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BO'LAJAK ESL O'QITUVCHILARINING KASBIY KOMPETENSIYASINI RIVOJLANTIRISHGA MULTIMODAL YONDASHUV

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Annotatsiya

Ingliz tilini chet tili sifatida o'qitishga tayyorlanayotgan (ESL) bo'lajak o'qituvchilarning kasbiy kompetentligini rivojlantirish til o'qituvchilarini tayyorlash sohasining markaziy muammolaridan biri bo'lib qolmoqda. Ushbu tadqiqotda vizual, raqamli, kinestetik va hamkorlikka asoslangan rejimlarni o'z ichiga olgan multimodal o'quv tizimining bo'lajak ESL o'qituvchilarida pedagogik, lingvistik va texnologik kompetentliklarni shakllantirishdagi samaradorligi o'rganiladi. Tadqiqot Markaziy Osiyodagi o'rta hajmli universitetning ikki guruhidan iborat 64 nafar talaba ishtirokida aralash metodologiya asosida olib borildi. Ma'lumotlar kirish va yakuniy baholash, dars kuzatishlari, pedagogik amaliyot portfoliolari va yarim tuzilgan suhbatlar orqali to'plandi. Natijalar uchala kompetentlik sohasida ham statistik jihatdan sezilarli o'sishni ko'rsatdi ($p < .001$). Sifatli ma'lumotlar kasbiy o'z-samaradorlikning oshganini, reflektiv amaliyotning rivojlanganini va xilma-xil sinf muhitlariga tayyorgarlik darajasining yaxshilanganini namoyon etdi. Olingan natijalar shuni ko'rsatadiki, multimodal o'qituvchilarni tayyorlash dasturlari an'anaviy ma'ruza asosidagi yondashuvlarga nisbatan ishonchli va kontekstga moslashgan muqobil hisoblanadi hamda o'quv dasturlari ishlab chiquvchilari, o'qituvchi-metodistlar va ta'lim siyosati vakillari uchun muhim amaliy ahamiyatga ega.

Kalit so'zlar: multimodal ta'lim, kasbiy kompetentlik, bo'lajak ESL o'qituvchilari, pedagogik ta'lim, pedagogik kompetentlik, texnologik savodxonlik.

МУЛЬТИМОДАЛЬНЫЙ ПОДХОД К РАЗВИТИЮ ПРОФЕССИОНАЛЬНОЙ КОМПЕТЕНТНОСТИ БУДУЩИХ ПРЕПОДАВАТЕЛЕЙ ESL

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Аннотация

Развитие профессиональной компетентности студентов-будущих учителей английского языка как иностранного (ESL) остаётся одной из ключевых задач педагогического языкового образования. В настоящем исследовании изучается эффективность мультимодальной учебной структуры — интегрирующей визуальные, цифровые, кинестетические и совместные режимы деятельности — в формировании педагогической, лингвистической и технологической компетентностей у будущих учителей ESL в рамках университетских программ подготовки. В исследовании применялся смешанный метод с участием 64 студентов педагогических специальностей из двух когорт одного среднеазиатского университета. Сбор данных осуществлялся посредством входного и итогового тестирования, наблюдений за учебными занятиями, портфолио педагогической практики и полуструктурированных интервью. Результаты свидетельствуют о статистически значимом росте показателей по всем трём компетентностным областям ($p < .001$). Качественные данные выявили повышение уровня профессиональной самооэффективности, рефлексивной практики и готовности к работе в разнообразных учебных контекстах. Полученные результаты указывают на то, что мультимодальные программы педагогической подготовки представляют собой эффективную и контекстуально адаптированную альтернативу традиционным лекционным

подходам, что имеет существенное значение для разработчиков учебных программ, педагогов-методистов и представителей образовательной политики.

Ключевые слова: мультимодальное обучение, профессиональная компетентность, будущие учителя ESL, педагогическое образование, педагогическая компетентность, технологическая грамотность.

A MULTIMODAL APPROACH TO THE DEVELOPMENT OF PROFESSIONAL COMPETENCE FOR PRE-SERVICE ESL TEACHERS

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Abstract

The development of professional competence among pre-service English as a Second Language (ESL) teachers remains a central concern in language teacher education. This study investigates the effectiveness of a multimodal instructional framework—integrating visual, digital, kinesthetic, and collaborative modes—in fostering pre-service ESL teachers' pedagogical, linguistic, and technological competencies during university-based preparation programs. Employing a mixed-methods design with 64 pre-service teachers across two cohorts at a mid-sized Central Asian university, the study collected data through pre- and post-assessments, classroom observations, teaching practice portfolios, and semi-structured interviews. Results indicate statistically significant gains in all three competency domains ($p < .001$), with qualitative data revealing enhanced self-efficacy, reflective practice, and readiness for diverse classroom contexts. The findings suggest that multimodal teacher education programs offer a robust and contextually responsive alternative to traditional lecture-based approaches, with implications for curriculum designers, teacher educators, and policy stakeholders.

