synthesis. *Frontiers in Education*, 2, Article 15. <https://doi.org/10.3389/feduc.2017.00015>
- Johnston, R. S., & Watson, J. E. (2005). *The effects of synthetic phonics teaching on reading and spelling attainment: A seven-year longitudinal study*. Scottish Executive Education Department.
- Lakens, D. (2013). Calculating and reporting effect sizes to facilitate cumulative science: A practical primer for *t*-tests and ANOVAs. *Frontiers in Psychology*, 4, Article 863. <https://doi.org/10.3389/fpsyg.2013.00863>
- Malik, S., & Asif, S. I. (2022). Evaluation of phonics content in PTB primary grade textbooks and assessment schemes: Scope for technology-enhanced language learning (TELL) and assessment tools. *International Journal of Linguistics and Culture*, 3(1). <https://doi.org/10.52700/ijlc.v3i1.85>
- Malik, S., Imdadullah, M., & Javed, M. (2024). Effectiveness of technology-enhanced language learning tools for phonics instruction: Implications for very young learners. *Linguistics and Literature Review*, 10(1), 1–24. <https://doi.org/10.32350/llr.101.01>

- Nasrawi, A., & Al-Jamal, D. (2017). The effect of using Jolly Phonics on Jordanian first grade pupils' reading. *International Online Journal of Education and Teaching*, 4(2), 106–119.
- Nation, I. S. P., & Newton, J. (2009). *Teaching ESL/EFL listening and speaking*. Routledge.
- National Curriculum Council. (2020). *Single National Curriculum: English (Grades I–V)*. Ministry of Federal Education and Professional Training, Government of Pakistan.
- 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* (NIH Publication No. 00-4769). National Institute of Child Health and Human Development.
- Ouellette, G., & Sénéchal, M. (2008). Pathways to literacy: A study of invented spelling and its role in learning to read. *Child Development*, 79(4), 899–913. <https://doi.org/10.1111/j.1467-8624.2008.01166.x>
- Rahman, T. (2004). *Denizens of alien worlds: A study of education, inequality and polarization in Pakistan*. Oxford University Press.
- Rashid, S., Malik, S., & Khan, J. A. (2025). Exploring technology-enhanced language learning tools for interest-based phonics instruction: An experimental study of Pakistani primary grade learners. *Cogent Education*, 12(1), Article 2556354. <https://doi.org/10.1080/2331186X.2025.2556354>
- Roberts, T. A., & Meiring, A. (2006). Teaching phonics in the context of children's literature or spelling: Influences on first-grade reading, spelling, and writing and fifth-grade comprehension. *Journal of Educational Psychology*, 98(4), 690–713. <https://doi.org/10.1037/0022-0663.98.4.690>
- Rosenshine, B. (2012). Principles of instruction: Research-based strategies that all teachers should know. *American Educator*, 36(1), 12–19, 39.
- Shadish, W. R., Cook, T. D., & Campbell, D. T. (2002). *Experimental and quasi-experimental designs for generalized causal inference*. Houghton Mifflin.
- Shamim, F. (2008). Trends, issues and challenges in English language education in Pakistan. *Asia Pacific Journal of Education*, 28(3), 235–249. <https://doi.org/10.1080/02188790802267324>
- Share, D. L. (1995). Phonological recoding and self-teaching: Sine qua non of reading acquisition. *Cognition*, 55(2), 151–218. [https://doi.org/10.1016/0010-0277\(94\)00645-2](https://doi.org/10.1016/0010-0277(94)00645-2)
- Snow, C. E., Burns, M. S., & Griffin, P. (Eds.). (1998). *Preventing reading difficulties in young children*. National Academy Press.
- 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* (Research Report RR711). Department for Education and Skills.
- Treiman, R. (2017). Learning to spell words: Findings, theories, and issues. *Scientific Studies of Reading*, 21(4), 265–276. <https://doi.org/10.1080/10888438.2017.1296449>
- Vygotsky, L. S. (1978). *Mind in society: The development of higher psychological processes*. Harvard University Press.