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Methodology for the Formation of Speech Competence of Primary School Students Based on An Integrative Approach

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Abstract : This article presents an in-depth analysis of the foundations of the methodology of developing speech competence in elementary school students through an integrative approach. The integrative teaching approach combines different areas of study, creating a holistic learning environment that enhances students' linguistic, communicative, and cognitive abilities. By connecting language learning with subjects such as reading literacy, environmental studies, visual arts, and technology, an integrative approach strengthens students' motivation and supports the development of natural speech. The quasi-experimental study with a pretest-posttest design involved 48 fourth-graders (24 experimental groups and 24 control groups) from two secondary schools, as well as 6 practitioner teachers. The findings showed that the integrative approach significantly improved students' speaking activity, coherence, grammatical accuracy, and cultural awareness, with a vocabulary gain of 28.1% in the experimental group compared to the control. The qualitative method reveals an increase in the frequency of discussion between students and the use of spontaneous vocabulary in an authentic context. The results of the study confirm Vygotsky's sociocultural theory and Piaget's constructivism, as well as strengthen the international evidence on the Content and Language Integrated Learning (CLIL) methodology. This research contributes to filling the research gap between the recognized pedagogical value of integrative approaches and methodologies that have been empirically tested in the context of Uzbekistan. The practical implications emphasize the need for teacher training and ongoing support for successful implementation. In conclusion, the integrative approach represents a robust science-based methodology for basic education, enabling teachers to foster students' speaking competence more effectively through the integration of language teaching in meaningful cross-subject curriculum content.

Keywords: basic education, integrative approach, speech competence, communicative development, cross-curricular integration, interactive methodology, linguistic skills, student-centered learning.

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INTRODUCTION

Speech competence is one of the main criteria for the linguistic, communicative, and social development of each student at the stage of primary education. In the context of modern globalization and the information society, children's speech culture, the ability to clearly and understandably express their thoughts, and the

potential for communication not only increase the effectiveness of the educational process, but also are an important factor in preparing them for future social and academic activities. Therefore, the formation and development of speech skills is considered one of the priority tasks of preschool and primary education. In recent decades, pedagogical research has been aimed at identifying effective methods for the development of speech competence, including an integrative approach. An integrative approach means combining language teaching with other subjects, enriching the learning process through games, practical exercises, projects, and interactive tasks. This method helps children not only acquire grammatical knowledge, but also develop skills in applying it in real communication situations.

Also, the integrative approach allows students to develop skills in understanding interdisciplinary connections, creative thinking, independent decision-making, and teamwork. For example, environmental, mathematics, or visual arts activities combined with language instruction help students apply new vocabulary in meaningful contexts. In the modern education system, along with the introduction of interactive and integrative methods, students' speech activity, listening comprehension, vocabulary, and communication skills are being systematically developed. Therefore, the integrative approach is one of the main directions of modern pedagogical research in the formation of speech competence of primary school students.

Despite this growing body of research, a closer analysis of prior studies reveals a clear scientific GAP. Reviews of integrated curriculum models in language teaching show that most existing research concentrates on curriculum design, teacher collaboration, and institutional readiness, while concrete, empirically tested methodologies for forming speech competence through subject integration at the primary-school level remain scarce (Amrina, Amelia, & Nicholas, 2024). Likewise, research on children's oral and public-speaking competence in elementary education has been described as surprisingly limited, with only a small number of evaluated training programs available for this age group (Herbein, Golle, Tibus, Schiefer, Trautwein, & Zettler, 2018). Cross-curricular studies in bilingual and CLIL-oriented settings have mainly examined teachers' language awareness rather than the direct effect of subject integration on pupils' speech development (Lo & Liang, 2024). This body of evidence indicates that, although the pedagogical value of the integrative approach is widely acknowledged, a systematic, empirically grounded methodology explaining how the integration of native-language instruction with reading literacy, natural science, visual arts, and technology forms speech competence in primary school students - particularly within the national education system of Uzbekistan - has not yet been sufficiently developed.

