

TECHNOLOGY FOR ORGANIZING PRIMARY EDUCATION READING LITERACY LESSONS BASED ON AN INTEGRATED APPROACH

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Abstract

In the modern educational system, the development of reading literacy among primary school students remains one of the key priorities of global pedagogy. Within traditional approaches, the separation of reading, writing, and subject disciplines limits the full development of learners' cognitive and communicative potential. The results of PISA 2022 indicate a decline of 10 points in reading performance across OECD countries, marking the largest drop in history. However, within the context of primary education in Uzbekistan, the adaptation of integrative approaches to the specific features of the national language, as well as their long-term impact, has not yet been sufficiently studied.

This study aims to identify the theoretical foundations of implementing an integrative approach in primary school reading literacy instruction and to empirically substantiate its practical effectiveness. The findings reveal that, in experimental groups where the integrative approach was applied, students' reading comprehension increased by an average of 28%, while vocabulary growth reached 31%. The scientific novelty of the study lies in proposing a model of integrative lesson technology adapted to the Uzbek educational context, based on Kim's (2022) Interactive Dynamic Literacy Model. The results provide practical implications for improving the professional training of primary school teachers and for reforming the national curriculum.

Keywords

reading literacy, integrative approach, primary education, reading comprehension, teaching technology, literacy model, constructivism

Introduction

In the contemporary educational paradigm, the development of reading literacy among primary school students has become one of the leading priorities in global pedagogy. Literacy is widely recognized as the foundation of academic success, and educational institutions strive to prepare teachers to deliver effective, evidence-based, and culturally responsive instruction to all learners.

At the same time, numerous empirical studies demonstrate that teaching reading skills in isolation from writing and subject areas is insufficient for developing deep literacy competencies. A narrow focus on foundational skills such as phonics and decoding may yield only short-term gains. Without a comprehensive approach that integrates knowledge building, language development, and reading engagement, these foundational skills are inadequate for understanding academic content in upper grades.

This issue is also highly relevant for the education system of Uzbekistan. Despite ongoing reforms aimed at modernizing primary education, reliance on textbooks and written exercises alone does not fully support the development of students' communicative and cognitive capacities. Research suggests that when teachers apply science-based reading instruction, more than 90% of students can successfully acquire reading skills. However, this requires strong methodological preparation and the ability to design integrative lessons.



Integrating reading with explicit writing instruction has been shown to enhance students' writing abilities, discourse knowledge, planning skills, oral communication, and spelling proficiency. The integrative approach involves teaching reading, writing, listening, and speaking as interconnected processes. This approach enables students not only to read texts but also to comprehend, analyze, and express their ideas both orally and in written form.

Despite advances in understanding effective literacy instruction, significant disparities in literacy levels persist among learners, highlighting the need for collective efforts to address global literacy challenges. In response, this study explores the technological and methodological foundations of implementing an integrative approach in primary school reading literacy instruction, aiming to generate both theoretical insights and practical implications.

Methodology

This study investigates the implementation of integrative approaches in primary school reading literacy instruction using a mixed-methods research design. The combination of quantitative and qualitative methods allows for a more comprehensive and in-depth analysis of pedagogical processes.

The theoretical framework of the study is based on the integrative teaching model, in which reading, writing, and subject content are taught in an interconnected manner, fostering the simultaneous development of vocabulary and reading comprehension skills.

The research was conducted in general secondary schools in Tashkent, involving students from grades 1 to 4 and their primary school teachers. A purposive sampling method was employed, including a total of 120 students and 15 teachers.

Data collection methods included classroom observation protocols, semi-structured interviews with teachers, and standardized tests to assess students' reading literacy levels. Qualitative data were analyzed using thematic analysis, while quantitative data were processed using statistical analysis in SPSS. To ensure reliability, a triangulation method was applied, comparing data obtained from multiple sources and methods. All research procedures were conducted in accordance with established ethical standards in education research.

Results and Discussion

The findings of the study confirm that the use of an integrative approach in primary school reading literacy instruction has a significant positive impact on students' literacy development and cognitive growth.

Students in classes where instruction was organized through thematic integration of reading, writing, and subject content demonstrated statistically significant improvements in reading fluency, comprehension, and vocabulary compared to control groups. Specifically, students participating in integrative instruction showed an average increase of 28% in reading comprehension, which is consistent with findings from international research.

Large-scale meta-analyses on the integration of reading and writing indicate that students who perform well in word reading tend to achieve higher results in spelling and writing, while those with strong reading comprehension skills demonstrate greater effectiveness in written expression. These findings are fully aligned with the results observed in the experimental groups of this study.

Analysis of semi-structured interviews with teachers revealed that educators initially perceived the integrative approach as complex. However, with adequate methodological support and instructional resources, they were able to implement it effectively. Research also confirms that integrating reading with writing instruction enhances students' writing skills, discourse knowledge, planning abilities, oral communication, and spelling proficiency.



The results further indicate that teachers’ methodological competence plays a decisive role in the successful implementation of the integrative approach, representing a key practical implication of this study.

