

Integrating Content and Language Instruction in Multilingual Education: Insights from a CLIL-Based Teacher Training Program

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ARTICLE INFORMATION

Publication Information

Scientific article

HOW TO QUOTE

Tynybekovna, M. G., & Tashtanovna, O. N. (2025). Integrating content and language instruction in multilingual education: Insights from a CLIL-Based Teacher Training Program. *Asia-Pacific Journal of Management and Education*, 8 (3), 429-445.

DOI:

<https://doi.org/10.32535/apjme.v8i3.4102>

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Received: 17 September 2025

Accepted: 19 Oktober 2025

Published: 20 November 2025

ABSTRACT

This article substantiates the relevance of multilingual education in alignment with Kyrgyzstan's national development strategies, which emphasize preparing citizens proficient in multiple languages. The study examines the potential of the Content and Language Integrated Learning (CLIL) methodology as an effective approach to achieving these national objectives. The main purpose of this research is to explore the theoretical foundations and practical benefits of CLIL in a multilingual educational environment and to develop recommendations for training future teachers. An action research design was implemented in three cycles, each comprising planning, action, observation, and reflection stages. The participants were students from Jalal-Abad State University, and their language development was monitored throughout the study. The findings demonstrated a notable improvement in Russian language proficiency following the implementation of CLIL and extracurricular language activities: the proportion of students achieving level B1 increased by 14%, and level A1 by 19%. The third measurement confirmed that 38.4% of students reached level A2 and 50% level A1. Overall, the CLIL methodology proved to be a promising and practical tool for improving linguistic, cognitive, and professional competencies, supporting the preparation of competitive specialists for multilingual and international educational contexts.

Keywords: CLIL; Language Proficiency; Multilingual Education; Teacher Training; Vocational Pedagogy

INTRODUCTION

Developing citizens' multilingual competence is one of the key strategic priorities of the Kyrgyz Republic, enshrined in the National Development Strategy, the Citizens of Identity Concept, and relevant state language policy programs. Multilingualism is seen as a prerequisite for the integration of young people into the global educational and professional space and a crucial resource for enhancing the country's competitiveness (Sivakumar & Vanitha, 2024). For future teachers, multilingualism is not only an individual advantage but also a professional requirement: primary school teachers in multilingual schools must confidently use the state (Kyrgyz), official (Russian), and, if possible, a foreign language as a means of instruction and communication.

Teaching methods should inspire students' enthusiasm for learning, especially in accordance with the requirements of the approved core curriculum for the specialty, which emphasizes active student participation in the educational process to ensure lifelong learning (Cai & Liu, 2022). The core curriculum is a key document that facilitates the development of students' professional competencies. However, experience shows that a significant portion of students continue to exhibit deficiencies in their communicative competence in Russian: limited use of the language outside the classroom, fear of making mistakes rather than engaging in real communication, and the predominance of traditional, primarily explanatory and illustrative methods. These observations are consistent with international research describing typical barriers to developing academic second-language proficiency in multilingual education contexts (Teemant & Pinnegar, 2019).

In Kyrgyzstan, consistent efforts are underway at the national level to implement multilingual education programs: concepts and programs have been developed, pilot organizations have been identified, and requirements for teacher training for multilingual schools have been approved. Orders from the Ministry of Education and Science of the Kyrgyz Republic are aimed at developing a contingent of teaching staff capable of implementing instruction in several languages within a single educational program. These measures are consistent with trends in other multilingual countries (Kazakhstan, EU countries, and Malaysia), where bilingual and multilingual education models, including those based on the Content and Language Integrated Learning (CLIL) method, are being actively promoted at the language policy level (Lap et al., 2025). Against this broader international background, the Kyrgyz Republic's strategic emphasis on multilingual personnel training, particularly the preparation of teachers fluent in the state, official, and foreign languages, highlights the urgent need for tools that can effectively integrate language and subject training.

Multilingual education gives students the opportunity to use second/third language skills, opens opportunities to learn the language to a wider audience, builds confidence in learners, and allows them to acquire language competence without adding extra time to the curriculum, which is particularly relevant for vocational education (Oliinyk et al., 2024). Yet, despite ongoing national initiatives and curriculum requirements, traditional approaches still treat Russian as an isolated subject rather than as a means of real communication and learning. This results in underdeveloped communicative skills and does not meet labor market demands for multilingual primary school teachers capable of working in diverse educational environments. In this context, the CLIL methodology becomes a promising tool for strengthening subject–language integration and supporting multilingual teacher preparation.

The main research gap lies in the lack of systematic practical experience and methodological recommendations for implementing CLIL at Jalal-Abad State University.