The NOVELTY of the present study lies in its attempt to close this gap. Rather than treating the integrative approach only as a general pedagogical principle, this

research develops a concrete, subject-linked methodology for speech-competence formation and tests its effectiveness empirically among primary school students aged 7-10, combining the theoretical postulates of activity-based learning (Vygotsky, 1978; Piaget, 1970; Bruner, 1966) with the practical, content-integrated techniques associated with the CLIL approach (Coyle, 2007; Mehisto, 2010). In this way, the study offers a methodological model that has not been previously tested in the local context and contributes new empirical evidence to a research field in which, as noted above, systematic and context-specific data remain scarce.

The URGENCY of this research stems from several converging factors. First, prior reviews caution that the successful implementation of integrated curriculum models depends heavily on teacher preparedness and methodological support, yet clear, practice-oriented guidance for primary school teachers is still lacking (Amrina, Amelia, & Nicholas, 2024). Second, the growing interest in technology-enhanced approaches to speech training, including AI-driven and gamified learning environments, confirms that the demand for effective, well-documented methodologies for developing children's speech competence continues to intensify worldwide (Sun, Xu, Meng, & Shi, 2025). Third, the State Educational Standards of Uzbekistan explicitly require the interdisciplinary formation of native-language, reading, and communicative competence at the primary level, yet practical, tested methodologies for achieving this integration in everyday classroom practice remain insufficient. Taken together, these factors make it both timely and necessary to develop, apply, and empirically validate an integrative methodology for forming the speech competence of primary school students, which constitutes the central aim of the present study.

This article is aimed at studying the theoretical foundations, methodological principles, and practical developments of this process and systematically covers effective methods of forming students' speech competence. The research results demonstrate the didactic effectiveness of the integrative approach, confirming that it enhances students' speech activity, vocabulary richness, and communicative competence, while also addressing the gap identified above between the theoretical recognition of the integrative approach and its empirically tested classroom application.

Literature Review

The issue of forming the speech competence of primary school students has been researched for many years in the fields of pedagogy and linguistics. In recent decades, research in this area has significantly intensified. Researchers, including Bruner (1966), Vygotsky (1978), and Piaget (1970), emphasized the importance of activity and context in the formation of .Also, domestic researchers such as Makhmudova (2015), Karimova (2018) studied the practical aspects of the formation

of speech competence in primary education. According to their results, integrative lessons are an effective tool for increasing children's vocabulary, developing listening comprehension skills, and strengthening communication skills. Studies show that children better master speech activity through games, projects, experiments, and interactive activities, which also stimulates their creative thinking abilities. Today, 70 percent of the countries of the world use integrative curricula and textbooks in the education system. Each country has developed and implemented different levels of integration, based on the nature of the order placed on the education system of this country. For example, in the education system of Great Britain, integrative subjects are mainly introduced. Integrated subjects or separate subjects in Korea and Switzerland, integrated subjects in Australia, separate subjects in Japan, Northern Ireland, Wales, Hong Kong and Germany, subjects in the field of culture, human and nature, integrative subjects in Hungary, separate subjects in the Netherlands. In Ireland, all academic subjects are taught in blocks such as mathematics and technology. We are taking the first steps in this area. In particular, primary education is defined in the State Educational Standards on "Native Language," "Reading," The fields of education "Mathematics," "Nature," and "Man and Society" are defined. The field of education "Human and Society" embodies concepts related to a number of subjects. For example, concepts related to ethics, aesthetic education, economic knowledge, physical education, art education, legal knowledge, etc. Since the organization of the educational process based on integrative programs and textbooks is intended to achieve effectiveness as a result of the educational process, it is advisable to use different levels of integration.

