

Reading Fluency as an Indicator of Reading Comprehension: A Systematic Review

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ABSTRACT

This study is a systematic review that examined empirical research on the relationship between reading fluency and comprehension. The main goals of the review were to summarize recent findings about how fluency supports literacy development, identify effective instructional interventions for building fluency, and identify assessment practices that relate to reading achievement. Literature searches were conducted in Google Scholar, ERIC, ResearchGate, and other relevant educational databases using specified search terms related to reading fluency and comprehension. The inclusion criteria were that studies were peer reviewed, published in English, directly related to literacy knowledge, and published between 2015 and 2025. The screening and eligibility process followed procedures that were inspired by PRISMA, consisting of: identifying studies; removing duplicates; screening by title and abstract; reviewing full texts; and making final inclusion decisions. Eleven studies met the eligibility criteria and were included in the synthesis. The review identified three key themes in the findings: (1) the contribution of reading fluency to comprehension development; (2) instructional interventions and strategies to build fluency; and (3) assessment and monitoring practices related to reading achievement. The review found significant evidence that reading fluency contributes to comprehension by aiding automatic word recognition and decreasing the cognitive load required for reading. At the same time, however, the evidence suggests that there is a bidirectional relationship between fluency and comprehension, modified by vocabulary knowledge, language comprehension, the instructional context, and individual learner characteristics. The review also identified areas where there is a lack of research related to multilingual literacies and the long-term effects of fluency development interventions. The findings support a balanced literacy approach that emphasizes the importance of developing fluency, comprehension strategies, and frequent assessment.

Keywords: Reading Comprehension, Reading Fluency, Literacy Development, Literacy Intervention, Systematic review

INTRODUCTION

Reading fluency is recognized as the foundational component of literacy development because it supports the reader's ability to process written language accurately, automatically, and expressively. Many literacy scholars have studied the relationship between reading fluency and reading comprehension by arguing that fluent reading allows learners to dedicate more of their cognitive resources to meaning construction instead of just word recognition. However, contemporary research on literacy supports the idea that there is a reciprocal relationship between reading fluency and reading comprehension, with many different variables involved (e.g., decoding skills, vocabulary, comprehension of language, teaching context, and cognitive processing demands).

With increasing concern about literacy levels, educators and policymakers are researching different strategies to improve the outcomes for both fluency and comprehension. Several studies have been completed that show that fluent reading contributes positively to comprehension; however, there continues to be debate regarding how well fluency predicts comprehension on its own. Some researchers believe that comprehension will be impacted more by other, more general, linguistic and cognitive variables. Others emphasize the importance of fluency as a central component of reading proficiency.

This systematic review seeks to synthesize the empirical evidence from the existing literature regarding the relationship between reading fluency and reading comprehension. In particular, this review will examine recent (within the last 10 years) evidence related to fluency development, instructional interventions, and assessment practices. This review will also present common methodological themes in the literature as well as inconsistencies and gaps in the current body of literacy research. This review aims to provide both practical and scholarly insights to be used for literacy instruction and guide future research in the field.

METHODS

Research Design

This study employed a PRISMA-guided systematic review methodology to synthesize empirical research examining the relationship between reading fluency and reading comprehension.

Databases Searched

Literature searches were conducted using Google Scholar, ERIC, ResearchGate, and related educational databases. Additional references were identified through citation tracking and related literary journals.

Search Strings

- “reading fluency” and “reading comprehension”
- “oral reading fluency” and comprehension
- “fluency intervention” and literacy
- “prosody” and reading comprehension
- “fluency assessment” and literacy development

Date Range

The search included studies published between January 2015 and March 2025.

Eligibility Criteria

- **Inclusion Criteria:**

- Peer-reviewed journal articles
- Studies written in English
- Studies directly related to reading fluency and reading comprehension
- Empirical literacy studies
- Studies published between 2015 and 2025

- **Exclusion Criteria:**

- Conference abstracts and unpublished manuscripts
- Studies unrelated to literacy development
- Articles lacking methodological transparency
- Duplicate records

Screening Procedures

The review process followed the PRISMA-inspired procedures of identification, removal of duplicates, title and abstract screening, review of full-text articles, and final enthusiast assessment of qualifying studies. The author independently completed the following steps in the literature review: search of the literature; screening; determination of eligibility; and thematic synthesis of included studies.

Quality Appraisal

The methodological quality of the included studies was determined using adapted CASP appraisal criteria, which examine methodological rigor; research objective clarity; sampling procedures; validity of overall findings; and relevance of the studies to literacy instruction.

Data Synthesis

The studies included in the literature were subjected to a thematic synthesis whereby patterns of the same methodological approach, identification of intervention strategies, measurement approaches, and duplicates of previous findings from other studies were compared with each other.

Ethical Considerations

This review involved analysis of published literature only and did not involve human participants. Ethical standards were maintained through proper citation, accurate paraphrasing, and acknowledgment of all scholarly sources used in the study.