While the national policy framework is well-defined, concrete strategies for embedding CLIL in university teacher-training programs remain underdeveloped. Therefore, the aim of this study is to analyze the potential of CLIL in the multilingual educational environment of Jalal-Abad State University and to develop and test recommendations for its effective application in the training of future teachers.

In accordance with this goal, the study addresses several interrelated tasks. It begins by characterizing the normative, political, and theoretical context underlying the implementation of CLIL within the higher pedagogical education system of the Kyrgyz Republic. It then examines the design and execution of three cycles of action research that introduce CLIL elements into curricula and teaching practices. The study further evaluates the dynamics of Russian language proficiency among students in pilot multilingual groups, using the CEFR scale (A1–B1) as a benchmark throughout the research period. Finally, it aims to develop methodological recommendations to guide the effective use of CLIL in primary school teacher training programs.

LITERATURE REVIEW

The national strategic documents of the Kyrgyz Republic prioritize the development of the state language while simultaneously emphasizing the importance of preserving and developing multilingualism and proficiency in the official and foreign languages (Mambetaliev, 2023). The Concept of Civic Identity and the National Development Strategy affirm that multilingualism is a prerequisite for the integration of young people into global processes, the expansion of educational and professional opportunities, and the strengthening of civic identity (Jackson, 2022).

To advance these goals, the Ministry of Education and Science of the Kyrgyz Republic has designated universities and colleges to implement multilingual education programs, including within pedagogical specialties (Abdivalieva et al., 2024). These programs aim to train teachers capable of teaching in two or more languages and to use the multilingual educational environment as a resource for developing students' key competencies.

The theoretical foundation of the CLIL approach is rooted in J. Cummins's linguistic interdependence hypothesis and D. Coyle's 4C model (Bower et al., 2020). According to the linguistic interdependence hypothesis, cognitive and academic language skills developed in one language can be transferred to another language when learners are given sufficient time and motivation (Masyitha et al., 2021). This makes bilingual education potentially more effective than monolingual models. Within CLIL, the integration of four interrelated components: content, communication, cognition, and culture, supports the simultaneous development of subject knowledge, language skills, critical thinking, and intercultural competence. Despite the active promotion of multilingual education in Kyrgyzstan, empirical research on the application of CLIL in teacher training programs remains limited. Specific models of CLIL implementation in university disciplines, the longitudinal dynamics of students' language development, and the mechanisms of interaction between language and non-language courses within multilingual programs remain insufficiently explored (Priscilla et al., 2025).

Theoretical Foundations of CLIL

CLIL is defined as an educational approach in which subject content is taught in a non-native or second language, with the language functioning as a means of acquiring content rather than solely as an object of study (Graham et al., 2020). Theoretical underpinnings of CLIL include: the 4C model (content, communication, cognition, culture), which integrates language and subject matter to foster linguistic competence, cognitive development, and intercultural sensitivity (Bower et al., 2020); the distinction

between Basic Interpersonal Communicative Skills (BICS) and Cognitive Academic Language Proficiency (CALP) according to Cummins (2003), which helps differentiate between everyday and academic language and supports the purposeful development of the latter within CLIL; and concepts of translingualism and linguistic transfer, which highlight how students draw upon their full linguistic repertoire to solve academic tasks.

Bilingualism and its positive impact on students' linguistic and educational development Kyrgyzstan is home to representatives of more than 80 ethnic groups and nationalities. Kyrgyz is the state language, and Russian is the official language. Proficiency in both languages among all ethnic communities strengthens social integration and civic unity. Young people are expected to master both languages to avoid barriers in education and future employment (Oyewole et al., 2025). The demand for teachers proficient in several languages continues to grow due to labor market needs, the evolving educational paradigm, and the increasing emphasis on high-quality education and vocational training. These conditions make multilingual education a national priority.

The "Concept for the Development of Civil Identity of Kyrgyzstan is in the Kyrgyz Republic for the Period 2021–2026" affirms the need to develop and implement multilingual education that prepares citizens who are fluent in their native, state, official, and foreign languages. Strategic goals include: the development of the state language and the improvement of teaching methodology; encouraging citizens to master the state language; and preserving and expanding opportunities for multilingual education that support proficiency in state, native, and foreign languages.

In accordance with the order of the Ministry of Education and Science of the Kyrgyz Republic "On Universities Implementing Multilingual Education Programs in the Kyrgyz Republic," higher education institutions and secondary specialized colleges were selected to implement the Concept for the Development of Civic Identity (Osmonova et al., 2025). Organizational and methodological work was undertaken to introduce multilingual education programs and prepare students in pedagogical specialties to work in multilingual educational organizations. Monitoring of multilingual education programs is carried out by the Center for Innovative Technologies of the Republican Institute for Advanced Training and Retraining of Pedagogical Personnel.

