READING FLUENCY, ACCURACY, AND COMPREHENSION AMONG THIRD- AND FOURTH-GRADE STUDENTS: IMPLICATIONS FOR EDUCATIONAL PRACTICE

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Abstract

Reading fluency, accuracy, and comprehension are interrelated dimensions of literacy that warrant attention in primary education. This paper revisits historical findings on reading performance among third- and fourth-grade pupils in Kosovo to examine how different reading indicators inform educational assessment and speech-language support. The original study, conducted in 1990 and documented in a 1991 undergraduate thesis, included 63 pupils: 32 in grade three and 31 in grade four. The present analysis draws on the original summary results to consider whether reading rate and accuracy alone adequately characterize group-level reading performance. Fourth-grade pupils had higher average oral reading rates (74.22 versus 51.25 correct words per minute), higher syllable-reading rates (218.35 versus 117.62 syllables per minute), shorter prose-reading times (99.13 versus 157.00 seconds), and fewer reading errors (6.97 versus 17.22). Comprehension was assessed using three questions about the passage. All three were answered correctly by 21 of 32 third-grade pupils and 16 of 31 fourth-grade pupils. Thus, the grade-level pattern observed for fluency and accuracy was not mirrored by the proportion answering every comprehension question correctly. These findings support considering multiple dimensions of reading performance in educational assessment. However, the three-question comprehension measure, small historical sample, and absence of new inferential analyses limit interpretation and generalizability. Contemporary research using validated measures and representative samples is needed to examine these patterns and their implications for practice.

Keywords: primary education, reading fluency, reading accuracy, reading comprehension, reading assessment, reading difficulties.

1. Introduction

Learning to read involves accurate decoding, increasingly automatic word recognition, and construction of meaning from text. Reading rate can provide useful information about automaticity, but speed alone cannot establish whether a pupil understands what has been read. Similarly, a count of oral reading errors is informative only when interpreted in relation to the passage, task demands, and comprehension. A multidimensional view is therefore important for teachers and speech-language professionals who seek to recognize pupils requiring additional support. A theoretical distinction between decoding and linguistic comprehension is important for understanding why oral reading speed cannot stand alone as a measure of literacy (Gough & Tunmer, 1986; Fuchs et al., 2001). Recent research further emphasizes that reading fluency is a multidimensional construct involving accuracy, rate, and prosody, and that its assessment requires attention to the specific skills being measured (van der Velde et al., 2024; Meggiato et al., 2025). Research on reading acquisition emphasizes that skilled reading develops through the interaction of word recognition, language knowledge, and comprehension processes (Castles et al., 2018). Moreover, the relationship between decoding and reading comprehension varies according to readers' developmental characteristics and the measures used to assess these skills (García & Cain, 2014).

This article returns to an archival primary-school reading study from Kosovo. Its purpose is not to describe current reading performance in Kosovo, but to examine what the original grade-level comparisons can contribute to a discussion of educational assessment. The specific

objectives are to (a) summarize the original findings on reading fluency, accuracy, and comprehension, (b) examine their implications for multidimensional reading assessment, and (c) identify methodological limitations and implications for contemporary educational practice.

2. Method

2.1 Design and provenance: This is a descriptive secondary examination of results reported in an unpublished bachelor-level thesis by Ardita Devolli, completed in 1991. The underlying data were collected in 1990 in Gjilan, Kosovo. No new students were recruited and no new testing was performed for this paper. The original thesis is the source of the historical findings presented below.
2.2 Participants: The original study included 63 pupils: 32 third-grade pupils and 31 fourth-grade pupils. These pupils should not be treated as a representative sample of contemporary Kosovo schoolchildren.
2.3 Measures and analysis: The original study used two reading assessment instruments: a word-list reading test and a prose reading passage entitled *Bota e larme*. The word-list test assessed reading performance at the word level, while the prose passage was used to examine reading speed, accuracy, and comprehension. Reading comprehension was assessed through three questions about the passage.
The source thesis reports correct words per minute, syllables per minute, time to read a prose passage, total errors in prose reading, reading comprehension, and academic achievement. The present paper reproduces four grade-level comparisons and their original t statistics from Table 3 (Devolli, 1991, p. 15), together with the descriptive reading comprehension results from Table 5 (Devolli, 1991, p. 18). No new statistical tests were performed, and the original test assumptions, p values, confidence intervals, and effect sizes have not been independently verified. Academic achievement is not analyzed in the present paper.

