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Motivational, Cognitive, and Reflexive Components in the Development of Communicative Competence of Pre-Service Teachers in a Multilingual Education: An Experimental Study

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Abstract

The study aimed to examine the effectiveness of motivational, cognitive, and reflexive components in developing communicative competence among pre-service teachers within the context of multilingual education. A total of 162 participants took part in the study, including 82 students in the experimental group and 80 in the control group. A quasi-experimental pretest–posttest design was employed. The experimental group received instruction through a specially designed elective course focused on developing communicative competence in multilingual settings, while the control group followed the standard curriculum. Data were collected using questionnaires and performance-based communicative tasks involving dialogue, monologue, public speaking, and written interaction. Statistical analysis included descriptive measures and t-tests to assess differences between groups. The results showed that students in the experimental group demonstrated significant improvement in motivational, cognitive, and reflexive components, as well as in overall communicative competence, compared to the control group. Correlation analysis revealed strong relationships among these components, with the reflexive factor exerting the greatest influence. The findings indicate that integrating motivational, cognitive, and reflexive dimensions into teacher education effectively enhances pre-service teachers' communicative competence in multilingual educational environments.

Keywords: *Communicative competence, multilingual education, motivational component, cognitive component, reflexive component.*

Introduction

In the Concept for the Development of Higher Education and Science of the Republic of Kazakhstan (2023-2029) (Government of the Republic of Kazakhstan, 2023), the country is aimed at improving the quality of the content of education and vocational training, increasing competitiveness, modernizing the vocational education system in the context of global trends,

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Kazakhstan's strategy to enter the top thirty most advanced countries of the world, as well as integration into the global educational environment, depends primarily on the training of versatile, competitive, competent teaching staff with well-developed social and personal qualities, who are proficient in both their native and foreign languages (Bokayev et al., 2025; Iskindirova et al., 2024; Ismagulova et al., 2024)

In this regard, the mission of higher education institutions is to form mobile, flexible, creative, critical-thinking, poly-communicative, professional personalities that meet international requirements. In the context of trilingual education, the training of competitive teaching staff with multilingual education in higher educational institutions is an urgent problem. Within the framework of Plan of Nation "100 concrete steps" (Government of the Republic of Kazakhstan, 2015), steps 76, 77, and 79 highlight the improvement of human capital, upgrading of education standards, and the training of qualified personnel in higher education institutions, with subsequent dissemination to other institutions across the country and a gradual transition to English-medium instructions in higher education. Similarly, the law "On the Status of a Teacher" (Law of the Republic of Kazakhstan, 2019) adopted in December 2019 emphasizes independent professional growth, professional mobility, and the ability of teachers to solve problems autonomously, thereby reinforcing the importance of communicative competence in teacher development.

Despite strong policy emphasis, scholarly evidence on how communicative competence is formed among pre-service teachers in Kazakhstan remains limited. A vivid manifestation of globalization processes is the existence of multilingualism, its impact on social relations, and, accordingly, the emergence of such a phenomenon as multiculturalism. It is not difficult to agree that there are very few homogeneous societies today, while every year they become more diverse and filled with the peculiarities of other cultures. This primarily concerns the language and lifestyle details that are inherent in a particular group of people (Kazangapova et al., 2024; Zhunussova et al., 2025).

Another important stimulus for the spread of multilingualism and its existence, in general, is the development of the information space and the existence of social networks, where a large number of people from different countries communicate with each other and share details of their lives – whether in personal messages or through photos and videos. In addition, when operating an international company with offices located in different parts of the world, there is a vivid need to communicate with colleagues on work-related issues. For this purpose, it is important to easily navigate the language turns, abbreviations and professional slang of a particular field of activity. Knowledge of several foreign languages is the key to being part of a much larger community, gaining more knowledge, and sharing experiences (Al-Dawoody et al., 2022), yet few have focused specifically on pre-service teachers. Furthermore, the interplay of motivational, cognitive,

and reflexive components in the development of communicative competence has not been sufficiently explored. This constitutes a significant research gap, particularly in the Kazakhstani context.

In this study, communicative competence is defined as the ability of pre-service teachers to effectively engage in multilingual interaction by integrating linguistic knowledge, professional motivation, and reflective self-regulation. The motivational component refers to intrinsic and extrinsic factors that influence engagement in multilingual learning; the cognitive component encompasses the knowledge and skills necessary for effective communication; and reflexive component involves self-assessment, adaptation, and critical reflection on communicative performance. Accordingly, this study seeks to address the identified gap by empirically evaluating the interaction of motivational, cognitive, and reflexive components in the development of communicative competence among pre-service teachers in Kazakhstan. The findings are expected to inform curriculum design and teacher professional development in multilingual education.

The purpose of this study is to examine the role and impact of motivational, cognitive, and reflexive components in the development of communicative competence among pre-service teachers within the context of multilingual education.

Research Questions

1. How does the targeted pedagogical intervention (the elective course “Development of Communicative Competence in the Context of Multilingual Education”) influence the overall communicative competence of pre-service teachers compared to standard instruction?
2. What are the initial (pre-test) and final (post-test) levels of communicative competence among pre-service teachers before and after the intervention?
3. How do the motivational, cognitive, and reflexive components of communicative competence individually and collectively change as a result of the intervention?
4. What is the relationship between these three components (motivational, cognitive, and reflexive) and the overall communicative competence?

Hypotheses

H1. There will be no significant difference between the control and experimental groups in pre-test results of communicative competence.

H2. After the intervention, the experimental group will show significantly higher levels of communicative competence compared to the control group.

H3. Each component—motivational, cognitive, and reflexive—will show statistically significant improvement following the intervention.

H4. Improvements in motivational, cognitive, and reflexive components will be positively correlated with gains in overall communicative competence.

Review of Literature

Communicative Competence in Pre-service Teachers

In contemporary scholarship, communicative competence is defined as the ability to use language not only with grammatical accuracy but also effectively, appropriately, and strategically in diverse social contexts. While the Common European Framework of Reference for Languages (CEFR) is not identical to the theoretical construct of communicative competence, it provides a practical and operational framework for describing and assessing language proficiency. It conceptualizes language learning as "language as social action", emphasizing interaction, mediation, and multilingual communication across both face-to-face and digital environments (Council of Europe, 2001).

This modern understanding builds on the functional work of early scholars. Chomsky (1965) introduced the concept of linguistic competence as the idealized knowledge of grammar possessed by an "ideal speaker-listener". However, this perspective was later criticized for neglecting the social and functional dimensions of language use. Hymes (1972) argued that competence must extend beyond grammar to include sociolinguistic and pragmatic dimensions, coining the term communicative competence. For teacher education, this distinction is critical: pre-service teachers cannot be considered competent if their preparation is limited to grammatical knowledge. They require the ability to use language appropriately in diverse multilingual contexts.

Savignon (2017) emphasized that communicative competence entails the ability to function in genuinely communicative settings. Similarly, Canale and Swain (1980) conceptualized communicative competence as the synthesis of knowledge and skills, highlighting grammatical, sociolinguistic, discourse, and strategic competencies.

Building on this foundation, communicative competence is now widely understood to encompass four interrelated entities (Celce-Murcia et al., 1995; Bachman et al., 2010):

1. Linguistic/Grammatical Competence – mastery of vocabulary, syntax, and rules of sentence formation.

2. Sociolinguistic Competence – the ability to use language appropriately across social and cultural contexts.

3. Discourse Competence – capacity to produce and interpret cohesive and coherent stretches of language.

4. Strategic Competence – the use of verbal and non-verbal strategies to overcome communication breakdowns.

Widdowson (1983) further differentiated between "usage" (knowledge of rules) and "use" (ability to apply rules effectively), underscoring the importance of performance in authentic communication. For pre-service teachers, these perspectives converge on the idea that communicative competence must integrate linguistic, pragmatic, and contextual knowledge to prepare them for professional practice in multilingual classrooms.