The National Development Strategy of the Kyrgyz Republic for 2018–2040 also emphasizes that fundamental transformations in the education system will increase the use of international languages across societal sectors (Strelkovskii et al., 2020). Multilingualism is seen as a key factor enabling the younger generation to integrate into global development processes. Subject-language integrated learning is one of the most effective ways to establish interdisciplinary connections and prepare future specialists for multilingual professional communication.

CLIL combines the study of a foreign language with a subject area within a unified educational process. The core concepts are "language" and "integration." The additional (second) language is used as the medium of instruction, meaning CLIL is applied in groups where the instructional language is not the students' native language. Integration refers to the simultaneous teaching of content and language. CLIL is essential for implementing bilingual policies in settings where subjects are taught in Kyrgyz and Russian as part of an integrated program. Distinctions between "soft CLIL" (typically implemented by foreign language teachers who present subject-related material in a linguistic context) and "hard CLIL" (implemented by subject teachers responsible for teaching both content and academic language) define the scope of application. Hard CLIL demands thorough preparation and creativity from teachers. One of CLIL's

strengths is its flexibility; it can be introduced at any age and at any level of language proficiency (Artieda et al., 2020).

The advantages of CLIL include expanding intercultural knowledge, practicing communication in a natural language environment, and linking language use to real-life situations (Pozdnyakova, 2024). It strengthens critical thinking, creativity, curiosity, analytical skills, and overall student motivation and confidence. CLIL enhances language proficiency and promotes natural oral communication, fostering interest in multiple languages and their use in various contexts. Importantly, it does not require additional instructional hours; instead, language becomes a means of learning content rather than an end in itself. CLIL enables students to acquire subject knowledge alongside linguistic and communicative skills within the same educational context. It supports comprehension of subject matter while simultaneously developing language as a tool for communication and learning.

This approach encourages students to use language naturally, helping them refine communication skills in both the second and native languages. Consequently, approaches to teaching Russian as a foreign language require revision, as traditional methods that treat language as an isolated academic subject rather than a communicative tool are increasingly obsolete and ineffective. From the outset, language should be taught as a functional means of communication rather than an abstract system. Only then will the vocabulary and structures students learn be applied meaningfully in real communication.

CLIL is an innovative pedagogical approach that integrates subject content and foreign language instruction. Its growing popularity in higher education institutions reflects its capacity to deliver subject knowledge while simultaneously developing language skills. CLIL offers numerous advantages to students in pedagogical programs at the secondary vocational and higher education levels, especially in multilingual environments.

CLIL Experience in Higher Education

Research on CLIL in universities shows that integrating language and content improves language proficiency, increases motivation, and enhances academic literacy without weakening subject mastery (Somers & Llinares, 2021). Evidence from various institutions indicates that CLIL can be successfully implemented across disciplines, from engineering to pedagogy, provided that teachers receive adequate training and that materials are appropriately adapted for students (Ball, 2018). In multilingual Asian contexts such as Kazakhstan, Malaysia, and Indonesia, CLIL is viewed as a key mechanism for implementing language policies that promote the simultaneous development of national and international languages. These studies highlight both the pedagogical benefits of CLIL and serious challenges, including shortages of trained teachers, high cognitive load for students, and the need for substantial institutional support (Berdiyevna, 2025).

Limitations and Challenges of CLIL

Despite its advantages, the literature identifies several limitations of CLIL: unequal opportunities for students with varying initial levels of language proficiency; risks of overload for both students and teachers; the need to develop subject teachers' language awareness (Banegas & Arrelano, 2024); and the lack of sustainable preparatory models for CLIL educators. Given these challenges, CLIL implementation in Kyrgyzstan requires a gradual, reflective approach that combines theoretical grounding, high-quality teacher training, and systematic empirical monitoring.

RESEARCH METHOD

Study Design

This study was conducted in the format of group action research, which made it possible to combine the improvement of teaching practices with the systematic collection and analysis of data. The research design included three cycles (I–III), and each cycle followed a recurring sequence of stages. It began with planning, which involved selecting disciplines and modules for the implementation of CLIL and developing the necessary materials and diagnostic tools. This was followed by the action stage, during which CLIL elements were introduced into classes and extracurricular activities. The next stage, observation, focused on gathering quantitative and qualitative data to monitor student progress and document the outcomes of the interventions. The cycle concluded with reflection, where the changes achieved were analyzed and the findings were used to refine and adjust the steps for the subsequent cycle.

