

PHONOLOGICAL AWARENESS IN TYPICAL ENGLISH-SPEAKING CHILDREN

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ABSTRACT

Phonological awareness plays an important role in literacy development. As children develop these skills, their reading ability improves, and the process of learning to read further strengthens their phonological awareness. The study investigates the phonological awareness skills in 5-7 years old typical children speaking English. Thirty-two typical children speaking English from ICSE school in Trivandrum district Kerala participated in the present study. Preschool and Primary Inventory of Phonological Awareness (PIPA; Pearson 2000) was used to assess the skills such as syllable segmentation, rhyme awareness, alliteration awareness, phoneme isolation and letter knowledge. From results it can be inferred that only syllable segmentation demonstrated a significant age-related improvement with older children (6-7 years) performing better than younger children (5-6 years), while the remaining skills did not show significant differences. However, a comparison of skills within the group revealed significant difference with rhyme awareness being the most developed and syllable segmentation relatively more challenging. These findings indicate that phonological awareness skills develop at different rates with some skills emerging earlier while others continue to mature during this age period.

KEY WORDS: Phonological awareness skills, Preschool and Primary Inventory of Phonological Awareness (PIPA; Pearson 2000), English speaking children (ICSE school).

INTRODUCTION

Phonology is the system and pattern of speech sounds in a language which describes how sounds are organized and used to form meaningful units such as words. It is a part of language development and works together with other language skills, as language acquisition is an important part of a child's development (Yule 1947, Lowe 1994).

Reading acquisition is fundamentally supported by phonological awareness. Without these skills children may face difficulties in learning to read during the early years. Strong phonological awareness provides a solid base for acquiring reading skills, as it enables children to connect sounds in speech with written symbols. This skill supports the development of the alphabetic principle and plays a key role in achieving reading success Hamdy (2025).

Phonological awareness includes five main skills: recognizing rhyme and alliteration, comparing and contrasting sounds, blending and segmenting syllables, segmenting phonemes and manipulating phonemes (such as adding or deleting sounds) Adams (1990).

Phonological awareness skills develop through everyday language exposure and direct teaching. For example, children learn through listening to rhyming words, repeating alliterative phrases and engaging with songs and storybooks. Skills such as phoneme blending and segmentation help children learn to decode (read) and encode (spell) words forming the foundation for later literacy development (Fielding-Barnsley & Hay 2012; Harper 2011; O'Callaghan, Murphy & Naugle 2016).

Phonological awareness usually develops quickly once formal literacy instruction begins. This is particularly evident in children learning to read alphabetic languages with transparent orthography, where there is a consistent relationship between spelling and sound in both directions. Early phonological awareness skills along with those developed during the learning of letter names and sounds play a crucial role in supporting children's reading acquisition (Anthony & Francis 2005).

Phonological awareness typically develops quickly once literacy instruction begins. This is especially true for children learning to read an alphabetic language that has transparent orthography—consistent spelling-to-sound relations and consistent sound-to-spelling relations.

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Phonological development refers to the acquisition of speech sound form and function within the language system (Mandel, Jusczyk & Pisoni, 1995). The acquisition of various speech sounds is intricately connected to the child's overall growth in language (Bauman-Waengler, 2004).

Research shows that early literacy difficulties can lead to long term educational and social challenges (Gillon, Crofts, & McNeill, 2019; Snowling, Duff, & Hulme, 2015; Stoeckel, Colligan, & Katusic, 2013). These children may be at greater risk for truancy, antisocial behaviour and school exclusion (Hudson, High, & Otaiba, 2009). In adulthood they may experience poorer employment opportunities, health outcomes, and increased involvement in criminal behaviour.

Foundational literacy skills play a crucial role in later development; therefore, early intervention programs are essential to support children at risk and enhance their phonological awareness abilities. Children who enter school without adequate preparedness are more likely to lag behind their peers (Billard, De Saint-Exupéry & Morais, 2010; Cunningham & Stanovich, 1997; Lonigan, Burgess, & Anthony, 2013). Moreover, parents with limited literacy skills may face challenges in supporting their children's language and literacy development which can negatively impact vocabulary growth (Hart & Risley, 1995; Taylor, Clavarino, Kisely, & Strathearn, 2013), reduce exposure to literacy-related activities (O'Connor, Grey & Davis, 2009) and influence both the type and frequency of shared reading experiences at home (Aram & Aviram, 2009).