Contemporary research further highlights that communicative competence (CC) in language learning refers to the ability to effectively and appropriately use a language to communicate in various contexts (Bokayev et al., 2024; Jeong, 2018; Kalugina, 2016; Wong & Moorhouse, 2021). Effective communication involves various competencies that enhance both cognitive and metacognitive skills. These competencies are essential for achieving not only successful communication but also for gaining the knowledge embedded within it (Herdiawan, 2018). CC goes beyond just knowing grammar rules and vocabulary; it involves understanding how language is used in real-life situations, including application to social, cultural, and professional contexts. It is the ability to interact effectively with people from different linguistic and cultural backgrounds (Iswandari & Ardi, 2022), adapting appropriately to their behavior, attitudes, and expectations (Yuan et al., 2023).

Encouraging CC among English as a Foreign Language (EFL) learners is the primary educational goal of communicative English language learning. In the line with these classical and contemporary perspectives, the present study conceptualizes communicative competence of pre-service teachers through three core components: motivational, cognitive, and reflexive. These dimensions do not replace the traditional framework but extend it, highlighting the psychological and professional aspects of competence that are crucial for teacher education in multilingual education.

Thus, while the classical model of communicative competence by Canale and Swain (1980) focused on linguistic, sociolinguistic, discourse, and strategic dimension, the present study adapts and extends this framework for teacher education. The motivational, cognitive, and reflexive components introduce here reflect not only the linguistic and pragmatic dimensions of communication but also the psychological readiness, reflective capacity, and professional orientation necessary for pre-service teachers to effectively function in multilingual educational environment.

Multilingual Education and Teacher Training

Multilingualism, multilingual education and integrated language policy are priority issues in the 21st century. At the level of the European Union, the task is to make its citizens trilingual to simplify their lives in the single market in the era of globalisation. At the same time, considerable attention is focused on the practice of communication skills in order to achieve harmonious language interaction (Ushioda, 2017).

Additionally, parallel language learning is an educational approach in which students learn two or more foreign languages simultaneously, with the goal of developing multilingual competence—the ability to use more than one language effectively for communication, cognitive tasks, and intercultural interaction (Festman, 2021). Multilingual competence results from parallel language learning and includes mastery of different aspects of several languages (phonetics, grammar, and vocabulary) and the ability to use these languages for communication, learning, and intercultural interaction. In the context of higher education, developing multilingual competence is crucial, as it enhances students' ability to participate in global academic and professional environments (Xu & Shan, 2021; Yashnyk & Turitsyna, 2023).

Furthermore, in multilingual Education, communicative competence develops through the interaction of (L1) and second (L2) or additional languages. Hall et al. (2006) noted that L2 learners demonstrate multicompetence, where the first and second language influence one another in a process of bidirectional transfers, this implies that their communicative competence is not a static replication of native-speaker norms but a dynamic integration of multilingual resources.

Research indicates that multilingual learners often have richer communicative experiences than monolinguals, which are required to navigate diverse linguistic environments. However, the challenge in teacher education is to transform these multilingual abilities into pedagogical competencies, enabling pre-service teachers to model effective communication and foster multilingual skills in their students.

Motivational Component of Pre-service Teachers' Communicative Competence

Motivation significantly shapes the trajectory of language learning and professional growth. Gardner and Lamber (1972) distinguished between integrative motivation, characterized by a desire to connect with the target culture, and instrumental motivation, driven by external rewards such as career advancement. For pre-service teachers, both types of motivation are critical: integrative motivation fosters openness to multilingual and multicultural engagement, while instrumental motivation reinforces the professional necessity of mastering multiple languages (Gardner et al., 2003).

In addition, contemporary approaches distinguish between intrinsic motivation, arising from personal interest and curiosity, and extrinsic motivation, associated with external incentives (Woolfolk, 1998; Santrock, 2004). Deci and Ryan's (2000) self-determination theory underscores that intrinsic motivation produces more sustainable learning outcomes. Within teacher training, the motivational component directly affects the willingness of pre-service teachers to engage in multilingual practices and develop communicative competence, thereby informing the first research question of this study.

Furthermore, the role of second language (L2) motivation in L2 learning outcomes, e.g., proficiency, is well-established (Ellis, 1994; Gass & Selinker, 2020). Language learners with higher motivation have demonstrated higher L2 proficiency compared to those with lower motivation (Kim et.al., 2017; Samad et al., 2012). Zhao et al. (2023), while primarily focusing on the relationship between motivational intensity and self-perceived Chinese proficiency, also underscore the importance of motivation in L2 learning success.

Thus, motivational component is key factor in the development of pre-service teachers' communicative competence. Both integrative and instrumental motivation, supported by intrinsic interest, enhance language engagement and skill development, directly influencing the effectiveness of future teaching practice.

Cognitive Component in Teacher Education

The cognitive component refers to the acquisition and application of knowledge, strategies, and problem-solving skills relevant to communicative competence. Vygotsky's (1978) sociocultural theory highlights the socially mediated nature of cognition, suggesting that collaborative learning environments enhance the development of linguistic and professional knowledge. For pre-service teachers, cognitive growth entails not only mastering linguistic systems but also acquiring pedagogical strategies to manage communication in multilingual classrooms.

Independent educational activities, as emphasized by Stepanov (2001), and exposure to diverse teaching practices contribute to the cognitive development of teacher candidates. Strelnikov (2003) also pointed out that cognitive competencies encompass knowledge of the environment, practical-cognitive methods, and value orientations. In this study, the cognitive component is conceptualized as the professionally significant knowledge and skills that enable pre-service teachers to apply multilingual communication effectively. This dimension informs the second research question, which investigates the criteria and indicators of communicative competence.

In addition, developing educational and cognitive competence in students involves independent study using information and communication technologies, understanding search algorithms, and addressing cognitive needs (Abakumova et al., 2016).

Furthermore, achievement emotions are linked to motivational, self-regulatory, and cognitive processes that are crucial for academic success (Camacho-Morles et al., 2021). An analysis of the domains of behavioral, emotional, and cognitive engagement showed that almost all had a positive correlation with students' academic achievement (Lei et al., 2018).

Thus, the cognitive component constitutes a fundamental dimension of pre-service teachers' communicative competence, integrating knowledge, analytical thinking and reflective abilities that are essential for effective multilingual pedagogy.

Reflexive Component in the Professional Development of Teacher Candidates

Reflexivity is widely acknowledged as essential for teacher professional growth. Schön (1983) described reflection as a cornerstone of professional practice, while West (2000) defined reflexivity as the extent to which individuals reflect upon and adapt their objectives, strategies, and processes. For pre-service teachers, reflexive competence entails the ability to critically assess their communicative performance, recognize strengths and weaknesses, and adjust their approaches in multilingual contexts (Kobari et al., 2023; Makena & Feni, 2023).

Reflexivity not only enhances professional identity but also ensures adaptability and responsiveness to diverse classroom challenges. As Swift and West (1998) noted, reflexive practitioners are proactive, plan more effectively, and demonstrate heightened awareness of long-term consequences. For pre-service teachers, this competency supports lifelong learning and ongoing professional development. Within the present framework, the reflexive component examines the development of communicative competence across experimental and control groups.

Method

Research Design

A quasi-experimental research design was employed, using both pre-test and post-test measurements with control and experimental groups (Creswell, 2014; Fraenkel et al., 2015). This design was selected because it allowed us to test the effectiveness of the intervention while accounting for the natural classroom setting where full randomization was not feasible. The experimental group received additional training through the elective course "Development of Communicative Competence in the Context of Multilingual Education", while the control group followed the standard curriculum. The design ensured comparability by collecting the same types of data in both groups at two stages: before and after the intervention.