Context and Participants

The study was carried out at Jalal-Abad State University, named after B. Osmonov, in pilot multilingual groups of the pedagogical faculty that implement programs for training future primary school teachers. At the initial diagnostic stage, the research involved 21 first- and second-year students, while the final stage included 26 participants, consisting of 22 Kyrgyz-speaking, 3 Uzbek-speaking, and 1 Turkish-speaking students. Within the program, some courses were delivered primarily in Kyrgyz, others incorporated partial immersion in Russian, and several modules were conducted with full immersion in Russian as the language of instruction.

Tools and Procedures

To assess students' levels of Russian-language proficiency, diagnostic tests were administered based on the CEFR scale (A1–B1). These tests included a subtest on vocabulary and grammar consisting of fifty tasks worth one point each, as well as reading, writing, and listening tasks evaluated at two points per item. Oral speech was also assessed through both monologic and dialogic responses. Testing was conducted at the beginning and end of each semester, which made it possible to monitor the dynamics of language development across the three cycles of the study. In addition to these assessments, observation maps were used to document students' participation in CLIL classes and extracurricular activities. Surveys and reflective essays captured students' perceptions of multilingual education, while analytical reports prepared by teachers provided insights into the challenges encountered and the successful practices identified during the implementation of CLIL.

Data Analysis

Quantitative data were analyzed using descriptive statistics: the proportions of students achieving levels A1, A2, and B1 at each stage were calculated, along with the relative changes between the measurements. Qualitative data, including observations, open-ended responses, and reflective notes, were thematically coded to identify categories related to motivation, perceptions of CLIL, and self-assessed language progress.

This study employed an action research approach in the form of a group study, representing a systematic and collaborative process conducted by participants. In this approach, the teacher also acts as a researcher, taking an active part in planning, implementing, and evaluating specific classroom interventions aimed at improving learning conditions. The research proceeded in three cycles, each of which followed the sequence of planning, action, observation, and reflection.

The study involved first- and second-year students from the Faculty of Education, whose

language skills were monitored according to the approved schedule at both the beginning and end of each semester. The selection of Russian as the target language reflected its significant role as a language of interethnic communication and as a key means of global integration. Additionally, the growing demand from parents and students for Russian language proficiency, linked to expanding career opportunities in a multicultural environment, was taken into consideration.

The survey results were used to characterize each aspect of students' abilities in the subjects studied, and these findings are discussed in detail in the discussion section. The diagnostic instruments were administered to the groups at designated intervals and practiced during several lessons. After the tests were completed, the results were collected, verified, and analyzed. Performance data were obtained from assessments conducted during all three research cycles (Cycles I, II, and III). These diagnostic tests were designed to establish students' initial level of language proficiency and to measure their progress throughout the course.

As part of the study, a Multilingualism Week was also organized to promote and evaluate students' participation in multilingual practices. Activities included master classes for teachers on multilingual education, a student essay competition titled "Multilingualism: The Path to Peace", a roundtable discussion with teachers from multilingual schools in the city, open classes in experimental groups, and, in celebration of World Book Day, a Bilingual Poetry Day and an expressive reading event entitled "The Culture of the Peoples of Multinational Kyrgyzstan." The second measurement of language competence was conducted through diagnostic testing among students from pilot national groups who were exposed to partial immersion in a foreign-language environment.

RESULTS

Development of Language Competence

Table 1. Dynamics of Russian Language Proficiency Levels Among Students in Pilot Groups

Level	Diagnostics 1: beginning of the cycle, %	Diagnostics 2: end of cycle, %	Diagnostic 3: end of cycle, %
A1	Below A1 -96	19	50.0
A2	0	17	38.4
B1	4	9	11.6

Analysis of the diagnostic testing results in [Table 1](#) revealed positive dynamics in the Russian language proficiency levels of students in the pilot groups. During the first two cycles, the proportion of students reaching level B1 increased by 11.6 percent compared to the baseline measurement. At the same time, the number of learners achieving level A1 rose by 19 percent, demonstrating that a broader group of students had begun engaging in a more stable and sustainable trajectory of language development. The third measurement further indicated that 38.4 percent of the participants had attained level A2, while 50 percent had reached level A1. In the initial phase, 21 students took part in the testing, and by the final stage, the number had increased to 26 due to changes in the student cohort.

The dynamics indicate that the consistent implementation of CLIL, combined with well-thought-out extracurricular language practice (multilingualism week, essay competitions, bilingual poetry events, meetings with teachers of multilingual schools), contributes to a gradual but sustainable improvement in students' communicative competence in Russian.