3. Results

3.1 Reading fluency and accuracy: The original comparison showed higher mean correct words and syllables per minute in grade four, shorter prose-reading time, and fewer prose-reading errors. Table 1 reproduces all four group means and t statistics from the original Table 3 (Devolli, 1991, p. 15). These are historical results reported by the original author, not newly calculated tests. The thesis describes the four comparisons as statistically significant; exact p values and the assumptions underlying the tests have not been independently verified. These statistics are reproduced as originally reported rather than recalculated.

Table 1. Reading performance by grade: reported means and t statistics (source: Devolli, 1991, Table 3, p. 15).

Measure	Grade 3 (n=32)	Grade 4 (n=31)	Original t
Correct words per minute	51.25	74.22	7.489
Syllables per minute	117.62	218.35	7.761
Prose-reading time (seconds)	157.00	99.13	4.882
Errors during prose reading	17.22	6.97	4.227

3.2 Reading comprehension: Reading comprehension was assessed through three questions about the passage. In the third grade (n = 32), 21 pupils answered all three questions correctly, five answered two questions correctly, and six answered one question correctly. In the fourth

grade (n = 31), 16 pupils answered all three questions correctly and 15 answered two questions correctly. No pupils in either grade answered all questions incorrectly (Devolli, 1991, p. 18).

Table 2. Reading comprehension results by grade (source: Devolli, 1991, Table 5, p. 18).

Correct answers	Grade 3 (n=32)	Grade 4 (n=31)
0	0	0
1	6	0
2	5	15
3	21	16

Because comprehension was assessed using only three questions, these findings are presented descriptively and should not be interpreted as a comprehensive measure of reading comprehension.

4. Discussion

The direction of the reported differences is consistent with an expectation that reading performance changes with schooling and experience. However, the cross-sectional comparison cannot isolate the effect of grade advancement from other differences between groups. Nor does it show whether an individual pupil with a slower rate has a reading disorder. Reading errors can reflect decoding demands, passage difficulty, language experience, or task conditions; clinical conclusions require a broader assessment.

The reading comprehension results add an important dimension to the interpretation of oral reading performance. Although fourth-grade pupils demonstrated higher average reading rates and fewer errors, the proportion of pupils answering all three comprehension questions correctly was higher in grade three (21 of 32 pupils) than in grade four (16 of 31 pupils). These descriptive group-level findings suggest that differences in reading fluency and accuracy across grades may not follow the same pattern as performance on a brief comprehension assessment. However, because comprehension was assessed using only three questions, the findings should be interpreted cautiously and cannot establish statistically significant differences between grades.

For educational practice, the findings provide a useful example of why teachers should observe accuracy and comprehension together with fluency. Screening and progress monitoring can help identify pupils who may benefit from differentiated reading instruction. Established approaches to oral reading fluency assessment provide useful guidance for monitoring reading development (Rasinski, 2004; Hasbrouck & Tindal, 2017). However, contemporary reading norms should not be applied retrospectively to the historical sample examined in this paper. A speech-language professional may contribute when persistent difficulties raise questions about underlying language or literacy skills. Decisions should rely on age-appropriate, validated contemporary assessments, rather than historical sample averages.

Several limitations qualify these findings. The observations were collected in one setting in 1990, and the sample was small. The original sampling strategy, task comparability, and measurement properties have not been independently established for this secondary report. The values are descriptive group summaries, not contemporary norms or estimates of the prevalence of reading disorders. Accordingly, the results should not be generalized to current pupils in Kosovo or interpreted as evidence of a causal effect of grade level.

4.1 Implications for educational assessment: The simple view of reading distinguishes word recognition and language comprehension as contributors to reading comprehension (Gough & Tunmer, 1986). More recent theoretical approaches highlight the contributions of additional

cognitive and linguistic processes to reading comprehension (Duke & Cartwright, 2021). The relative contributions of decoding and linguistic comprehension may also differ across alphabetic orthographies (Florit & Cain, 2011). This distinction is useful when interpreting the archival results: a faster oral reading rate may coexist with weaknesses in meaning-making, and a slower rate does not by itself establish inadequate comprehension. For classroom decisions, reading rate and errors should therefore be interpreted alongside direct evidence of comprehension and language skills.

The National Reading Panel (2000) identified guided oral reading as an instructional practice with evidence for supporting reading fluency. The present archival comparisons cannot evaluate any intervention, but they help frame practical questions for future work: which types of errors occur, whether the same passages are used across grade groups, and whether pupils who read slowly also experience difficulty understanding what they read. Such questions should guide the design of new assessments rather than be answered by these historical means alone. Research on oral reading fluency also treats rate and accuracy as useful indicators of broader reading competence while cautioning against equating a single measure with the full construct of reading (Fuchs et al., 2001). Longitudinal research also indicates that the relationship between reading fluency and reading comprehension develops across the early school years (Kim et al., 2012). A recent meta-analysis of 401 studies found that the association between text reading and reading comprehension varies according to grade level, orthographic depth, and assessment characteristics (Leachman et al., 2025). These findings reinforce the need to interpret reading rate and accuracy alongside direct measures of comprehension, while avoiding assumptions about individual pupils based on group-level comparisons.