Research Group/ Participants

The sample comprised 162 pre-service teachers enrolled in teacher education programs with multilingual instruction (Kazakh, Russian, and English). Participants were selected using

purposive sampling, as they were representative of future teaching staff in Kazakhstan. This method was chosen because purposive sampling allows researchers to intentionally select participants who meet specific criteria relevant to the study's objectives (Creswell, 2014; Fraenkel et al., 2015). The study specifically targeted pre-service teachers whose communicative competence is directly relevant to the objectives of the research. Random sampling was not feasible, since the pedagogical intervention (the elective course) could only be implemented within selected universities that had the necessary curricular structure and institutional approval. Therefore, purposive sampling was deemed the most appropriate approach for selecting participants.

Experimental Group: 82 students from Abai Kazakh National Pedagogical University (Institute of Pedagogy and Psychology, Department of Preschool Education and Social Pedagogy).

Control Group: 80 students from Kazakh State Women's Pedagogical University.

Participants' age ranged from 18 to 22 years, with approximately 90% female and 10% male students, reflecting the demographic composition of teacher education programs in Kazakhstan. All students were in their second or third year of study and had completed basic courses in pedagogy and linguistics.

Ethical approval was obtained from the participating universities, and informed consent was collected from all students prior to their involvement in the study. Participation was voluntary, and students were assured that their performance would not affect their academic grades.

Table 1

Demographic Characteristics of the Sample

Variable	Experimental Group (N=82)	Control Group (N=80)	Total (N=162)
University	Abai Kazakh National Pedagogical University	Kazakh State Women's Pedagogical University	-
Program/Department	Institute of Pedagogy and Psychology, Dept. of Preschool education and Social Work	Institute of Pedagogy and Psychology, Dept. of Preschool and Primary Education	
Year of Study	2nd year: 51 (62.2%) 3rd year: 31 (37.8%)	2nd year: 64 (80%) 3rd year: 16 (20%)	2nd year: 115 (71%) 3rd year 47 (29%)
Age (years)	18-22	18-22	18-22
Gender	74 female (90.2) 8 male (9.8%)	80 male (100%) 0 male (0%)	154 female (95.1%) 8 male (4.9%)

Data Collection Tools

Data were collected using three main research instruments to evaluate the motivational, cognitive, and reflexive components of communicative competence among pre-service teachers.

1. Author-Developed Questionnaire

This questionnaire consisted of 12 items designed by the author to explore students' attitudes toward multilingual education and their self-assessed communicative competence. Responses

were measured on a 5-point Likert scale (1 = strongly disagree to 5 = strongly agree). The questionnaire was administered at both pre-test and post-test stages to capture changes in students' perceptions and awareness. A pilot test with 20 students outside the main sample yielded a Cronbach's alpha of 0.82, confirming acceptable internal consistency.

2. Zamfir's "Motivation of Professional Activity" Method (modified by Rean, 2002)

This standardized tool was used to identify motivational orientations (internal, external positive, and external negative motives) related to students' learning and professional activity. It served as a diagnostic measure of the motivational component of communicative competence. The reliability coefficient (Cronbach's α) for this instrument was 0.84.

3. Communicative Competence Test (Performance Tasks)

A set of four performance-based tasks (dialogue, monologue, public speaking, and written communication) was used to assess the cognitive and reflexive components of communicative competence. Each task was conducted in Kazakh, Russian, and English to reflect the multilingual context of the study. Evaluation criteria included fluency, accuracy, coherence, and self-reflection. Tasks were scored using an analytic rubric reviewed by three experts in pedagogy and multilingual education.

The integration of these three tools ensured methodological triangulation, enabling a comprehensive assessment of communicative competence development among pre-service teachers.

Criteria and Indicators for Measuring Communicative Competence

To assess the development of communicative competence of future specialists in the context of multilingual education, three interrelated components were identified: motivational, cognitive, and reflexive. Each component was operationalized through specific criteria and corresponding indicators. Table 1 presents the framework of criteria and indicators used in this study to measure communicative competence.

Table 2

Criteria and indicators for measuring communicative competence of pre-service teachers in multilingual education

Component	Criteria	Indicators
Motivational	Professional orientation	- interest in multilingual education - intrinsic learning motives
Cognitive	knowledge and skills	- Mastery of communicative norms - Ability to apply knowledge in multilingual tasks
Reflexive	Self-assessment and adaptation	- Capacity for reflection - Adaptation of strategies - Evaluation of communicative outcomes

This framework served as the foundation for data collection, task design, and evaluation of pre-service teachers' progress during the experiment.

Data Analysis Techniques

To determine the statistical significance of differences between the control and experimental groups, Student's t-test was applied. The value of the t-statistic was calculated using the following formula: Formula (1):

$$t = \frac{|M_1 - M_2|}{\sqrt{m_1^2 + m_2^2}}$$

Here, M1 and M2 are the arithmetic means of the control and experimental groups, and m1 and m2 are the mean errors of these means. The mean error of the arithmetic mean was calculated as: Formula (2):

$$m = \frac{\sigma}{\sqrt{n-1}}$$

where σ is the standard deviation and n is the number of participants. The standard deviation was calculated by the following formula: Formula (3):

$$\sigma = \frac{\sum d^2 p}{n-1}$$

The degrees of freedom were determined according to the following formula: Formula (4):

$$f = (n_1 + n_2) - 2$$

This procedure allowed us to calculate the mean errors and to test the statistical reliability of differences between the control and experimental groups. In addition to the t-test, descriptive statistics were calculated to provide an overview of participants' performance across the pre-test and post-test stages.

Prior to conducting inferential statistics, assumption tests were performed to verify the normality of data distribution and homogeneity of variances. Descriptive statistics (means and standard deviations) were then calculated to summarize the results of pre-test and post-test measurements. Finally, hypothesis testing was conducted in accordance with the study's research questions, employing Student's t-test, Spearman's rank correlation, and ordinal regression analysis to examine group differences and relationships between motivational, cognitive, and reflexive components.

Findings

In developing a model for the formation of communicative competence among future specialists, we considered the unity of motivational, cognitive, and reflexive components. These components served as the basis for identifying the main criteria and indicators that characterize the degree of development of communicative competence in the context of multilingual education.

Table 3

Comparison of pretest and posttest scores for motivational, cognitive, and reflexive components between experimental and control group

Component	Level	Abai KazNPU Experimental group (n=82) Before the experiment	KazSWPU Control Group (n=80) Before the experiment	Abai KazNPU Experimental group (n=82) After the experiment	KazSWPU Control Group (n=80) After the experiment
Motivational	Low	19.6 % (16)	19.2% (15)	0 % (0)	18.8% (15)
	Moderate	15.0 % (12)	80.8% (65)	19.5 % (16)	81.3 % (65)
	High	65.4 % (54)	0 % (0)	80.5% (66)	0 % (0)
Cognitive	Low	19.9 % (16)	32.9% (26)	0% (0)	13.8% (11)
	Moderate	20.1% (17)	67.1 % (54)	23.1% (19)	86.2 % (69)
	High	60.4 % (49)	0% (0)	76.9 % (63)	0 (0)
Reflexive	Low	17.7 % (15)	5.0% (4)	0% (0)	3.8 % (3)
	Moderate	10.0 % (8)	95.0% (76)	11.0% (9)	96.2 % (77)
	High	72.3 % (59)	0% (0)	89.0% (73)	0 % (0)

The results of the experiment showed that in the experimental group at Abai KazNPU, after the implementation of the methodology, there was an increase in all components: the high motivational level rose from 65.4% to 80.5%, the high cognitive level from 60.4% to 76.9%, and the high reflexive level from 72.3% to 89.0%, whereas the control group at KazSWPU remained largely unchanged, predominantly at moderate levels in motivational and reflexive components, with no high cognitive level observed, indicating a positive effect of the experiment on the development of students' motivation, cognitive, and reflexive skills.