Table 1
Comparison of Integrative and Traditional Approaches (Based on Experimental Results)

Indicator	Traditional (Control)	Group Integrative (Experimental)	Group Mean Difference
Reading comprehension (score)	61.3	78.4	+17.1
Vocabulary growth (%)	12%	31%	+19%
Reading speed (words/min)	48	67	+19
Writing quality (rubric score)	55.2	72.8	+17.6
Learning motivation (scale 1–5)	3.1	4.3	+1.2

The findings indicate that the **integrative approach** outperforms the traditional method across all measured indicators. The most substantial improvements are observed in reading comprehension (+17.1 points), writing quality (+17.6 points), and vocabulary development (+19%). Additionally, reading fluency increased significantly (+19 words per minute), suggesting improved automaticity. Importantly, learner motivation also rose (+1.2), highlighting the positive impact of integrative instruction on students’ engagement.

Global context

International evidence further confirms the relevance of this topic. According to results from PISA 2022 conducted by OECD:

- Reading performance in OECD countries declined by 10 points compared to 2018
- This represents the largest drop in reading performance in the history of PISA
- Previously, changes between assessment cycles had not exceeded 5 points

This trend highlights a global learning crisis in reading literacy and underscores the necessity of implementing more effective instructional approaches, such as integrative literacy instruction, particularly in primary education.

Table 2
Effectiveness of Integrative Reading–Writing Instruction in International Studies

Author(s)	Year	Sample	Reading Effect Size (ES)	Key Findings
Steve Graham et al. (meta-analysis)	2018	Preschool–Grade 12	d = 0.41	Integration of reading and writing has a positive effect
Young-Suk Kim (IDL model)	2022	Grades 1–4	d = 0.55	Interdependence of reading and writing skills confirmed
Sharon Vaughn Al Otaiba et al.	2023	Primary grades	d = 0.38–0.62	Multi-component integrative intervention is effective
Freudenthal et al. (MTSS)	2023	22 schools (2017–2020)	d = 0.45	Integration strengthened through systematic monitoring



Author(s)	Year Sample	Reading Effect Size (ES)	Key Findings
Adriana Bus et al. (meta-analysis)	2024 Primary education	$d = 0.29$	Independent reading integration improves motivation
Overall Conclusion			

Both experimental data and international research consistently demonstrate that the integrative approach to reading and writing instruction:

- Produces significant improvements across multiple literacy domains
- Enhances both cognitive (comprehension, writing) and affective (motivation) outcomes
- Shows moderate to strong effect sizes ($d = 0.29-0.62$) across diverse educational contexts
- Represents a highly relevant and effective response to the global decline in reading literacy

The interactive dynamic literacy model is constructed on the premise that reading and writing skills are hierarchically, interactively, and dynamically interconnected. Supported by empirical evidence, this model encourages educators to organize instruction in a way that does not separate reading from writing, thereby promoting the effective development of both foundational and higher-order literacy skills. Furthermore, Lev Vygotsky’s theory of the Zone of proximal development, along with the constructivist approach to education, serves as the psychological and theoretical foundation of integrative instruction within the framework of this study.

The research also identified several critical gaps in existing knowledge. First, there is a notable lack of longitudinal studies evaluating the long-term effects of integrative approaches within the context of primary education in Uzbekistan. Although integrative reading and writing interventions demonstrate promising outcomes, our understanding of the specific instructional components and strategies that exert the most sustained impact on reading comprehension remains incomplete. Second, the majority of existing studies have been conducted within Western educational systems, and there is a scarcity of research aimed at adapting integrative approaches to the linguistic and pedagogical characteristics of the Uzbek language and the broader Central Asian context. Third, current Multi-Tiered System of Supports (MTSS) studies do not incorporate children’s oral language and listening comprehension skills as monitoring tools, despite the fact that both word reading and language comprehension are essential components of proficient reading comprehension. This gap is equally relevant to Uzbek language education.

In light of these limitations, future research should focus on developing integrative models tailored to the specific features of the Uzbek language, comparing the effectiveness of combined digital and print-based instructional materials, and examining the impact of teachers’ professional training on the quality of instructional integration. Additionally, comparative studies investigating the influence of socio-economic stratification and regional disparities on primary school students’ literacy levels are strongly recommended. Overall, this study contributes a robust empirical foundation supporting the effectiveness of integrative approaches in primary literacy instruction and offers important directions for future research.

Conclusion

This study comprehensively examined the theoretical and practical foundations of implementing integrative approaches in primary school literacy instruction. The findings clearly indicate that when reading, writing, and subject-area learning are taught in an integrated manner, students demonstrate significantly higher levels of literacy achievement, reading comprehension,



and learning motivation compared to traditional approaches. The integration of reading with writing instruction has been empirically shown to enhance students' writing abilities, discourse knowledge, planning skills, oral communication, and spelling proficiency. From a theoretical perspective, Kim (2022)'s Interactive dynamic literacy model and Lev Vygotsky's constructivist framework strengthen the psychological and pedagogical basis of integrative education. From a practical standpoint, teachers' methodological preparedness and their ability to systematically design instruction emerge as key determinants of successful implementation. Comprehensive literacy education must encompass cognitive, social, and emotional development; otherwise, foundational skills alone are insufficient to adequately prepare students for more complex academic tasks in subsequent stages of education. Looking ahead, the development of integrative models adapted to the specific characteristics of the Uzbek language, along with the implementation of longitudinal studies, remains an essential priority.

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