Sunitha (1995), Rekha (1996) and Prema (1997) described the development of phonological awareness skills in typically developing monolingual (Kannada) and bilingual (Kannada-English) children. Sonali (2007) investigated early reading in Kannada focusing on the development of orthographic knowledge and phonemic awareness and highlighted that both are essential processes in early reading across languages. The study further suggested that, in Kannada, the acquisition of akshara knowledge may take longer and the development of phonemic awareness may occur more slowly compared to the pace reported in English.

Bentin, Hammer and Cahan (2008) studied how age and schooling affect the development of phonological awareness. They found that both going to school (first grade) and getting older (5-7 years) improved children's ability to perform phonemic segmentation tasks. However, the impact of schooling was much stronger about four times greater than the effect of age. This suggests that formal reading instruction plays a major role, while age-related improvement may be due to natural growth and everyday exposure to written language. Overall, the study shows a strong link between learning to read and phonological awareness.

Moats (2010) stated that phonological awareness is crucial for reading, as written words represent spoken language. To read and spell effectively, individuals must understand the relationship between speech sounds and the letters or letter combinations that represent them, enabling the conversion of printed words into spoken form and spoken words into written form.

Varghese and Kumaraswamy (2012) examined phonological awareness skills, specifically isolation and deletion tasks in typically developing English-speaking children aged 5-8 years, and concluded that these tasks were easier for 8-year-old children compared to 5-year-old children.

Chacko and Kumaraswamy (2015) examined phonological awareness skills in typically developing English-speaking children aged 6-8 years and found that younger children (6 years) were more sensitive to larger linguistic units but showed limited sensitivity to smaller units, whereas older children (8 years) demonstrated sensitivity to both larger and smaller linguistic units.

Jacob and Kumaraswamy (2023) investigated phonological awareness in typically developing English-speaking children aged 3 to 7 years. Their study examined skills such as syllable blending and rhyme recognition in a small sample of children and reported an age-related improvement in performance. Younger children demonstrated limited abilities, whereas older children showed greater proficiency in identifying and manipulating speech sounds.

NEED OF THE STUDY

Phonological awareness (PA) is essential for the literacy development of English-speaking children. However, normative data using the Pre-Reading Inventory of Phonological Awareness (PIPA) are not available for typical English-speaking children aged 5-7 years. There is a clear research gap, as most existing studies have focused on western populations or other Indian language studies are beginning to emerge currently. Establishing such data

will support early and accurate identification of children at risk for reading difficulties, facilitate the development of culturally and linguistically appropriate intervention strategies, and contribute to evidence-based educational planning and clinical practice in the region.

METHODOLOGY

Aim

The study aimed to analyze the phonological awareness in typical children speaking English using Preschool and primary inventory of phonological awareness (Pearson 2000).

Participants

Thirty two typical children in the age range of 5-7 years participated in the study and were from ICSE schools in Trivandrum district, Kerala.

Inclusion Criteria:

- Children and their parents using English at home
- Children studying in ICSE syllabus school
- No history of speech, language, or hearing impairment
- No neurological impairment
- No otological, psychological, or ophthalmic problems

Exclusion Criteria:

- History of speech, language, hearing, or neurological disorders
- No exposure to the English language

Procedure

The stimuli was presented orally and the responses of each child were documented in a quiet, well-lit environment. Below are the clear instructions for each subsection. There was about a foot distance between each child's seat and the laptop microphone. Before recording of the sample, the clinician had an informal interaction with every child in order to build rapport.

Stimulus used

Preschool and primary inventory of phonological awareness (Pearson, 2000) test was administered to each child after presenting adequate test trial and instructions.

A. Syllable segmentation

Child is asked to segment the syllables of words.

E.g., Banana - ba-nan-a

B. Rhyme identification

Child is asked to identify non-rimes from a group of words.

E.g., Wall, Ball, fall, Cat

Ans: Cat

C. Alliteration awareness

Child is asked to find the different word from a group of words.

E.g., Duck, Door, Dog, Cake

Ans: Cake

D. Phoneme isolation

Child is asked to identify the initial sound of the word.

E.g.: Dog -/d/

E. Letter knowledge

Child was asked to say the sound as the clinician pointed to the syllable.

E.g., S-/s/

Analysis

The responses were noted accordingly. Score 1 was given for the correct response and 0 for incorrect responses. The obtained data were subjected to statistical analysis to find out the significant difference within and across groups.