Table 4

Percentages of the author's questionnaire based on the views of students on multilingual education (Initial stage)

Survey questions	Experimental group			Control group		
	Yes	No	I find it difficult to answer	Yes	No	I find it difficult to answer
I know my native language well, but I also want to learn other languages	100 (82)	0 (0)	0 (0)	100 (80)	0 (0)	0 (0)
I often spend time learning other languages ...	35,5(29)	34,5 (28)	30 (25)	42 (34)	26 (21)	32 (25)

I can establish dialogues, conversations, interview in a multilingual environment	14,2 (12)	65,8 (54)	20 (16)	15 (12)	64,5 (52)	20,5 (16)
Do you think that you are ready to become a multilingual specialist in accordance with the requirements of society?	40,6 (33)	50 (41)	9,4 (8)	39,2 (31)	51,4 (41)	9,4 (8)
What is your view on multilingual communicative competence?	43,5 (36)	33,4 (27)	23,1 (19)	44,1 (35)	33,1 (26)	22,8 (19)
Do you think that you can apply your theoretical knowledge in practice in the context of multilingual education?	40,8 (33)	32,4 (27)	26,8 (22)	45 (36)	32 (26)	23 (18)
Do you think that today it is necessary for a specialist to speak several languages?	46,8 (38)	36,1(30)	17,1 (14)	47 (38)	35 (28)	18 (14)
Do you think it is important to use modern technologies to develop multilingual communicative competence?	49,4 (41)	30,9 (25)	19,7 (16)	49,1 (39)	30,8 (25)	20,1 (16)
Are you satisfied with the language (Kazakh, Russian and English) subjects taught at the university in your chosen specialty?	40 (33)	35 (29)	25 (20)	44 (35)	35,5(28)	20,5 (17)
Are you satisfied with the work carried out to develop multilingual competencies for future specialists?	42,8 (35)	32,1(26)	25,1 (21)	45,3 (36)	30,2 (24)	24,5 (20)
What is the level of your language training (Kazakh, Russian and English) in the context of multilingual education?	45,2 (37)	30 (25)	24,8 (20)	47 (38)	28 (22)	25 (20)
How do you understand what it means to be a competitive specialist in the development of multilingual communicative competence?	44,2 (36)	40 (33)	15,8 (13)	47 (38)	37 (30)	16 (12)
Total score	45,3	35	19,7	47	33,6	19,4

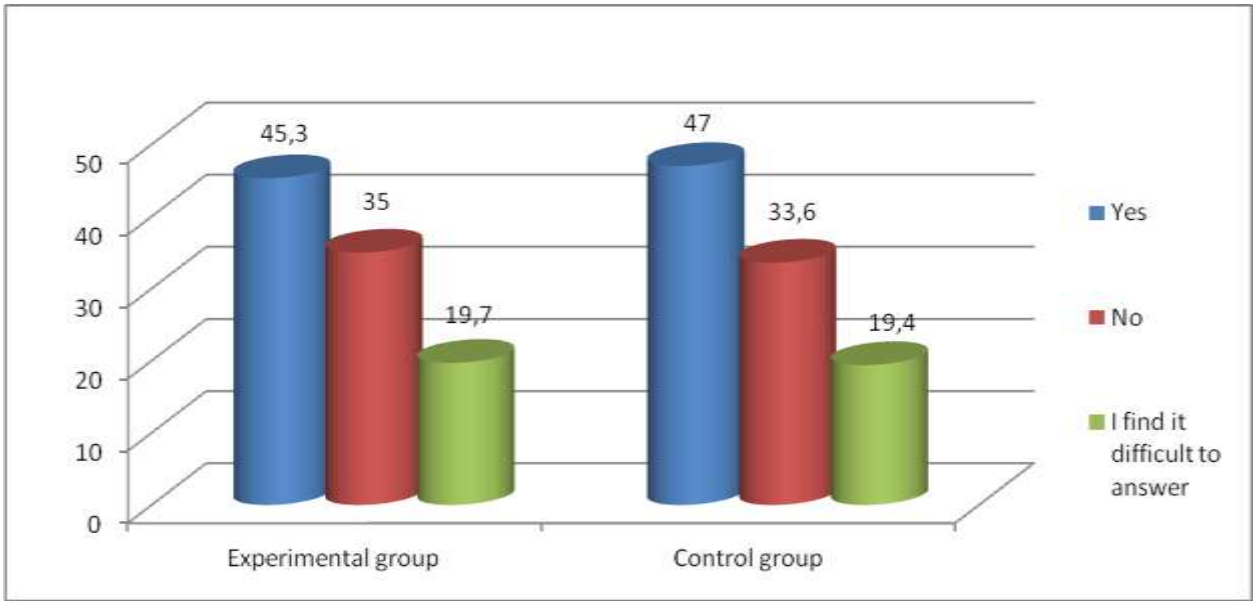

Figure 1. Diagram of the percentage of the author's survey based on the views of students on multilingual education (Initial stage)

At the initial stage (Table 4), students in both groups expressed a strong willingness to learn foreign languages (100%). However, their self-assessed ability to establish dialogues in a multilingual environment was low (14.2% in the experimental group and 15% in the control group). Similarly, fewer than half of the students reported being ready to become multilingual specialists or to apply their theoretical knowledge in practice. These findings indicate that while motivation to learn languages was present, actual communicative competence was insufficient at the baseline stage. Figure 1 illustrates these differences visually, showing that students' perceptions of multilingual education were generally positive, but their practical readiness to engage in multilingual communication was limited.

Table 5

Percentages of the formation of the author's questionnaire based on the views of students on multilingual education (Final stage)

Survey questions	Experimental group			Control group		
	Yes	No	I find it difficult to answer	Yes	No	I find it difficult to answer
I know my native language well, but I also want to learn other languages	100 (82)	0 (0)	0 (0)	100 (80)	0 (0)	0 (0)
I often spend time learning other languages ...	63 (52)	35 (28)	2 (2)	35,5(29)	34,5 (28)	30 (25)
I can establish dialogues, conversations, interview in a multilingual environment	55 (45)	40,5 (33)	4,5 (4)	14,2 (12)	65,8 (54)	20 (16)
Do you think that you are ready to become a multilingual specialist in accordance with the requirements of society?	55,7 (46)	40 (33)	4,3 (3)	40,6 (33)	50 (41)	9,4 (8)
What is your view on multilingual communicative competence?	60,5 (50)	35,6 (29)	3,9 (3)	43,5 (36)	33,4 (27)	23,1 (19)

Do you think that you can apply your theoretical knowledge in practice in the context of multilingual education?	62,5 (51)	28,8 (24)	8,7 (7)	40,8 (33)	32,4 (27)	26,8 (22)
Do you think that today it is necessary for a specialist to speak several languages?	60,1(49)	35,8 (30)	4,1 (3)	46,8 (38)	36,1(30)	17,1 (14)
Do you think it is important to use modern technologies to develop multilingual communicative competence?	55,2 (46)	35,4 (29)	9,4 (7)	49,4 (41)	30,9 (25)	19,7 (16)
Are you satisfied with the language (Kazakh, Russian and English) subjects taught at the university in your chosen specialty?	56,7 (46)	28,2 (23)	15,1 (13)	40 (33)	35 (29)	25 (20)
Are you satisfied with the work carried out to develop multilingual competencies for future specialists?	65 (53)	28 (23)	7 (6)	42,8 (35)	32,1(26)	25,1 (21)
What is the level of your language training (Kazakh, Russian and English) in the context of multilingual education?	55,6(37)	31 (9)	13,4 (36)	45,2 (37)	30 (25)	24,8 (20)
How do you understand what it means to be a competitive specialist in the development of multilingual communicative competence?	55 (45)	22 (18)	23 (19)	44,2 (36)	40 (33)	15,8 (13)
Total score	62,1	30	7,9	45,3	35	19,7

At the final stage (see Table 5), substantial improvements were observed in the experimental group. For example, the proportion of students able to establish dialogues increased from 14.2% to 55%, while readiness to act as multilingual specialists rose from 40.6% to 55.7%. By contrast, the control group showed only minor changes.