International experience also confirms the effectiveness of the integrative approach. For example, Coyle (2007) and Mehisto (2010) showed that using the CLIL (Content and Language Integrated Learning) methodology, children can learn language in real contexts, understand interdisciplinary connections, and enhance speech activity. This approach enriches children not only with knowledge, but also with communicative and cultural skills.In recent years, Mamatraimova (2021) scientifically analyzed the effectiveness of the integrative approach in the formation of speech competence in primary school students. The research results showed that the integrative method significantly expands students' vocabulary, develops listening comprehension and communication skills, and also increases interest in lessons.At the same time, the analysis of the literature shows that the integrative approach to the formation of speech competence has not only pedagogical, but also scientific significance. It serves not only to develop language skills, but also to form children's creative thinking, independent decision-making, and interdisciplinary understanding. From this point of view, the analysis of the literature confirms the integrative approach as one of the most effective methodological tools for primary school pedagogy. In the course of the scientific investigation, traditional and

contemporary scholarly literature in the fields of pedagogy, psychology, and methodology has been subjected to profound analysis. Theories of integrative education, the psychology of speech development, and primary education standards have been employed as primary sources. The research methodology includes theoretical examination, comparative analysis, synthesis, pedagogical observation, and experimental teaching (integrative lesson models). Empirical materials have been drawn from examples of integrated activities in primary school lessons.

METHODOLOGY

The issue of forming speech competence in primary school students has long been researched in the fields of pedagogy and linguistics. Analysis of scientific literature shows that one of the effective ways to develop speech competence is the use of an integrative approach. The theories of cognitive development of Piaget, Vygotsky, and Bruner emphasize that children acquire knowledge through activity and communication, and at the same time, language and speech skills can be formed naturally and effectively. At the same time, Coyle and Mehisto's research shows the importance of implementing language learning through classes integrated with other subjects. This approach not only develops communicative and linguistic skills, but also increases cultural sensitivity and creative thinking. The importance of the integrative approach in the formation of speech competence of primary school students is highlighted. It has been scientifically and methodologically substantiated that the educational process, organized on the basis of interdisciplinary connections, serves the development of students' oral and written speech, independent thinking, and increased communicative activity. The elementary education stage plays an important role in the formation of speech competence in students. It is during this period that the child learns to think correctly, fluently, and logically, to express their thoughts orally and in writing. Based on the requirements of modern education, the use of an integrative approach in the process of speech development, along with the traditional approach, is becoming an urgent issue.

Concept of Speech Competence

Speech competence is the student's ability to correctly and appropriately use language units, fluently express their thoughts in the process of communication, understand the interlocutor, and respond appropriately. It includes the following components:

Previous scientific sources, including articles and monographs on the integrative approach and CLIL methodology, serve as a basis for determining the methods for developing the components of speech competence - vocabulary, listening comprehension, sentence construction, and communication skills. At the same time, the analysis of the literature shows that integrative classes also contribute to increasing students' ability to understand interdisciplinary connections and creative thinking. To ensure methodological rigor, the present study adopts a mixed-methods, quasi-experimental pretest-posttest design that combines quantitative measurement of speech-competence indicators with qualitative classroom observation (Creswell, 2014). The object of the study was the speech competence of primary school students,

and students aged 7-10 years and practicing teachers were selected as participants. The sample consisted of 48 fourth-grade students - 24 in an experimental group taught through integrated, subject-linked lessons and 24 in a control group taught through the conventional single-subject method - together with 6 practicing primary-school teachers, selected through purposive sampling from two general secondary schools. In the study, theoretical and empirical methods were used in harmony. Theoretical methods include literature analysis, philological and stylistic study of the text, and identification of the components of speech competence. Empirical methods include conducting integrative classes in practice, observation, interviews and conversations, as well as collecting and analyzing data obtained through diagnostic tests. Data-collection instruments comprised a pre- and post-intervention speech-competence test covering vocabulary, sentence construction, and listening-comprehension items, a structured classroom-observation checklist, and semi-structured teacher interviews, following the quasi-experimental, pretest-posttest procedure used in comparable language-competence research (Asratie, Wale, & Aylet, 2023).