Statistical Analysis

The collected data were analyzed using the Mann–Whitney U test to compare phonological awareness skills between children aged 5–6 years and 6–7 years, and the Friedman test to compare the five skills within the overall age group. A significance level of $p < 0.05$ was considered statistically significant, and all analyses were performed using IBM SPSS Statistics, version 27.0.

RESULT

The aim of the study was to analyze phonological awareness in English-speaking Indian children. The results obtained are discussed below.

TABLE 1:

Shows the Age-related differences in phonological awareness skills.

Comparison Group	Variables	U Test Statistic	Standardized Test Statistic	p-value	Significance
Age	SYLLABLE SEGMENTATION	197	3.015	0.008	S
	RHYME AWARENESS	136	0.597	0.780	NS

	ALLITERATION AWARENESS	153	1.31	0.361	NS
	PHONEME ISOLATION	162	1.523	0.210	NS
	LETTER KNOWLEDGE	176	2.658	0.073	NS

From Table 1, it can be concluded that children aged 6-7 years showed better performance in syllable segmentation tasks compared to children aged 5-6 years. A significant difference between the two age groups was observed only in syllable segmentation ($p = 0.008$). No significant differences were seen for rhyme awareness ($p = 0.780$), alliteration awareness ($p = 0.361$), phoneme isolation ($p = 0.210$) and letter knowledge ($p = 0.073$).

TABLE 2:

Shows the Phonological awareness skills within age group 5-7 years.

	N	Mean	Standard Deviation	Test Statistic	p-value
SYLLABLE SEGMENTATION	32.00	94.89	7.64	25.18	<0.001
RHYME AWARENESS	32.00	99.06	2.96		
ALLITERATION AWARENESS	32.00	97.92	4.23		
PHONEME ISOLATION	32.00	96.15	5.86		
LETTER KNOWLEDGE	32.00	98.18	4.23		

From Table 2, it can be concluded that phonological awareness skills varied within the age group of 5-7 years. A highly significant difference was observed among the phonological awareness skills assessed ($p < 0.001$). Among the skills, rhyme awareness showed the highest mean score, while syllable segmentation showed the lowest mean score, indicating that syllable segmentation was comparatively more difficult for children within this age range.

DISCUSSION

Phonological awareness (PA) develops gradually along a continuum of skills and plays a vital role in reading and spelling, particularly during preschool, kindergarten, and first grade. A study found that only syllable segmentation improved significantly with age, with children aged 6–7 years performing better than those aged 5–6 years. Rhyme awareness, alliteration awareness, phoneme isolation, and letter knowledge did not show significant age-related differences, suggesting these skills may already be developed or stabilizing by age 5. Among all PA skills, rhyme awareness emerged as the strongest skill while syllable segmentation was relatively more difficult. This indicates that simpler skills like rhyme awareness are acquired earlier, while more complex skills like syllable segmentation continue to develop over time. Overall, phonological awareness does not develop uniformly, and different skills follow different developmental timelines in young children.

SUMMARY AND CONCLUSIOIN

Phonological awareness, a strong predictor for reading success, includes basic awareness of speech sounds as well as advanced skills like manipulating sounds by deleting, substituting, or reversing them. The present study analyzed phonological awareness skills in 32 English speaking Indian children aged 5 to 7 years from an ICSE school in Trivandrum, using the Preschool and Primary Inventory of Phonological Awareness (Pearson, 2000).

Results indicated that rhyme awareness, alliteration, phoneme isolation, and letter knowledge showed no significant difference among the age groups of 5-7 years, whereas syllable segmentation showed a significant difference ($p = 0.008$). The study concludes that rhyme awareness was the most developed skill, whereas syllable segmentation was the most challenging, highlighting the need for focused support during early childhood. Overall, the findings conclude that phonological awareness does not develop uniformly in children aged 5-7 years, with different skills developing at different rates, highlighting the need to focus more on developing complex skills to support early reading.

Limitations of the study

- The participants were selected only from ICSE schools in Trivandrum district, Kerala.
- The study focused only on English-speaking typically developing children aged 5-7 years.
- The validity of the stimuli has not been made.
- The age group selected for the study was 5-7 years.

Future Directions

- Children from different educational boards and language backgrounds can be included in future research.
- The validity of stimuli can be done.
- The test can be administered to various disordered populations.
- A large sample size would have yielded more reliable results.