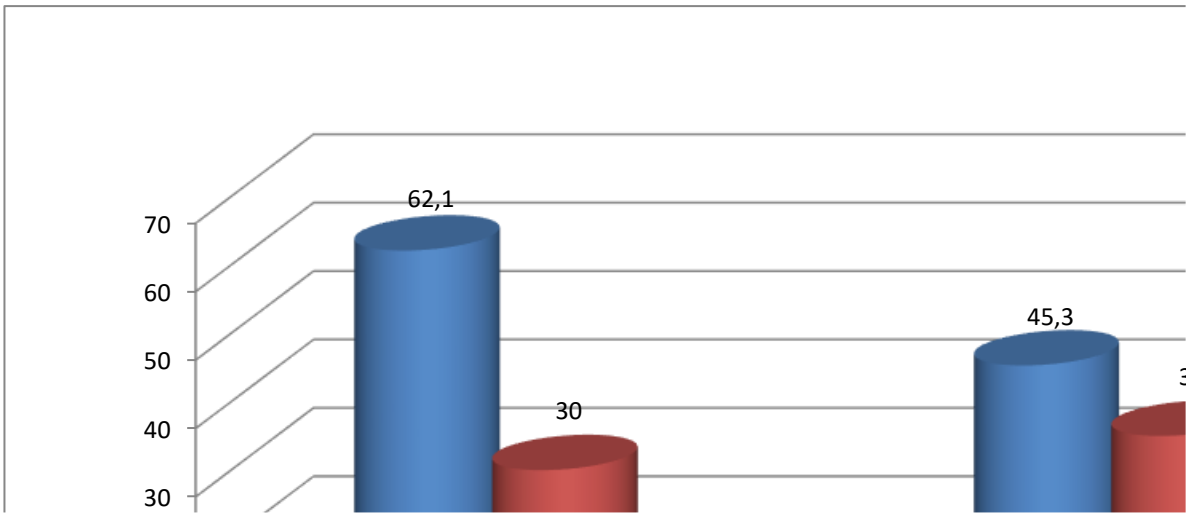

Figure 2. Diagram of the percentage of the formation of the author's questionnaire based on the views of students on multilingual education (final stage)

The analysis of the results of the general survey showed that the multilingual communicative competence of students is insufficient, although the majority of students are interested in learning

the language, communicate only in their native language, and have low communication skills in other languages, as well as they do not fully understand the concept of multilingual communicative competence.

Table 6

Correlation between components and communicative competence (N=162)

Component	Stage	Group	Mean ± SD (approx.)	t	p-value	Interpretation
Motivational	Pre-test	Exp (n=82)	45.3±6.2	0.84	.40	No significant difference
		Control (n=80)	45.7±6.1			
	Post-test	Exp (n=82)	62.1±5.8	2.95	.004	Significant improvement
		Control (n=80)	47.0±6.0			
Cognitive	Pre-test	Exp (n=82)	44.2±5.9	0.77	.44	No significant difference
		Control (n=80)	45.0±6.0			
	Post-test	Exp (n=82)	60.5±5.7	3.87	<.001	Strong cognitive progress
		Control (n=80)	43.5±6.2			
Reflexive	Pre-test	Exp (n=82)	44.0±6.0	0.69	.49	No significant difference
		Control (n=80)	44.2±6.1			
	Post-test	Exp (n=82)	65.0±5.4	4.32	<.001	Highly significant growth
		Control (n=80)	42.8±6.3			

The analysis revealed statistically significant correlations between all three components and communicative competence. The strongest relationship was observed for reflexive ability (ρ = 0.61), followed by cognitive skills (ρ = 0.56), while motivation showed a weaker but still significant correlation (ρ = 0.42).

To identify the relative contribution of each component, an ordinal regression analysis was conducted (Table 7)

Table 7

Regression results: contribution of components to communicative competence

Predictor	Beta	SE	Wald x^2	Relative Contribution
Motivation	0.27	0.09	8.95	Moderate
Cognitive skills	0.41	0.08	16.27	Strong
Reflexive ability	0.52	0.07	23.45	Strongest

Among the three predictors, reflexive ability had the strongest and most significant contribution, followed by cognitive skills and motivation. This finding emphasizes the role of reflective practice in enabling pre-service teachers to adapt, evaluate, and refine their communication strategies in

multilingual settings. In addition to regression analysis, students' professional motives were analyzed at both the initial and final stages, in order to provide further insight into the motivational dimension.

Table 8

Percentages of students' motives for professional activity at the initial stage

Indicators	Experimental group (82 students)			Control group (80 students)		
Motives of professional activity	IM - Internal Motive %	EPM - External Positive Motives %	ENM - External Negative Motives %	IM - Internal Motive %	EPM - External Positive Motives %	ENM - External Negative Motives %
Financial salary	28,2 (23)	24 (20)	47,8 (39)	30,1 (24)	25,2 (20)	44,7 (36)
Striving for growth at work	34,8 (29)	26,3 (21)	38,9 (32)	35,9 (29)	18,6 (15)	45,5 (36)
Striving to avoid criticism from a boss or colleagues	56,7 (46)	22,1 (17)	21,2 (17)	58,3 (47)	24,9 (20)	16,8 (13)
Punishment or the desire to escape from unfavorable opportunities	29,2 (24)	60,5 (50)	10,3 (8)	30,8 (25)	47,2 (38)	22 (17)
The need for social achievement and respect from others	46,3 (38)	28,8 (24)	24,9 (20)	47 (38)	31,6 (25)	21,4 (17)
Satisfaction with the work process and results	64,2 (53)	11,6 (10)	24,2 (19)	66,3 (53)	13,5 (11)	20,2 (16)
Opportunities for full self-realization in the same activity	49,9 (41)	23,8 (20)	26,3 (21)	51,3 (41)	35,7 (29)	13 (10)
Total	44,2	28,2	27,6	45,7	28,1	26,2

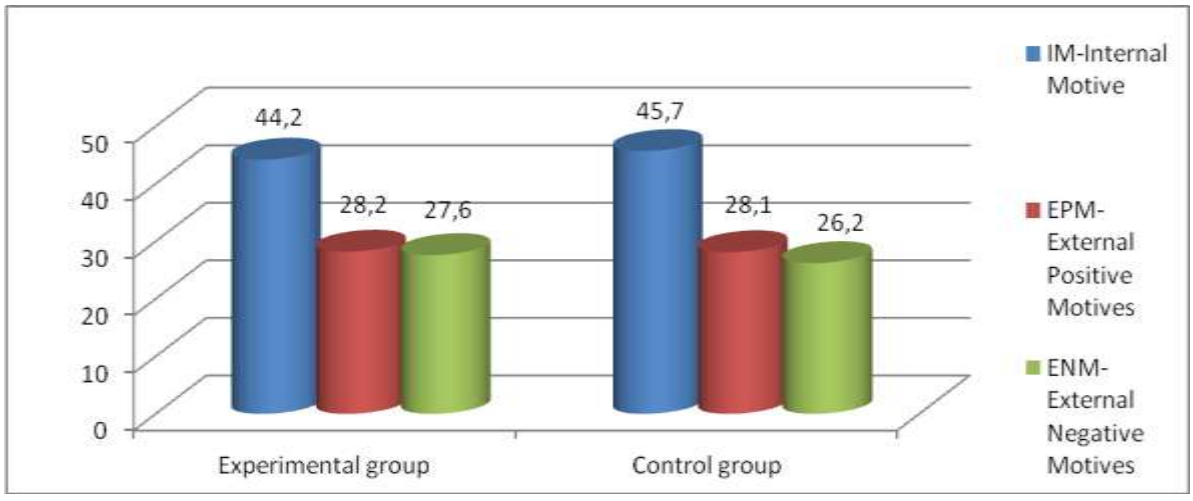

Figure 3. Diagram of students' motives for professional activity at the initial stage