PRISMA Flow Diagram Summary

Identification	74 records identified
Duplicate Removal	12 duplicates removed
Screening	62 records screened; 38 excluded
Eligibility	24 full-text articles reviewed; 13 excluded
Included	11 studies included in final synthesis

RESULTS AND DISCUSSION

Study Comparison Table

Author/Year	Participants	Methodology	Intervention/Focus	Key Findings
Bigozzi et al. (2017)	Grades 4–9 students	Quantitative	Fluency assessment	Fluency predicted literacy outcomes
Calet et al. (2017)	Primary learners	Experimental	Prosody training	Improved comprehension
Lee & Yoon (2017)	Students with reading disabilities	Intervention study	Repeated reading	Improved fluency
Kim & Wagner (2015)	Elementary students	Longitudinal	Oral reading fluency	Reciprocal fluency-comprehension relationship

Participants, research methodologies, intervention focus, and findings of included studies are summarized in a comparison table (Appendix C). Almost all studies utilized either quantitative or research designs based on interventions to assess the association between reading fluency and reading comprehension. Across diverse educational settings and types of learners, the findings indicate positive associations between fluency development and comprehension outcomes. Nonetheless, differences in the methods utilized among the studies (e.g., different participant characteristics, different interventions, and different assessments) indicate that the effects of fluency instruction may vary based on instructional context and learners' needs.

Synthesis Matrix

Theme	Supporting Studies	Main Findings	Contradictions/Gaps
Fluency and comprehension	Kim & Wagner; Bigozzi et al.	Positive relationship	Vocabulary mediates the relationship
Fluency interventions	Lee & Yoon; Calet et al.	Repeated reading effective	Effectiveness varies by learner
Assessment practices	O'Keeffe et al.	ORF is useful for monitoring	Fluency alone insufficient

The structure of the synthesis matrix has been established to display the recurring themes, studies that provide support, key findings from those studies, and contradictions identified in the literature under review. The synthesis matrix shows that while most studies support the contribution of reading fluency to comprehension development, there are some researchers who emphasize the role of a number of additional factors, such as vocabulary development, in the development of comprehension. In addition, there is significant variation in the effectiveness of the interventions reviewed, and through the synthesis matrix, limitations are shown with respect to using only measures of oral reading fluency as an indicator of comprehension ability. Overall, the data from the synthesis matrix support the idea that the relationship between reading fluency and reading comprehension is complex and reciprocal in nature.

The systematic review identified three major themes across the included studies.

Theme 1: Reading Fluency and Comprehension Development

Most studies reviewed found evidence of a positive relationship between reading fluency and comprehension of text. Specifically, consistent relationships were found between the reading fluency components of accuracy, automaticity, and prosody and reader comprehension performance, with fluent readers using relatively fewer cognitive resources for decoding text than other readers. However, multiple studies demonstrated that comprehension was shaped by broader language and cognitive processes outside of fluency. These results support the interpretation that there is a reciprocal relationship between fluency and comprehension rather than a straightforward unidirectional relationship.

Theme 2: Interventions and Instructional Strategies

According to the studies reviewed, they all found repeated reading, facilitated oral reading, focused instruction of phonics, and focused instruction of prosody to be effective means of improving fluency. However, the effectiveness of the interventions was impacted by the personal characteristics of the individual participants (e.g., age, grade level), the educational setting (e.g., classroom versus group), and the amount of time an individual had received the intervention. The results of these studies suggest that literacy interventions need to be tailored to the individual learner's specific literacy needs.

Theme 3: Assessment and Monitoring Practices

It has been shown through research that continuous assessments are important for teaching literacy skills. Most studies indicate that oral reading fluency tests are an effective way to identify at-risk students and determine the success of the intervention provided. Many authors warn against using fluency tests by themselves because they do not account for the influence of vocabulary, backgrounds, and higher-level thinking skills on reading comprehension.

Critical Synthesis and Research Gaps

Most of the literature reviewed indicated there were few studies demonstrating positive correlations between reading rate/fluency and reading comprehension, while indicating that there were different approaches to research for those identified correlations, as well as unresolved methodological issues among the various studies regarding literacy development. Additionally, there were some studies identifying fluency alone as being a significant predictor of reading comprehension. In contrast, others indicated that vocabulary development and/or language processing would mediate the association between reading fluency and comprehension. A lack of research exists on the effects of fluency interventions within multilingual and developing literacy contexts, particularly within educational settings in Southeast Asia. More longitudinal studies are required to evaluate how children learn to read fluently over time or how fluency instruction can be delivered in a culturally appropriate manner.

Limitations

It should be noted that there were limitations to this review. Firstly, data acquired from English-language publications only in the years 2015-2025 were used. Secondly, the synthesis of studies contained within the

review was limited in scope. Thirdly, because of restricted access to databases, additional studies of interest may not have been included in this review.

CONCLUSION

A systematic research project was carried out using PRISMA as the guiding methodology. The goal was to evaluate what research has been conducted to understand how reading fluency relates to reading comprehension. Researchers found that reading fluency plays an important role in producing efficient readers who can easily process whatever they read and concentrate on creating deeper meaning from what they read. The researchers concluded that there are various instructional interventions and assessment methodologies that can result in improved literacy skill acquisition. Furthermore, there are also many additional linguistic and cognitive factors included in the comprehension process, other than simply fluency alone. This research provides some insights into the literacy scholarship by bringing together some of the most recent research findings, identifying research gaps, and identifying some implications related to both literacy instruction and future educational research

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