REFERENCES

1. Adams, M. J. (1990). *Beginning to read: Thinking and learning about print*. MIT Press.
2. Anthony, J. L., & Francis, D. J. (2005). Development of phonological awareness. *Current Directions in Psychological Science*, 14(5), 255–259.
3. Aram, D., & Aviram, S. (2009). Mothers' support of their first graders' literacy acquisition. *Reading and Writing*, 22(8), 921–941.
4. Bauman-Waengler, J. (2004). *Articulatory and phonological impairments: A clinical focus* (4th ed.). Pearson.
5. Bentin, S., Hammer, R., & Cahan, S. (2008). The effects of aging and first-year schooling on the development of phonological awareness. *Psychological Science*, 11(2), 153–157.
6. Bernthal, J. E., Bankson, N. W., & Flipsen, P., Jr. (2013). *Articulation and phonological disorders: Speech sound disorders in children* (8th ed.). Pearson.
7. Chacko, M., & Kumaraswamy, S. (2015). A few phonological awareness skills in 6–8-year-old typically developing English speaking children. *Language in India*, 15(10).
8. Cunningham, A. E., & Stanovich, K. E. (1997). Early reading acquisition and its relation to reading experience and ability 10 years later. *Developmental Psychology*, 33(6), 934–945.

9. Fielding-Barnsley, R., & Hay, I. (2012). Phonemic awareness training in small groups with deaf and hard-of-hearing children. *Journal of Deaf Studies and Deaf Education*, 17(3), 370–388.
10. Gillon, G., Crofts, E., & McNeill, B. (2019). Phonological awareness and literacy development. In *Handbook of literacy*. Guilford Press.
11. Gleason, J. B. (2005). *The development of language* (6th ed.). Pearson Education.
12. Hart, B., & Risley, T. R. (1995). *Meaningful differences in the everyday experience of young American children*. Paul H. Brookes Publishing.
13. Hudson, R. F., High, L., & Otaiba, S. A. (2009). Dyslexia and the brain: What does current research tell us? *Reading Research Quarterly*, 44(3), 284–300.
14. Jacob, A., & Kumaraswamy, S. (2023). Phonological awareness in typical children speaking English. *Language in India*, 23(6).
15. Kung, K. (2021). *Phonological awareness: A guidebook for parents*.
16. Lonigan, C. J., Burgess, S. R., & Anthony, J. L. (2013). Development of emergent literacy and early reading skills in preschool children. *Annals of Dyslexia*, 53(1), 134–162.
17. Lowe, R. J. (1994). *Phonological awareness*. Phonological Awareness Publications.
18. Moats, L., & Tolman, C. (2009). *The development of phonological skills*. Sopris West.
19. Mandel, D. R., Jusczyk, P. W., & Pisoni, D. B. (1995). Infants' recognition of the sound patterns of their own names. *Psychological Science*, 6(5), 314–317.
20. Moats, L. (2020). Why phonological awareness is important for reading and spelling. *Reading Rockets*. Retrieved from: <https://www.readingrockets.org>.
21. Hamdy, N. (2025). *Sample formative assessment tasks*. Scribd. Retrieved from: <https://www.scribd.com/document/906858655/Sample-Formative-Assessment-Tasks-1>
22. O'Callaghan, M. M., Murphy, A., & Naugle, M. (2016). Phonological awareness
23. interventions for children. *Journal of Speech, Language, and Hearing Research*.
24. O'Connor, R. M., Grey, J., & Davis, J. (2009). Parental literacy and home literacy environment. *Early Childhood Research Quarterly*.
25. Pearson, N. (2000). *Preschool and primary inventory of phonological awareness (PIPA)*.
26. Reading Rockets. (2020). *Development of phonological skills*. Retrieved from: <https://www.readingrockets.org/article/development-phonological-skills>
27. Snowling, M. J., Duff, D., & Hulme, C. (2015). Pathways to reading in children with language impairment. *Journal of Child Psychology and Psychiatry*, 56(3), 304–313.
28. Stoeckel, R. E., Colligan, R. C., & Katusic, S. K. (2013). Early literacy predictors of reading comprehension. *Reading Research Quarterly*.
29. Taylor, C. L., Clavarino, A., Kisely, S., & Strathearn, L. (2013). Maternal literacy and child vocabulary. *Pediatrics*.
30. Varghese, A., & Kumaraswamy, S. (2012). *Phonological awareness in 5–8-year-old typically developing English speaking children* [Unpublished dissertation]. Mangalore University.
31. Yule, G. (1996). *The study of language* (2nd ed.). Cambridge University Press.

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