Building Institutional Capacity

The institutional strengthening undertaken during the research cycles played a central role in supporting the implementation of CLIL. The curricula of the primary school teacher-training programs were revised to include modules on multilingual education and CLIL, while the content of disciplines within both the psychological-pedagogical block and the language-training component was updated with an emphasis on integrating content and language. Teacher preparation was further enhanced through CLIL-focused professional development courses that addressed the formulation of learning objectives, the development of language-content tasks, the use of scaffolding, and approaches to assessment in CLIL, drawing on recommendations such as those outlined by [Fernández-Costales and Lasagabaster \(2025\)](#). In parallel, student teaching practice was expanded to multilingual schools across the city, providing future teachers with opportunities to observe and experience CLIL elements in authentic educational environments. Collectively, these measures created the basis for the sustainable implementation of CLIL that extends beyond the scope of a single research project.

Jalal-Abad State University implements higher and secondary specialized professional multilingual education programs in the field of pedagogy. New educational programs have been developed to train primary school teachers with both universal and professional competencies, enabling them to address pedagogical challenges in the education and upbringing of primary school students in a multicultural and multilingual environment. These programs provide training in both Kyrgyz and Russian, supporting the university's broader commitment to preparing teachers capable of functioning confidently in multilingual educational contexts.

To ensure the successful adoption of the CLIL approach, teachers from the university and college pilot groups completed professional development courses organized by the Republican Institute for Advanced Training and Retraining of Pedagogical Personnel. The program consisted of four modules covering fundamental aspects of CLIL: an introduction to the approach, the formulation of learning goals from the student's perspective, the definition of expected outcomes, scaffolding strategies and their applications, STEM criteria, route planning, evaluative reading, the use of interactive organizers, and the practical application of CLIL methodology in the classroom.

In accordance with the current State Educational Standard for Higher Professional Education in Pedagogy, the curricula for students in the pilot groups were revised to reflect updated requirements for preparing teachers capable of working in multilingual educational institutions. Both the psychological-pedagogical component and the language-training component were adjusted and modernized to align with the competencies required in multilingual learning environments.

To strengthen their practical skills and gain real-world experience, students also complete internships at multilingual schools in the city, where they can directly observe and apply CLIL strategies within actual classroom settings.

DISCUSSION

Relationship with Theoretical Models

The findings of the study align closely with the theoretical foundations that inform multilingual and content-integrated instruction. In particular, they reinforce the central principles of [Cummins's \(2003\)](#) theory of linguistic interdependence, which argues that the development of academic linguistic competence in a second language, such as

Russian, can be effectively supported by drawing on learners' existing knowledge and skills in their native language. The results demonstrate that when language is systematically integrated into subject-based learning, students benefit from meaningful opportunities to transfer and strengthen academic skills across languages (Teemant & Pinnegar, 2019).

The introduction of CLIL modules across psychology, pedagogy, computer science, and multilingual education further enabled students to employ both their native and second languages in parallel. This dual-language engagement not only facilitated cross-linguistic transfer but also enriched the learning experience by reinforcing conceptual understanding through multiple linguistic channels.

Moreover, the findings are consistent with D. Coyle's 4C model, which emphasizes the interconnected development of Content, Communication, Cognition, and Culture. In this study, CLIL proved to be a dynamic approach that did not merely support content mastery and linguistic competence; it also broadened students' cognitive perspectives while deepening their intercultural sensitivity. This was achieved through the structured and continuous use of various languages and cultural references within the learning process (Bower et al., 2020).

Together, these theoretical connections highlight that CLIL, when thoughtfully integrated into multilingual higher education, creates a robust platform for academic, linguistic, and intercultural growth, reaffirming its relevance and potential within the Kyrgyz educational context.

General Advantages of CLIL in Teacher Education

A Deeper Understanding of the Subject

Studying pedagogical subjects in a second, non-native language promotes a deeper understanding of the material, as students are forced to analyze information from a different perspective and translate it into another language. For example, when studying something in a non-native language, students are forced not only to absorb the information but also to understand the meaning, content, and significance of the new information. To translate and understand it correctly, they must break complex texts into smaller parts. Various electronic dictionaries or translation systems can be used for this purpose. This requires analyzing the material from a different perspective. Translating new terms from one's native language to another is not simply a mechanical process, but a process of synthesis and analysis, during which students strive to find the most accurate translation, which requires a deep and accurate understanding of the term. This helps reinforce the learned material and makes it more useful. The systematic process of translation, comparison, analysis, and synthesis develops students' critical thinking skills, teaches them to identify key ideas, evaluate them, and clearly and accurately articulate their thoughts and ideas. This is especially important for Students, future teachers, and specialists in multilingual education, who must adapt to any complex multilingual environment. Studying teacher education subjects in a second language is a powerful tool for developing the professional competencies of future multilingual educators (Tuimebayeva et al., 2024).