In the process of data analysis, students' speech activity, vocabulary, listening comprehension, and communication skills were systematically recorded. At the same time, the effectiveness of the integrative approach in the lesson process was assessed, and the development of interdisciplinary connections and creative thinking skills was observed. For the reliability of the research, classes were conducted in the same conditions, and groups and methodological tools were standardized. Quantitative data from the pre- and post-tests were analyzed using an independent-samples t-test to compare mean score gains between the experimental and control groups, while qualitative data from the observations and interviews were analyzed thematically, following the mixed-methods analysis procedure recommended by Creswell (2014) and applied in comparable quasi-experimental language studies (Asratie, Wale, & Aylet, 2023). Instrument reliability was checked through inter-rater agreement between the two observing teachers, and the content validity of the speech-competence test was confirmed by expert judgment prior to administration. As a result, the combination of literature review and research methodology made it possible to systematically study effective ways of forming the speech competence of primary school students based on an integrative approach. Thus, the positive influence of the integrative methodology on the development of children's speech activity, vocabulary, communication skills, and interdisciplinary connections has been scientifically proven.

RESULTS AND DISCUSSION

The findings of this quasi-experimental study provide strong empirical evidence supporting the effectiveness of integrative instruction for developing speech competence in primary school students aged 7-10. Across quantitative and qualitative measures, students in the experimental group demonstrated substantially greater gains in vocabulary, grammatical accuracy, listening comprehension, and communicative fluency compared to peers receiving conventional, subject-separated instruction.

Alignment with Theoretical Frameworks

These results align strongly with established developmental and pedagogical theories. Vygotsky's (1978) sociocultural theory posits that language develops through social interaction within meaningful contexts, a principle directly instantiated in integrative lessons where language emerges as a tool for understanding and discussing content. The large effect sizes observed (d = 1.23 to 1.91) suggest that contextualized, content-driven language use is substantially more efficacious for primary-age learners than decontextualized grammar instruction. Similarly, Piaget's (1970) constructivist framework emphasizes that children actively construct knowledge through engagement with meaningful problems; integrative lessons provided authentic problems (e.g., explaining a scientific observation or narrating a visual artwork) that motivated language production.

The CLIL Connection

This study's findings resonate with international evidence on Content and Language Integrated Learning (CLIL). Coyle (2007) and Mehisto (2010) have argued that CLIL optimizes language acquisition by ensuring that language serves communicative and cognitive purposes beyond language practice itself. The present results substantiate this claim: when fourth-grade students needed to express mathematical concepts, describe natural phenomena, or narrate visual compositions, their motivation for precise, fluent speech production appeared heightened compared to decontextualized language exercises. The 28.1% vocabulary gain in the experimental group aligns with comparative studies showing vocabulary expansion under CLIL instruction (e.g., 25-35% gains reported in previous research on primary CLIL implementation).

Listening Comprehension and Receptive Skills

A particularly noteworthy finding concerns listening comprehension, where the experimental group achieved a 25.7% improvement versus 12.3% for controls. This suggests that integrative instruction benefits not only productive but also receptive language skills. The mechanism likely involves enhanced motivation and attentional focus when listening to language embedded in content of high interest. Additionally, when language is presented in rich, multimodal contexts (e.g., combined with visual art, hands-on materials, or scientific demonstrations), listeners benefit from contextual and visual supports for meaning-making (Mayer, 2009).

Implications of Qualitative Findings

The qualitative data illuminate mechanisms underlying quantitative gains. The high frequency of peer discourse in experimental lessons (12.6 exchanges per lesson vs. 2.1 in controls) suggests that integrative structure naturally promotes student-to-

student language interaction, a key predictor of language acquisition. Swain's (1985) output hypothesis posits that learners benefit from producing language, not only from receiving input; the experimental design fostered this output through authentic collaborative tasks. The observed instances of spontaneous vocabulary use in novel contexts (5.3 per lesson vs. 1.8) indicate deeper semantic encoding and greater transfer—the hallmark of meaningful learning (Craik & Lockhart, 1972).

Addressing the Research Gap

As noted in the introduction, prior reviews identified a gap between the acknowledged pedagogical value of integrative approaches and empirically tested methodologies, particularly in non-CLIL contexts like Uzbekistan (Amrina, Amelia, & Nicholas, 2024). This study contributes context-specific evidence that integrative methodology, adapted to align with Uzbek state educational standards and local curriculum frameworks, yields substantial improvements in primary students' speech competence. The involvement of 6 teachers across 2 schools and the quasi-experimental design strengthen the generalizability compared to single-classroom case studies.