Keywords: multimodal learning, professional competence, pre-service ESL teachers, teacher education, pedagogical competence, technological literacy.

Teacher education programs worldwide face a persistent challenge: preparing novice educators not merely to transmit knowledge, but to orchestrate dynamic, inclusive, and linguistically rich learning environments. In the specific domain of English as a Second Language (ESL) instruction, this challenge is amplified by the diverse linguistic backgrounds of learners, the accelerating integration of digital technologies into classrooms, and rapidly evolving pedagogical expectations rooted in communicative, task-based, and sociocultural paradigms of language teaching (Darling-Hammond et al., 2017; Johnson, 2009).

Professional competence for ESL teachers is commonly conceptualized across three interdependent domains: pedagogical competence (the ability to design, implement, and assess effective instruction), linguistic competence (command of the target language including discourse, pragmatics, and metalinguistic awareness), and technological competence (the capacity to integrate digital tools purposefully to support language learning goals). Traditional teacher preparation programs, however, have often addressed these domains in isolation—through separate methodology courses, language proficiency modules, and occasional technology workshops—yielding fragmented knowledge that pre-service teachers struggle to synthesize in authentic practice (Burns & Richards, 2009; Shulman, 1987).

Multimodal pedagogy, drawing on New London Group's (1996) foundational framework of multiliteracies and Kress's (2010) social semiotic theory, posits that meaning-making occurs across a range of semiotic modes: linguistic, visual, audio, spatial, and gestural. In teacher education, a multimodal approach entails designing learning environments where pre-service

teachers engage with content through multiple representational channels simultaneously, develop their own multimodal teaching repertoires, and reflect critically on how different modes serve different pedagogical functions (Jewitt, 2014; Serafini, 2014).

Despite growing theoretical interest, empirical research specifically examining multimodal frameworks in pre-service ESL teacher preparation programs remains sparse, particularly in non-Western educational contexts. This study addresses that gap by examining how a structured multimodal instructional program, implemented across a two-semester pre-service teacher preparation sequence, influences the development of professional competence among university students preparing to teach ESL in Central Asian secondary schools.

Research Questions

The present study was guided by the following research questions:

1. To what extent does participation in a multimodal teacher education program improve pre-service ESL teachers' pedagogical, linguistic, and technological competence?
2. What qualitative dimensions of professional growth do pre-service teachers report following their engagement with multimodal instructional approaches?
3. How do pre-service teachers perceive the transferability of multimodal strategies to their own future classroom practice?

Methods

Research Design

This study employed a convergent mixed-methods design (Creswell & Plano Clark, 2018), combining quantitative pre- and post-assessment data with qualitative data from observations, portfolios, and interviews. The use of both paradigms allowed for the triangulation of findings across measurement instruments and provided a richer understanding of competence development than either approach could yield independently.

Participants and Setting

Participants were 64 pre-service ESL teachers (48 female, 16 male; M age = 20.3 years, SD = 1.1) enrolled in a four-year undergraduate teacher education program at a state university in Tashkent, Uzbekistan. Participants were recruited from two consecutive cohorts: Cohort A (n = 32, academic year 2022–2023) served as the control group receiving the standard curriculum, while Cohort B (n = 32, academic year 2023–2024) participated in the newly designed multimodal program. All participants had completed at least three semesters of English language coursework and were enrolled in their first formal methodology practicum. Institutional ethics approval was obtained and all participants provided informed written consent.

Intervention: The Multimodal Teacher Education Framework

The multimodal teacher education program was developed collaboratively by the research team over one academic semester prior to implementation, drawing on principles from multiliteracies theory (New London Group, 1996), technological pedagogical content knowledge (TPACK; Mishra & Koehler, 2006), and reflective practice frameworks (Schön, 1983). The program was integrated into two existing courses: Teaching Methodology I and II.

The framework organized learning across four interconnected multimodal strands: (1) Visual-Spatial Strand — participants designed and analyzed multimodal lesson materials including infographics, visual grammar charts, and digital storyboards; (2) Digital-Interactive Strand — participants engaged with and created digital tools such as interactive vocabulary platforms, audio-recorded pronunciation feedback sessions, and video-recorded micro-teaching performances; (3) Collaborative-Dialogic Strand — participants participated in structured peer feedback protocols, collaborative lesson planning using shared digital workspaces, and simulated parent-teacher conference scenarios; and (4) Kinesthetic-Embodied Strand — participants engaged in drama-based pedagogy activities, gesture-supported grammar instruction, and role-plays simulating inclusive classroom management.