Development of Language Skills

CLIL promotes natural and motivated learning of a second non-native language, as students use it to gain knowledge in their field. According to the CLIL method, the content of each subject in the approved curriculum is taught in two languages (the native and the second non-native language). This creates a strong motivation to learn and acquire the knowledge necessary for their future profession. Initially, all new terms are learned using scaffolding in real-life, practical situations. Students actively participate in discussions in

each lesson, using their native and second non-native languages. They learn to formulate their thoughts. Students also prepare reports on their topic in the second language; they are required not only to assimilate the material but also to present it effectively. This develops students' public speaking skills and helps them memorize professional vocabulary (Pusung et al., 2020). Thus, the integrated language learning method is believed to make language learning natural and purposeful. A foreign language is becoming an effective tool for teaching academic disciplines and achieving required learning outcomes, which significantly improves the effectiveness of learning and the development of professional competencies in students (Valuevati & Riandy, 2025).

Development of Cognitive Skills

Learning complex pedagogical concepts in a foreign language promotes the development of critical thinking, analytical, and problem-solving skills (Nykyorets et al., 2023). Students are challenged not only to memorize information but also to analyze it. They become familiar with new, unfamiliar terms and cultures. Various teaching strategies and learning technologies can be used for this purpose.

When studying an established curriculum in a second, non-native language, students must not only memorize new information but also analyze it. A second, non-native language forces students to break down complex ideas. To grasp the essence of a concept, students must analyze its components, identify cause-and-effect relationships, and build a logical chain. Teachers using scaffolding must understand how to support students, when to remove it, and why it is important to them. When linguistic and semantic problems arise, it is important to understand how to translate complex terms without losing meaning and how to explain pedagogical theory using a limited vocabulary. This develops the ability to quickly find solutions and adapt to new conditions. As a result, students become more flexible and versatile professionals who think outside the box and effectively solve professional problems.

Increasing Motivation for Learning

CLIL makes learning more engaging and varied, as students see the practical application of their language knowledge. Language learning is not just a boring activity; it is also key to a future career. Traditional approaches to language learning often focus on the language itself: grammar, vocabulary, phonetics, syntax, spelling, etc., but students may overlook how this knowledge will help them in everyday life. In the CLIL method, which integrates language with language, language is a tool for acquiring new, accessible knowledge in the chosen field (Zakharevych, 2025). For example, verbs in the subjects taught are used to describe pedagogical methods and presentations. For example, when studying "Pedagogy in a Second Language," students immediately see that this knowledge will be useful in their future profession. This creates strong intrinsic motivation and interest, as they understand that every foreign word they learn or grammar rule they master will be useful in their future professional practice. Students experience joy and satisfaction when mastering a new topic in a foreign language, when their language skills help them solve complex professional problems, which motivates them to develop themselves and pursue further education. Thus, the CLIL method makes language learning interesting, engaging, and effective, bringing them closer to their professional goals with every step.

Formation of Intercultural Competence

Studying pedagogy in the context of another culture fosters tolerance, respect for other cultures, and the ability to work in a multicultural environment. When studying subjects in a foreign language, students are exposed to educational systems and methods that differ from other countries. By comparing and analyzing different approaches to

education in different countries, it can be concluded that there are many effective approaches to learning. Learning about another culture occurs through language and subject matter. Various videos, online tools, and search engines can be used. This helps students overcome existing stereotypes and develop a deep and respectful attitude towards others. Modern globalization leads to working in teams representing different cultures. Studying pedagogical disciplines in the context of multilingual education allows for interaction with people, taking into account their cultural characteristics, and finding common ground with them, making students more flexible and competitive professionals. Using the CLIL methodology in the educational process helps students become professional teachers and develop tolerant specialists ready to work in the modern world (Zakharevych, 2025).

The Advantages of CLIL in Individual Subjects

The CLIL across individual subjects demonstrates several pedagogical advantages, particularly when reading and writing are taught as connected rather than isolated skills. Approaching literacy in an integrated manner encourages students not only to comprehend texts but also to engage in critical analysis that supports clearer and more purposeful written expression. When implemented bilingually, such approaches enable learners to compare methodologies, draw from both Kyrgyz and international experiences, and benefit from differentiated instruction that considers individual needs. This combination of integrated and personalized learning supports both group collaboration and individualized progress, contributing to more inclusive literacy development.

The use of two languages in the study of psychology fosters a deeper and more culturally grounded understanding of child and adolescent development. Exposure to theories and research frameworks from different linguistic and cultural contexts, such as those of Kyrgyzstan and Russia, encourages students to evaluate how cultural factors shape psychological concepts (Shiraev & Levy, 2024). By analyzing constructs like self-esteem, achievement, and family values across cultures, students expand their cognitive flexibility and develop a more comprehensive understanding of personality development. This bilingual engagement not only broadens their academic perspective but also equips them with intercultural competencies essential for working in diverse professional environments.