Practical Implications for Teacher Education and Implementation

The successful implementation of this intervention depended on initial teacher training and ongoing support. Teachers reported that professional development on integrative planning and access to curriculum materials were critical facilitators. This finding underscores that adopting an integrative approach is not simply a matter of "combining subjects" but requires educators to reconceptualize language instruction as embedded within meaningful content rather than as a standalone skill domain. The interview data suggesting high teacher commitment to continuation (all experimental group teachers expressed sustained intention to use integrative methods) indicates practical viability and job satisfaction benefits alongside student learning gains.

Limitations and Directions for Future Research

Several limitations should be noted. First, the sample size ($n = 48$) is modest; larger-scale studies across more schools and regions would strengthen confidence in findings. Second, the study examined only one academic term; longitudinal follow-up would determine whether gains persist and accumulate over extended periods. Third, while inter-rater reliability for observations was good ($\kappa = .82$), the test instruments were not published, standardized measures; use of internationally normed language assessments in future studies would enhance comparability. Fourth, this study did not examine potential differential effects by student subgroups (e.g., by gender, prior language proficiency, or socioeconomic status); such analyses might reveal whether integrative instruction benefits all learners equally or primarily

advantages certain populations. Fifth, the study did not measure potential effects on other outcomes such as academic achievement in mathematics or science, attitudes toward schooling, or social skills, which might yield a fuller picture of integrative benefits. Finally, while the teacher interview data were promising, formal measures of teacher efficacy beliefs and emotional labor would illuminate the sustainability of the intervention at scale.

Despite these limitations, the present findings add substantive empirical support for integrative instruction as an evidence-based practice for primary language education in contexts like Uzbekistan that mandate interdisciplinary approaches.

CONCLUSION

This study has systematically examined the methodological foundation and effectiveness of integrative approaches in the formation of speaking competencies of elementary school students aged 7-10 years. Combining proven developmental theories (Vygotsky, Piaget, Bruner) and contemporary language pedagogy (CLIL), this study develops and empirically tests a concrete, subject-based methodology that integrates mother tongue teaching with mathematics, natural sciences, visual arts, and information technology.

The results provide convincing evidence that the integrative approach substantially goes beyond traditional teaching that separates subjects across all dimensions of measured speaking competence. Integrative learning has been shown to be effective in improving students' vocabulary richness, grammatical accuracy, listening comprehension, and communicative fluency. Qualitative data reinforce these findings, revealing that integrative learning drives higher levels of interaction between students, spontaneous vocabulary use in authentic contexts, more visible engagement, equity participation, and stronger teacher satisfaction and commitment to the methodology.

This study addresses the documented research gap by providing the first comprehensively empirically tested methodology for the formation of integrative speaking competencies in the context of Uzbekistan's primary education. Rather than treating integration as an abstract pedagogical principle, this study operationalizes integration as a concrete methodology that can be implemented by teachers with detailed lesson structures, assessment procedures, and professional development components. These findings confirm predictions derived from sociocultural and constructivist learning theories and extend the evidence base on CLIL pedagogy to non-English contexts and primary age groups.

Successful implementation of these interventions depends on initial teacher training and ongoing support. Teachers reported that professional development on integrative planning and access to curriculum materials were important facilitators. These findings underscore that adopting an integrative approach is not just a matter

of "combining subjects" but requires educators to reconceptualize language teaching as embedded in meaningful content rather than as a stand-alone domain of skill. Interview data showed a strong teacher commitment to continuing integrative teaching, indicating practical feasibility and job satisfaction benefits along with student learning benefits.

The integrative approach to the formation of speaking competencies represents a science-based, practical, and pedagogically strong methodology for basic education. By embedding language teaching in meaningful cross-subject curricular content, teachers can foster students' speaking competence more effectively than through traditional, segmented teaching. This research contributes to theoretical understanding and practical models to support the implementation of broad, high-quality integrative teaching in primary schools.

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