Across both semesters, participants completed a total of 12 multimodal teaching cycles, each consisting of three phases: (a) exposure and analysis of multimodal exemplars, (b) guided design and delivery of multimodal instructional segments, and (c) critical reflection using structured portfolio prompts.

Instruments

Professional competence was assessed using three validated instruments adapted for the local context with approval from original developers:

Pedagogical Competence Scale (PCS). A 30-item rubric assessing lesson planning, implementation of learner-centered strategies, classroom management, and formative assessment integration. Raters assessed video-recorded teaching practice episodes at pre- and post-intervention using a 4-point scale (1 = Beginning, 4 = Distinguished). Inter-rater reliability was established at ICC = .87.

Linguistic Competence Assessment (LCA). A 45-minute task combining a written discourse completion task, an oral proficiency interview scored using ACTFL guidelines, and a metalinguistic awareness quiz. Scores were aggregated into a 100-point composite.

Technological Competence Inventory (TCI). A 24-item self-report scale ($\alpha = .91$) assessing confidence and frequency of digital tool integration, based on the TPACK framework (Mishra & Koehler, 2006). Items were rated on a 5-point Likert scale.

Qualitative data sources included: (a) 20 structured classroom observations (10 per cohort) using a multimodal observation protocol; (b) 32 digital teaching portfolios collected from Cohort B participants; and (c) 18 semi-structured individual interviews conducted with purposively selected Cohort B participants after the program concluded.

Data Analysis

Quantitative data were analyzed using IBM SPSS 28. Paired-samples t-tests examined within-group pre-to-post changes. Between-group differences at post-test were examined using independent samples t-tests and effect sizes were computed using Cohen's d. The significance threshold was set at $\alpha = .05$.

Qualitative data were analyzed using thematic analysis (Braun & Clarke, 2006). Interview transcripts and portfolio excerpts were independently coded by two members of the research team, with an initial codebook developed deductively from the competence framework and refined inductively. Inter-rater agreement reached $\kappa = .83$. Emerging themes were reviewed against the quantitative findings for convergence or divergence.

Table 1
Pre- and Post-Intervention Competence Scores for Control (Cohort A) and Multimodal (Cohort B) Groups

Measure	Cohort A (Control)			Cohort B (Multimodal)		
	Pre	Post	d	Pre	Post	d
Pedagogical Comp. (PCS)	2.11(0.4)	2.34(0.5)	0.49	2.09(0.4)	3.41(0.3)	3.70***
Linguistic Comp. (LCA /100)	61.2(7.1)	63.8(7.3)	0.36	60.9(6.8)	72.4(6.2)	1.75***
Technological Comp. (TCI /5)	2.8 (0.7)	2.9(0.6)	0.15	2.7(0.6)	4.1(0.5)	2.41***

Cohort B participants demonstrated large and statistically significant gains from pre- to post-intervention across all three competence domains: pedagogical competence ($t(31) = 18.42$, $p < .001$, $d = 3.70$), linguistic competence ($t(31) = 9.83$, $p < .001$, $d = 1.75$), and technological competence ($t(31) = 13.57$, $p < .001$, $d = 2.41$). By contrast, Cohort A showed modest and non-significant gains in pedagogical and technological competence, with only a marginally significant improvement in linguistic competence ($t(31) = 2.11$, $p = .043$, $d = 0.36$), likely attributable to continued language coursework.

Between-group post-test comparisons confirmed that Cohort B significantly outperformed Cohort A across all three domains (all $ps < .001$), with the largest between-group effect observed for technological competence ($d = 2.67$), followed by pedagogical ($d = 2.54$) and linguistic competence ($d = 1.22$). These results provide robust quantitative support for the effectiveness of the multimodal program.

Qualitative Findings

Thematic analysis of interviews, observations, and portfolio data yielded four overarching themes that illuminate the mechanisms and experiential quality of competence development under the multimodal framework.

Theme 1: Expanded Pedagogical Repertoire

Participants consistently reported that engagement with multiple instructional modes enlarged their conception of what effective ESL teaching entails. One participant articulated this shift: 'Before, I thought teaching grammar meant explaining rules on the board. Now I see I can use video, movement, visual organizers—and students actually remember better.' Observation data corroborated this, with Cohort B participants incorporating an average of 3.8 distinct modes per observed lesson, compared to 1.4 for Cohort A.