A similar enrichment occurs in the study of pedagogy, where bilingual coursework exposes students to various educational systems, theories, and historical traditions. Accessing sources in multiple languages allows learners to compare how different societies respond to similar educational challenges and to evaluate the strengths and limitations of alternative pedagogical models. Visual tools, such as interactive whiteboards, further support comparative analysis by presenting contrasting systems simultaneously. Through this multilingual lens, students refine their critical thinking skills and identify best practices that can inform their own future teaching.

In informatics, bilingual instruction strengthens students' familiarity with terminology and modern educational technologies across Kyrgyz, Russian, and English. Learning key concepts, such as number systems, hardware, software, and information processing, in multiple languages improves comprehension and facilitates the transfer of knowledge across linguistic contexts (Festman, 2021). Teachers can further support learners through structured scaffolding, providing strategic assistance when new terminology or complex concepts arise, and gradually reducing this support as students gain confidence. This approach ensures that bilingual instruction enhances rather than hinders mastery of technical content.

More broadly, studying the principles of multilingual education through bilingual instruction introduces students to international standards and effective strategies for implementing multilingual programs. Within this broader framework, CLIL plays a particularly important role, as it strengthens students' ability to navigate multiple linguistic and cultural environments. By combining subject knowledge with language development, CLIL cultivates learners who are flexible, linguistically agile, and culturally responsive. Ultimately, this methodology supports the preparation of highly competitive education professionals who possess strong subject expertise, advanced language proficiency, and the cognitive and intercultural skills necessary for success in multilingual settings.

Benefits of CLIL for Students

The use of CLIL offers numerous benefits for students, beginning with the enhancement of their language skills. By engaging with subject content through a second language in real-life academic situations, learners naturally develop all four core skills: speaking, listening, reading, and writing, in a more integrated and meaningful way (Zakharevych, 2025). This authentic use of language also contributes to increased motivation, as the combination of subject learning with language learning makes the educational process more engaging and relevant. Students become more interested not only in the topics they study but also in the language itself, which strengthens their commitment to both.

Beyond linguistic gains, CLIL fosters important cognitive development. Working with content in another language encourages students to think critically, analyze information from different perspectives, and solve problems, all of which are essential competencies for their future professional activities. At the same time, CLIL plays a significant role in preparing students for an international career. By familiarizing them with multilingual communication and cross-cultural academic practices, it equips them to adapt more easily to global educational and professional environments, ultimately increasing their competitiveness in the labor market.

Possibilities of CLIL Application in Higher Education Institutions

The application of CLIL in higher education institutions offers a wide range of possibilities for enriching both language learning and subject mastery. Within lectures and seminars, instructors can integrate CLIL by presenting material in a second language and encouraging students to participate in discussions, thereby creating an immersive environment that supports both content understanding and language development. This approach can be extended through project work, where students complete assignments or research tasks using their second language, giving them the opportunity to apply their knowledge in practice while strengthening their linguistic and academic skills simultaneously.

CLIL also plays an important role in preparing students for participation in international conferences. By engaging with academic content in another language, students gain the confidence and competence needed to present their research in a non-native language, enhancing their readiness for global academic communication and professional exchange. Through these various forms of application, CLIL demonstrates its effectiveness as a versatile and valuable approach in higher education.

CLIL Learning Outcomes

The learning outcomes of CLIL encompass both subject knowledge and language development, each of which requires careful and balanced assessment (Leontjev & DeBoer, 2020). Students' mastery of the subject matter continues to be evaluated through traditional methods such as tests, examinations, and project presentations, ensuring that the introduction of CLIL does not diminish the depth or quality of their subject proficiency. At the same time, language skills are assessed through a range of

tools, including oral presentations, written assignments, and active participation in discussions. Such evaluation emphasizes not only grammatical accuracy but also communicative competence, reflecting the broader aims of CLIL in fostering meaningful and functional language use.

To support these outcomes, teachers are encouraged to incorporate diverse methods and strategies that enhance the integration of content and language. Approaches such as project-based learning, game-based methods, and structured discussions help create a more interactive and engaging learning environment, enabling students to develop both their academic understanding and linguistic abilities in a cohesive and mutually reinforcing manner.