Table 9

Percentages of students' motives for professional activity at the final stage

Indicators	Experimental group (82 students)			Control group (80 students)		
Motives of professional activity	IM - Internal Motive %	EPM - External Positive Motives %	ENM - External Negative Motives %	IM - Internal Motive %	EPM - External Positive Motives %	ENM - External Negative Motives %
Financial salary	58 (48)	33,2 (27)	8,8 (7)	28 (23)	25,2 (21)	46,8 (38)
Striving for growth at work	49,2 (40)	42,7 (35)	8,1 (7)	19,2 (16)	34,3 (28)	46,5 (38)
Striving to avoid criticism from a boss or colleagues	57,5 (47)	35,8 (29)	6,7 (6)	27,5 (22)	51,8 (42)	20,7 (18)
Punishment or the desire to escape from unfavorable opportunities	71,7 (59)	25,6 (21)	2,7 (2)	71,7 (59)	25,6 (21)	2,7 (2)
The need for social achievement and respect from others	64,3 (53)	32,8 (27)	2,9 (2)	54,3 (44)	42,8 (35)	2,9 (3)
Satisfaction with the work process and results	55,5 (46)	35,2 (29)	9,3 (8)	15,1 (12)	61,6 (51)	23,3 (19)
Opportunities for full self-realization in the same activity	58,9 (48)	35,5 (29)	5,6 (5)	48,9 (40)	45,5 (37)	5,6 (5)
Total	59,3	34,4	6,3	37,8	41	21,2

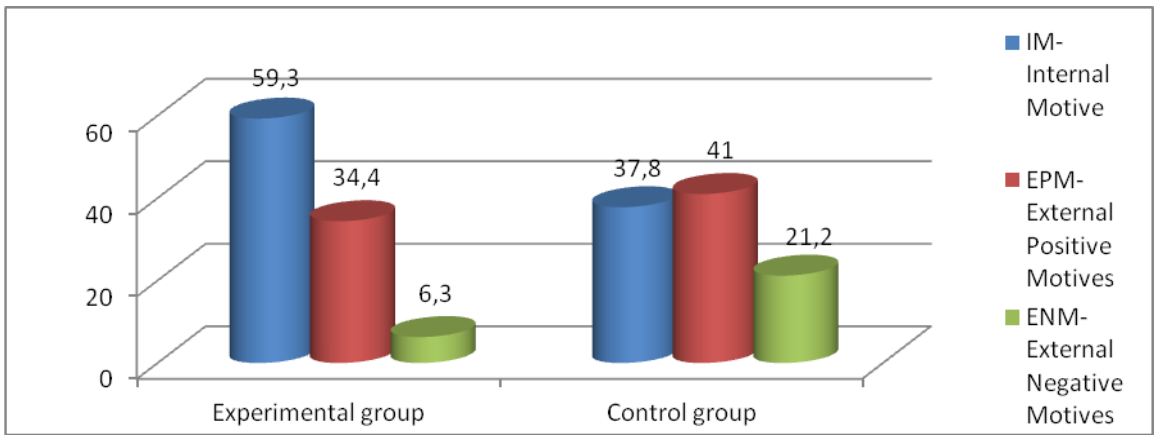

Figure 4. Diagram of students' motives for professional activity at the final stage

According to the motives of professional activity in the experimental group the internal motive was 44.2%, the external positive motive -28.2%, the external negative motive -27.6%, and in the control group the internal motive - 45.7%, the external positive motive - 28.1%, negative external motives - 26.2%. According to the initial stage in the experimental group the internal motive - 59.3%, the external positive motive - 34.4%, the external negative motive - 6.3%, in the control group the internal motive - 37.8%, the external positive motive - 41%, the external the negative motive was 21.2%. This means that at the initial stage, students were dominated by negative external motives, but in the final stage we see a significant increase in external positive motives.

Table 10

Results of students of the control and experimental group

Control group					
№	Task 1 (points)	Task 2 (points)	Task 3 (points)	Task 4 (points)	Total (points)
1	2	3	4	5	6
1	60	65	72	66	263
2	55	63	70	70	258
3	62	71	75	68	276
...	...	...	...		...
75	76	84	83	77	320
76	84	78	79	79	320
77	86	80	75	80	321
78	81	76	77	75	309
79	80	76	78	75	309
80	79	72	80	75	306
Experimental group					
1	2	3	4	5	6
1	85	95	89	91	360
2	90	93	89	90	362
3	85	92	90	95	362
...	...	...	...		...
77	99	89	90	100	378
78	93	91	99	90	373
79	100	92	95	98	385
80	97	97	90	96	380
81	98	98	90	95	381
82	94	95	96	93	378

As shown in Table 10, the t value calculated between the arithmetic mean errors of the control and experimental groups was found to be statistically significant ($p<0.05$). This result confirms Hypothesis 3 (H3) that pre-service teachers in the experimental group, who received the targeted intervention, demonstrated significantly higher gains in communicative competence compared to those in the control group following standard instruction.

The findings revealed that the experimental group achieved statistically and practically significant improvement in communicative competence across motivational, cognitive, and reflexive dimensions. In particular, students who participated in the intervention course exhibited stronger development of reflective abilities, greater cognitive flexibility, and increased motivation toward multilingual education. Evidence from the survey data, motivation diagnostics, and performance tasks consistently confirmed that the targeted pedagogical approach positively influenced pre-

service teachers' readiness for multilingual education. These results provide robust evidence that the designed pedagogical intervention was not only statistically effective but also pedagogically meaningful in enhancing multilingual communicative competence among pre-service teachers.

Discussion

The findings of this study confirm that the development of communicative competence among pre-service teachers in multilingual education contexts requires the integration of motivational, cognitive, and reflexive components. As the experimental group outperformed the control group in all three areas, the results indicate that targeted pedagogical interventions can significantly strengthen the professional readiness of future teachers.

The reflexive component showed the strongest improvement, confirming that reflection plays a decisive role in teacher development. Rozimela et al. (2025) emphasize that regular self-reflection encourages English-as-a-foreign-language (EFL) teachers to refine their instructional approaches and align them with students' communicative needs. The present study extends these insights to pre-service teacher education, showing that reflective tasks help future educators critically evaluate their own multilingual communication and teaching performance.

The cognitive component also demonstrated notable progress, indicating that the experimental model strengthened participants' understanding of multilingual interaction strategies and pedagogical decision-making. This corresponds with Gao et al. (2023), who argue that multilingual teacher education enhances cognitive flexibility and cross-linguistic awareness. In addition, Dockrell et al. (2022) reported that teachers with positive attitudes toward multilingual learning exhibit deeper cognitive engagement with language diversity. Our results confirm that when pre-service teachers are guided to connect linguistic theory with practical classroom reflection, their cognitive competence in multilingual communication expands substantially.