4.2 Implications for inclusive and speech-language practice: In inclusive classrooms, assessment should identify instructional needs rather than assign diagnostic labels from a single reading score. Teachers may combine oral reading observations, comprehension questions, curriculum-based tasks, and information about language development. Listening comprehension is particularly relevant to speech-language assessment because oral language comprehension contributes to the development of reading comprehension beyond word decoding (Hogan et al., 2014). Where difficulties persist, collaboration between classroom teachers, families, and speech-language professionals may help clarify whether support should focus on decoding, vocabulary, oral language, comprehension strategies, or several of these domains. Memedi (2014, pp. 70–87) discusses identification of learning difficulties, classroom adaptations, and the roles of teachers, specialist staff, and parents in regular education. His research also highlights the need for additional teacher training (Memedi, 2014). His findings provide a regional educational context for discussing how reading difficulties can be recognized and supported, although his survey findings are not directly comparable with the reading-rate measurements in the present archival dataset.

4.3 Methodological considerations: Comparisons of words per minute require attention to passage length, text difficulty, administration conditions, and the scoring rule for a correctly read word. Without demonstrated equivalence of reading passages and testing conditions across grades, the difference between group means should be treated as descriptive rather than causal. Reading skills follow different developmental trajectories, which should be considered when interpreting isolated measures of reading performance (Paris, 2005). A scoping review of oral reading fluency assessment identified substantial variation in how fluency is defined and measured, highlighting the importance of clearly specified assessment procedures when interpreting or comparing results (van der Velde et al., 2024). Likewise, the total number of reading errors is influenced by how much text a pupil attempts and how errors are classified.

Error rates normalized to the amount read would be useful in a future analysis, provided the original individual-level records allow valid reconstruction.
The original thesis also examined reading comprehension and school achievement. The present paper reports the comprehension results descriptively, based on three questions administered to the pupils. This limited assessment does not provide a comprehensive measure of reading comprehension, and no new inferential tests have been performed on these results. School achievement is not analyzed in the present paper. Future research should employ validated comprehension measures and examine the relationships among reading fluency, accuracy, comprehension, and academic achievement. Future investigations could also consider the interrelationship between reading and writing difficulties within contemporary models of literacy development (Kim, 2022).

4.4 Relationship to previous research on reading and writing in Kosovo: Previous research involving primary school pupils in Kosovo has addressed reading skills, reading comprehension, writing difficulties, and educational achievement. A study involving Albanian-speaking pupils in Kosovo and Switzerland examined reading and writing skills in different educational contexts (Kabashi et al., 2008). Subsequent publications addressed gender differences in reading comprehension and school achievement (Devolli & Brestovci, 2013a) and the assessment of reading skills through reading tests (Devolli & Brestovci, 2013b). Another investigation involving 140 third- and fourth-grade pupils in Prishtina examined language performance through questions about a reading passage and its relationship with school achievement (Devolli, 2015). Together with earlier doctoral research on reading and writing difficulties (Devolli, 2008), these studies provide a broader regional context for the present analysis. Nevertheless, differences in samples and assessment procedures do not permit direct numerical comparisons with the 1990 Gjilan data.

4.5 Ethical considerations: Only aggregate historical results are presented; no pupils are named or identifiable in this article. The original study was conducted before contemporary reporting standards became widespread, and the present report does not claim retrospective ethics approval. Any subsequent use of individual-level records should be reviewed for privacy and applicable institutional requirements.
The contribution of this paper is a transparent historical comparison interpreted through a multidimensional approach to reading assessment. The findings do not establish diagnostic thresholds, intervention effects, or present-day differences between schools.

5. Conclusion

The archival findings illustrate differences in oral reading fluency, accuracy, and comprehension among third- and fourth-grade pupils. Fourth-grade pupils demonstrated higher average reading rates and fewer reading errors, while a higher proportion of third-grade pupils answered all three comprehension questions correctly. These descriptive findings reinforce the importance of assessing reading fluency, accuracy, and comprehension together rather than relying on a single indicator. However, the small historical sample and the limited comprehension assessment restrict the interpretation and generalizability of the results. Contemporary research using validated measures is needed to examine these relationships further.

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