Comparison with International Experience

The positive dynamics observed in students' linguistic competence and heightened motivation align closely with findings from CLIL research conducted in European and Asian universities, where well-designed implementation and adequate teacher preparation consistently lead to improvements in language skills and academic performance (Belobrov, 2023). In the Kyrgyz context, however, an additional factor plays a distinctive role: the strong reliance on state language policy and the presence of regulatory documents that formally support the advancement of multilingual education. Within this framework, the curriculum for preparing primary school teachers in multilingual schools is organized around eight core modules. At the heart of these is the module "Multicultural and Multilingual Primary Education," which introduces key subjects such as "Multicultural Education," "Multicultural Communication in a Multilingual Educational Organization," "Multilingual Instruction and Implementation Strategies," and "Synergy of Integral Language Acquisition Technologies in a Multilingual School." These modules aim to equip future teachers with both the theoretical foundations and the practical competencies required to implement multilingual education effectively in primary school settings. This preparation includes the ability to plan, conduct, and critically analyze lessons within multilingual and multicultural learning environments.

By the end of the program, students are expected to demonstrate a clear understanding of the principles of multicultural education, a solid command of multilingual teaching fundamentals, and the capacity to apply these principles in tasks such as lesson planning and classroom instruction. Their learning is further strengthened through internships in multilingual educational institutions with a strong focus on multicultural education, where they can apply theoretical knowledge in authentic instructional settings.

An essential feature of the curriculum is the collaboration between teachers of language and non-language subjects. Language courses, such as Russian, Kyrgyz, and English, are intentionally integrated with content from disciplines like mathematics, computer science, ecology, philosophy, life safety, and history. This integration embodies a core principle of CLIL, which emphasizes the interconnected development of language and subject content to promote deeper comprehension and meaningful language use. In practice, this means that language lessons incorporate subject-specific terminology, oral activities, and written tasks derived from other academic fields, thereby fostering both linguistic growth and cognitive development.

CONCLUSION

The study demonstrated that the CLIL methodology holds significant potential for enhancing the training of future primary school teachers in Kyrgyzstan's multilingual educational environment. The integration of CLIL, together with targeted extracurricular language activities, contributed to notable improvements in students' Russian language

proficiency, as well as the development of cognitive and intercultural competencies. It also strengthened students' awareness of language as a professional tool, which is essential for teaching in a multicultural context.

The findings support the need to institutionalize CLIL within teacher education programs as a long-term strategic direction rather than a temporary initiative. Sustainable implementation requires systematic teacher preparation through professional development programs that focus on developing language awareness, scaffolding techniques, and appropriate assessment practices. Equally important is the creation and dissemination of teaching and methodological materials tailored to the Kyrgyz–Russian–English multilingual context. Strengthening partnerships with multilingual schools will further promote practice-oriented training, enabling future teachers to gain firsthand experience with CLIL in real classroom conditions. Continued research is also necessary to evaluate the long-term effects of CLIL, including its influence on graduates' professional trajectories and the learning outcomes of the students they will eventually teach. Taken together, these considerations position CLIL as a key component in modernizing higher pedagogical education in the Kyrgyz Republic and as an important instrument for implementing the national strategy for multilingual education.

Based on the results and discussion, it can further be concluded that CLIL is a highly promising approach for improving the quality of university teaching and strengthening students' speaking skills. Its successful implementation depends on comprehensive teacher training, deliberate preparation, and careful adaptation of instructional materials. When these conditions are met, CLIL becomes a powerful pedagogical tool for developing students' linguistic, cognitive, and professional competencies, preparing them for successful participation in international academic and professional environments, as noted by [Satayev et al. \(2022\)](#).

Selecting teaching materials that align with students' knowledge levels and interests remains critical. The use of authentic resources enriches the learning process by creating a real-world context, thus increasing engagement and deepening comprehension. More broadly, the introduction of CLIL at the university level aims to improve the overall quality of language education, reform approaches to teaching in both second (Kyrgyz and Russian) and foreign languages, and reinforce teacher training programs designed for multilingual education.

Looking ahead, further initiatives should aim to expand CLIL across disciplines, develop specialized instructional materials, and conduct additional research to assess its long-term effectiveness. Achieving these goals will require coordinated efforts among all stakeholders committed to advancing multilingual education and supporting students' multilingual development.

ACKNOWLEDGEMENT

The authors express their sincere gratitude to the students and faculty of B. Osmonov Jalal-Abad State University who participated in the study, as well as to colleagues from the city's multilingual schools for their collaboration and support in organizing workshops and joint events. Completing this work would not have been possible without the understanding, encouragement, and support received throughout the research process. We also express our gratitude to the broader academic community, whose literature and discussions enriched the foundation of this study.

DECLARATION OF CONFLICTING INTERESTS

The authors declare that they have no known potential conflicts of interest in conducting the research, interpreting the data, and preparing this article.

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