Improvement in the motivational component shows that emotional engagement and identity formation are critical for developing communicative competence. Almusharraf et al. (2022) observed that multilingual professional-development activities significantly raise teachers' motivational and reflective levels. The current study supports these conclusions: motivation increased when participants viewed multilingual competence as part of their professional identity. This also aligns with the findings of Burner (2023), who demonstrated that teachers' beliefs and multilingual practices are interlinked with motivation and self-efficacy in English language education.

These results reinforce the view that reflexivity mediates between cognitive understanding and motivational drive, transforming individual learning experiences into professional communicative

competence. This conclusion echoes Tovar-Correal et al. (2025), who found that intercultural communicative competence in teacher education is influenced by both affective and reflective dimensions of teaching.

Overall, the present study supports current theoretical perspectives emphasizing teacher adaptability, multilingual awareness, and reflective agency (Haile, 2024). The alignment of our results with these recent international findings strengthens the argument that communicative competence should be viewed as an integrated, dynamic construct, encompassing motivational, cognitive, and reflexive aspects. Therefore, the proposed framework contributes to the growing body of global evidence advocating for holistic teacher education models that prepare future educators for linguistically and culturally diverse classrooms.

Conclusion and Recommendations

The study confirmed that the development of communicative competence among pre-service teachers in the context of multilingual education is shaped by the integration of motivational, cognitive, and reflexive components. The experimental findings demonstrated statistically significant improvements in the experimental group, proving the effectiveness of the designed pedagogical model. These results also align with Kazakhstan's strategic priorities, as outlined in the "Kazakhstan-2050 Strategy" and other state programs, which emphasize the preparation of a highly educated, trilingual citizenry capable of meeting international standards.

In this regard, communicative competence should not be reduced to linguistic proficiency alone but should also include reflective practice, cognitive development, and sustained professional motivation. Such an approach ensures the formation of mobile, flexible, creative, critical, and poly-communicative teachers, capable of working effectively in multilingual educational environments.

The correlation and regression analyses confirmed that motivational, cognitive, and reflexive components each play a significant role in the development of communicative competence, but with varying degrees of influence. Reflexive ability emerged as the strongest predictor, highlighting the centrality of reflective practice in professional training. Cognitive skills also contributed strongly, while motivation provided an essential but comparatively smaller effect. These findings emphasize the need for teacher education programs to prioritize reflexive and cognitive development alongside motivational support in order to achieve sustainable growth in communicative competence.

Based on the theoretical foundations and the results of the pedagogical experiment, the following recommendations are proposed for higher education institutions in Kazakhstan:

- Introduce a specialized elective course, "Development of Communicative Competence in the Context of Multilingual Education," as part of the university curriculum, complementing existing courses such as "Professionally Oriented Foreign Language" and "Professional Kazakh (Russian) Language".
- Expand research and design activities of pre-service teachers to include the topic of communicative competence in course papers, dissertations, and practice-based projects.
- Strengthen reflective practice within teacher education curricula to encourage pre-service teachers to critically evaluate their motivation, knowledge, and professional growth in multilingual contexts.
- Establish stronger partnerships between universities and schools to provide authentic multilingual teaching practice, thereby linking theory with real educational environments.

References

Abakumova, I. V., Al-Bakaeva, I., & Kolesina, K. Yu. (2016). Technologies of initiating students into independent (self-guided) activity in supplementary distance learning. *International Journal of Cognitive Research in Science, Engineering and Education, 4*(2), 1–7. https://doi.org/10.5937/ijcrsee1602001a

Al-Dawoody, M. A., Al Hawamde, B. O. S., & Mahmoud Hal, A. Z. (2022). The impact of multilingualism on productive language skills: Modelling some Saudi multilingual learners. *World Journal of English Language, 12*(8), 485–495. https://doi.org/10.5430/wjel.v12n8p485

Almusharraf, A., Almusharraf, N., & Bailey, D. (2022). The influence of multilingualism and professional development activities on teacher reflection levels. *Sustainability, 14*(18), 11504. https://doi.org/10.3390/su141811504

Bachman, L. F., & Palmer, A. S. (2010). Language assessment in practice: Developing language assessments and justifying their use in the real world. Oxford University Press.

Bokayev, B. Iskindirova, Z., Urazymbetov, B. & Nauryzbek, K. (2024). Exploring Civil Servants' Communicative Competencies in Government-Public Interactions: The Case of Kazakhstan, *Journal of Social Studies Education Research*, *15*(4), 135-162. https://jsser.org/index.php/jsser/article/view/5834/688

Bokayev, B., Moldabayeva, A., Davletbayeva, Z., Yessentemirova, A., & Torebekova, Z. (2025). Evaluating Language Competencies of Kazakhstan's Civil Servants: A Data-Driven Analysis and Development Model. *Journal of Curriculum Studies Research, 7*(1), 66-88. https://doi.org/10.46303/jcsr.2025.4

Burner, T. (2023). Teachers' multilingual beliefs and practices in English language education: A scoping review. *Review of Education, 11*(3), e3407. https://doi.org/10.1002/rev3.3407

Canale, M., & Swain, M. (1980). Theoretical bases of communicative approaches to second language teaching and testing. *Applied Linguistics, 1*(1), 1–47. https://doi.org/10.1093/applin/I.1.1

Celce-Murcia, M., Dörnyei, Z., & Thurrell, S. (1995). Communicative competence: A pedagogically motivated model with content specifications. *Applied Linguistics, 6*(2), 5–35.*

Chomsky, N. (1965). Aspects of the theory of syntax. MIT Press.

Council of Europe. (2001). Common European Framework of Reference for Languages: Learning, teaching, assessment (CEFR). Strasbourg: Council of Europe. https://rm.coe.int/1680459f97

Creswell, J. W. (2014). Research design: Qualitative, quantitative, and mixed methods approaches (4th ed.). Sage Publications.

Deci, E. L., & Ryan, R. M. (2000). The "what" and "why" of goal pursuits: Human needs and the self-determination of behavior. *Psychological Inquiry, 11*(4), 227–268.*

Dockrell, J. E., Marshall, C. R., & Holm, A. (2022). Teaching and learning in a multilingual Europe: Teachers' knowledge, attitudes, and beliefs. *European Journal of Psychology of Education, 37*, 119–138. https://doi.org/10.1007/s10212-020-00523-z

Ellis, R. (1994). The study of second language acquisition. Oxford University Press.

Festman, J. (2021). Learning and processing multiple languages: The more the easier? *Language Learning, 71*(S1), 121–162. https://doi.org/10.1111/lang.12437

Fraenkel, J. R., Wallen, N. E., & Hyun, H. H. (2015). How to design and evaluate research in education (9th ed.). McGraw-Hill Education.

Gao, X. A., & Yang, W. (2023). Multilingualism and language teacher education. *System, 113*, 103127. https://doi.org/10.1016/j.system.2023.103127

Gardner, R. C., & Lambert, W. E. (1972). Attitudes and motivation in second language learning. Newbury House.

Gardner, R. C., & Masgoret, A. M. (2003). Attitudes, motivation, and second language learning: A meta-analysis of studies conducted by Gardner and associates. *Language Learning, 53*(1), 123–163. https://doi.org/10.1111/1467-9922.00212

Gass, S. M., & Selinker, L. (2020). Second language acquisition: An introductory course. Routledge.

Government of the Republic of Kazakhstan. (2023). Concept for the Development of Higher Education and Science of the Republic of Kazakhstan for 2023–2029 years (Decree No. 248, March 28, 2023). Retrieved October 20, 2025, from https://zakon.uchet.kz/rus/docs/P2300000248

Haile, M. (2024). Utilizing communication strategies to enhance reflective learning in teacher education. *Education and Training Studies, 12*(4), 45–57. https://pmc.ncbi.nlm.nih.gov/articles/PMC11255492

Hymes, D. (1972). On communicative competence. In J. Pride & J. Holmes (Eds.), Sociolinguistics (pp. 269–293). Penguin.