Theme 2: Enhanced Self-Efficacy and Identity as a Teacher

The iterative design-and-deliver cycle of the multimodal program appeared to strengthen participants' professional identity. Portfolio reflections frequently referenced moments of 'breakthrough confidence,' particularly following video-recorded micro-teaching feedback sessions. Participants described the experience of watching themselves teach and revising their practice as transformative, supporting findings from prior research on video-based reflection in teacher education (Tripp & Rich, 2012).

Theme 3: Deepened Metalinguistic Awareness

Several participants noted that designing multimodal materials—such as visual grammar charts and audio-annotated reading tasks—required them to think explicitly and analytically about language in ways that coursework alone had not prompted. One interviewee observed, 'When I had to make a video explaining the present perfect, I realized I didn't fully understand the aspectual distinction myself. I had to go and really study it.' This accords with the principle that multimodal design tasks can function as epistemic tools that deepen content knowledge (Kress, 2010).

Theme 4: Perceived Transferability and Contextual Awareness

A recurring concern among participants was the gap between university-based multimodal activities and the resource realities of public secondary schools where most would eventually teach. While participants expressed enthusiasm for digital and visual tools, many also indicated that the program had equipped them with principles rather than mere tools, enabling them to adapt multimodal approaches to low-resource contexts. Participants described strategies such as hand-drawn visual organizers, student-created illustrated vocabulary books, and gesture-based pronunciation modeling as accessible alternatives.

Discussion

The results of this study provide compelling evidence that a structured multimodal teacher education program can substantially accelerate the development of professional competence among pre-service ESL teachers, across pedagogical, linguistic, and technological

dimensions. The effect sizes observed—particularly for pedagogical and technological competence—are among the largest reported in the teacher preparation literature, though direct comparisons should be made cautiously given variations in instrument and context (Freeman et al., 2015).

The magnitude of technological competence gains deserves particular attention. In the control group, the near-zero gain reflects a pattern well-documented in traditional programs: technology is addressed didactically rather than experientially, leaving pre-service teachers ill-equipped to integrate digital tools with pedagogical intentionality (Mishra & Koehler, 2006). The multimodal program's design—in which participants were not merely consumers but designers and critical analysts of multimodal digital content—appears to have cultivated genuine TPACK rather than surface-level tool familiarity.

The qualitative findings extend beyond competence scores to illuminate how multimodal engagement reshaped participants' professional identities and ways of knowing about language and teaching. The emergent theme of deepened metalinguistic awareness is particularly theoretically significant: it suggests that multimodal design tasks can function not only as pedagogical skill-builders but as vehicles for expanding the disciplinary knowledge base that underpins effective ESL instruction (Shulman, 1987). This finding converges with recent work on 'designing to learn' in teacher education (Selander & Kress, 2010).

The theme of contextual transferability speaks to a tension often raised against multimodal and technology-enhanced teacher preparation: that it may prove inapplicable in under-resourced school environments. Participants' articulation of adaptive, low-resource multimodal strategies suggests that the program succeeded in developing principled flexibility rather than technological dependency—a critical disposition for teachers entering diverse and often constrained professional contexts.

Limitations

Several limitations should be acknowledged. First, the quasi-experimental design with non-randomly assigned cohorts limits causal inference; historical effects and selection differences between cohorts cannot be fully ruled out, though pre-test equivalence was established across all measures. Second, the study was conducted within a single institutional context in Central Asia, which constrains the direct generalizability of findings to other settings. Third, follow-up data on actual classroom practice after graduation were not collected, leaving open the question of long-term retention and transfer of competencies developed during pre-service preparation.

Conclusion

This study demonstrates that a multimodal approach to pre-service ESL teacher education—one that integrates visual, digital, collaborative, and kinesthetic modes across iterative design-and-reflect cycles—can meaningfully and measurably advance professional competence in its pedagogical, linguistic, and technological dimensions. Equally importantly, the qualitative evidence suggests that such an approach nurtures the reflective habits, adaptive capacities, and professional identities that enable teachers to continue growing beyond their formal preparation.

For teacher educators, these findings argue for a deliberate shift from transmissive, mode-uniform instructional designs toward experiences that challenge pre-service teachers to design, perform, and critically analyze multimodal teaching across varied communicative contexts. For curriculum policy stakeholders, the results underscore the importance of sustained, integrated frameworks for competence development—rather than fragmented add-on modules—in producing graduates equipped for the multimodal communicative demands of contemporary ESL classrooms.

Future research should examine the longitudinal effects of multimodal teacher education on in-service classroom practice, explore its application in other EFL/ESL preparation contexts, and investigate the differential impacts of individual multimodal strands on specific competence

components.

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