Iskindirova, Z., Bokayev, B., Torebekova, Z., & Davletbayeva, Z. (2024). Building Communicative Competencies for Future Leaders: An Analysis of Public Administration Curricula in Kazakhstan. *Journal of Curriculum Studies Research, 6*(2), 70-87. https://doi.org/10.46303/jcsr.2024.11

Ismagulova, A., Rakisheva, G., Chernigovtseva, O., Sabitova, D., & Gerfanova, E. (2024). Technology for Creating a Language Learning Environment for Teaching English. *Journal of Curriculum Studies Research, 6*(2), 234-258. https://doi.org/10.46303/jcsr.2024.20

Iswandari, Y. A., & Ardi, P. (2022). Intercultural communicative competence in EPP setting: A systematic review. ERIC. https://eric.ed.gov/?id=EJ1359373

Jeong, K. O. (2018). Developing EPP learners' communicative competence through multimedia-assisted language learning. *Journal of Theoretical and Applied Information Technology, 96*(5).*

Kalugina, O. A. (2016). Development of students' professional communicative competence in an economic higher school. *XLinguae, 9(*4), 37–45. https://doi.org/10.18355/XL.2016.09.04.37-45

Kazangapova, V., Saparbaikyzy, S., Yegenissova, A. & Zhangoziyeva, M. (2024). Investigating the Relationships between Ethno-cultural Competencies, Attitudes towards Teaching National Values and General Competencies of Teacher Candidates, *Journal of Social Studies Education Research, 15*(5), 297-327. https://jsser.org/index.php/jsser/article/view/6210/717

Kim, T.-Y., Kim, Y., & Kim, J.-Y. (2017). Structural relationship between L2 learning (de)motivation, resilience, and L2 proficiency among Korean college students. *Asia Pacific Education Review, 26*(6), 397–406. https://doi.org/10.1007/s40299-017-0358-x

Kobari, S., Mahamid, F., & Shaheen, M. (2023). The Effect of Using Educational Mapping as a Game in Teaching English Language on University Students' Motivation. *Journal of Culture and Values in Education, 6*(2), 51-65. https://doi.org/10.46303/jcve.2023.8

Makena, B., & Feni, V. L. (2023). Teachers' Perspectives on the Efficacy of Oral Presentation Tasks toward Promoted Linguistic Acquisition. *Research in Social Sciences and Technology, 8*(4), 125-134. https://doi.org/10.46303/ressat.2023.36

Rean, A. A., Bordovskaia, N. V., & Rozum, S. I. (2002). Psikhologiia i pedagogika: uchebnoe posobie [Psychology and pedagogy: Textbook]. Piter.

Rozimela, Y., Dewi, R., & Fitri, R. (2025). EFL teachers' practices and perspectives on self-reflection for professional growth. *Asian-Pacific Journal of Second and Foreign Language Education, 10*(1). https://doi.org/10.1186/s40862-025-00338-9

Samad, A. A., Etemadzadeh, A., & Far, H. R. (2012). Motivation and language proficiency: Instrumental and integrative aspects. *Procedia – Social and Behavioral Sciences, 66*, 432–440.*

Santrock, J. W. (2004). Psychology (10th ed.). McGraw-Hill.

Savignon, S. J. (2017). Communicative competence. In The TESOL encyclopedia of English language teaching (pp. 1–7). Wiley. https://doi.org/10.1002/9781118784235.eelt0047

Schön, D. A. (1983). The reflective practitioner: How professionals think in action. Basic Books.

Stepanov, E. N. (2001). In search of a more precise answer: A personality-oriented approach. The Headmaster of the School, 1, 71–75.*

Strelnikov, V. Yu. (2003). Criteria for learning technologies focused on personality development. In New Learning Technologies (Vol. 35, pp. 243–250). Kyiv: Naukovo-metodychnyi Tsentr Vyshchoi Osvity.

Swift, T. A., & West, M. A. (1998). Reflexivity and group processes: Research and practice. ESRC Center for Organization and Innovation.

Tovar-Correal, M. E., & Pedraja-Rejas, L. (2025). Gender, ethnicity and teaching competencies: Do they influence intercultural communicative competence in teacher education? *Education Sciences, 15*(5), 520. https://doi.org/10.3390/educsci15050520

Ushioda, E. (2017). The impact of global English on motivation to learn other languages: Toward an ideal multilingual self. *The Modern Language Journal, 101*(3), 469–482.*

Vygotsky, L. S. (1978). Mind in society: The development of higher psychological processes. Harvard University Press.

West, M. A. (2000). Reflexivity, revolution, and innovation in work teams. In D. A. Johnson & S. T. Beyerlein (Eds.), Advances in the interdisciplinary study of work teams: Product development teams (pp. 1–29). JAI Press.

Widdowson, H. G. (1983). Learning purpose and language use. Oxford University Press.

Wong, K. M., & Moorhouse, B. L. (2021). Digital competence and online language teaching: Hong Kong language teacher practices in primary and secondary classrooms. *System, 103,* 102653. https://doi.org/10.1016/j.system.2021.102653

Xu, H., & Shan, Z. (2021). Teaching and learning multiple varieties of a foreign language for sustainable multilingual education. *Sustainability, 13*(14), Article 8004. https://doi.org/10.3390/su13148004

Yashnyk, S., & Turitsyna, O. (2023). The structure of cross-cultural competence and levels of its formation. *International Journal of Philology, 27*(1), 103–111. https://doi.org/10.31548/philolog14(1).2023.011

Yuan, Y., Harun, J. B., & Wang, Z. (2023). The effects of mobile-assisted collaborative language learning on EPP students' interpreting competence and motivation. *International Journal of Computer-Assisted Language Learning and Teaching, 13*(1). https://doi.org/10.4018/IJCALLT.332404

Zhao, X., Lan, G., & Chen, T. (2023). Motivational intensity and self-perceived Chinese language proficiency: A moderated mediation model of L2 enjoyment and boredom. *Language Teaching Research*. https://doi.org/10.1177/13621688231180465

Zhunussova, T., & Ryspayeva, D. (2025). Formation of Cultural Values: Case Study in the Era of Globalization. *Journal of Culture and Values in Education*, *8*(3), 138-158. https://doi.org/10.46303/jcve.2025.31

Appendix 1

Table of critical values of the student t-criterion

Degree of freedom, f	Student's t-criterion, p=0.05	Degree of freedom, f	Degree of freedom, f
1	12.706	35	2.030
2	4.303	36	2.028
3	3.182	37	2.026
4	2.776	38	2.024
5	2.571	40-41	2.021
6	2.447	42-43	2.018
7	2.365	44-45	2.015
8	2.306	46-47	2.013
9	2.262	48-49	2.011
10	2.228	50-51	2.009
11	2.201	52-53	2.007
12	2.179	54-55	2.005
13	2.160	56-57	2.003
14	2.145	58-59	2.002
15	2.131	60-61	2.000
16	2.120	62-63	1.999
17	2.110	64-65	1.998
18	2.101	66-67	1.997
19	2.093	68-69	1.995
20	2.086	70-71	1.994
21	2.080	72-73	1.993
22	2.074	74-75	1.993
23	2.069	76-77	1.992
24	2.064	78-79	1.991
25	2.060	80-89	1.990
26	2.056	90-99	1.987
27	2.052	100-119	1.984
28	2.048	120-139	1.980
29	2.045	140-159	1.977
30	2.042	160-179	1.975

31	2.040	180-199	1.973
32	2.037	200	1.972
33	2.035	∞	1.960
34	2.032		