







# Study of the Convergence of Formal and Non-formal Foreign Language Training: A Case of Kazakhstani Students

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## Abstract

Proficiency in English is vital in today's globalized world. Recognizing this, the Kazakhstani education system emphasizes the importance of converging formal and non-formal learning environments to enhance students' language competence. The purpose of this research is to examine the convergence of formal and non-formal foreign language education in Kazakhstan and assess how these environments contribute to students' language development. The research reveals theoretical and applied issues of the convergence of formal and non-formal foreign language education. A mixed-methods research design was employed. Quantitative data were collected through a structured questionnaire administered to 95 students from Karaganda Research University and Kazakh Agrotechnical Research University. Qualitative data were gathered through open-ended responses and semi-structured interviews. The instruments measured students' participation in formal courses and non-formal language activities, as well as their perceived competence. Descriptive statistics were used to analyze quantitative data, while qualitative responses were coded thematically. The study culminated in designing and validating a convergent model for developing professional foreign language competence. Findings confirmed that students who combined formal and non-formal language learning showed a significant increase in language proficiency compared to the control group. The results demonstrate that the convergence of formal and non-formal education fosters more effective and sustainable language development. The study contributes to both global and national educational policies and curriculum design by creating a replicable model for developing professional foreign language competence in resource-constrained settings.

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**Keywords:** convergent model, formal education, non-formal education, foreign language education, professional communicative competence

## Introduction

Higher education systems across the world are nowadays under increasing pressure to adapt to rapid technological advancements, the mobility of labor markets, and the growing demand for multilingual

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professionals (Kanwar et al., 2019). The current modern society imposes the necessity of implementing digital literacy for productive work in the current labor market, where digital technologies are being introduced into all spheres of activity (Balgabayeva et al., 2025). In Kazakhstani education, these global trends have emphasized the need to develop foreign language proficiency at all levels of education, starting from primary school. This has led to the large-scale transition to the newest educational model of the competent method to education, which is relevant to both the world and Kazakh pedagogical science (Karimova et al., 2023). Meanwhile, even though foreign language education is incorporated at every stage of formal education, from primary school to doctoral studies, many Kazakhstani students still rate their foreign language skills as basic. This suggestion may be grounded in the limited exposure to the foreign language at university foreign language classes, which generally occur only twice a week. Therefore, the majority of a student's time is spent outside the university environment, which may undermine the effectiveness of even the most successful foreign language teaching methodologies (Ahn & Smagulova, 2021).

Recent research has expanded our understanding of the role of non-formal education in complementing and enhancing formal learning environments. The availability of MOOCs, extracurricular clubs, language camps, workshops, seminars, and other non-formal learning platforms has provided more access to practical foreign language usage. Studies have highlighted the growing recognition of non-formal and informal learning in lifelong education frameworks (Bjornavold, 2000; Werquin, 2010). Sockett (2023) and Corney et al. (2024) suggest that converging formal and non-formal education leads to improving students' motivation, learner autonomy, and communicative competence. Scholars such as Souto-Otero (2021) and Malcolm et al. (2003) have proposed criteria for distinguishing formal and non-formal education due to the intent, recognition, and pedagogical approach. Illeris (2009) introduced the concept of diverse learning spaces, suggesting that modern learning extends beyond traditional classrooms. The convergence of formal and non-formal education has been proposed as a way to overcome the gap between theoretical knowledge and teaching practice (Alm, 2019; Omirbayev et al., 2021). In foreign language education, Richards (2015) and Corney et al. (2024) emphasized that non-formal environments offer greater flexibility and are more student-centered, which may better address individual learning needs.

While the benefits of combining formal and non-formal environments have been globally acknowledged in various contexts, there remains a scarcity of empirical studies that specifically examine how the convergence of formal and non-formal foreign language education can enhance professional foreign language competence in Kazakhstani higher education. Most of the research available provides either theoretical insights or generalized observations, without offering a validated framework tailored to the linguistic and cultural context of Kazakhstan.

This study addresses a growing need to explore how converging formal and non-formal foreign language education can fill existing gaps in Kazakhstani universities. Being a country that is strategically located between the East and the West, Kazakhstan has placed a strong focus on multilingual education through such national initiatives as the Trinity of Languages policy and the Concept for the Development of Higher Education and Science for 2023 – 2029. Kazakhstan provides a favorable environment for the convergence of formal and non-formal education by emphasizing internationalization, digital transformation, and validating students' achievements in various educational formats. On approval of the rules for the recognition of learning results obtained through non-formal education, as well as the results of recognition of professional qualifications, a Joint Order No. 544/322 on recognition of non-formal learning, was issued by Ministry of Science and Higher Education and Ministry of Education of the Republic of Kazakhstan, dated October 24, 2023. This Joint Order formally recognizes the competencies acquired through non-formal education, which is a critical step towards systemic convergence.

Empirical studies also put focus on the growing demand for the convergence of formal and non-formal educational formats. For instance, Imanova et al. (2025) declare the urgent need for flexible student-centered learning models in Kazakhstani higher education. Sockett (2023) and Corney et al. (2024) discovered that the majority of students preferred blended learning models and demonstrated more engagement, thus benefiting from convergent approaches.

Taken together, the policy reforms, educational initiatives, and students' preferences indicate that the Kazakhstani higher education system not only recognizes but actively facilitates the convergence of formal and non-formal foreign language education. This positions Kazakhstan as a relevant and promising ground for examining the effectiveness of this type of convergence within a multilingual and reform-oriented national context.

Despite current educational reforms and a demand for competitive multilingual professionals, Kazakhstani higher education is still facing challenges in equipping students with abundant practical skills. The separation between formal and non-formal foreign language education has hindered their complementary potential in enhancing foreign language proficiency. This research aims to reveal the effectiveness of the convergent model of formal and non-formal foreign language education in higher education institutions in Kazakhstan.

Therefore, in light of the growing emphasis on enhancing foreign language proficiency through various educational pathways, the given research explores how formal and non-formal education can be converged effectively. To achieve this aim, the research is guided by the following objectives:

1. To assess the advantages and disadvantages of formal and non-formal foreign language education among Kazakhstani students.
2. To evaluate the implementation of a convergent model in real educational settings.
3. To identify the conditions necessary to ensure the successful convergence of formal and non-formal foreign language education in Kazakhstan.

## Literature Review and Theoretical Framework

### *Conceptual Foundations of Formal, Non-formal, and Informal Education*

The conceptual framework for this research is based on the distinction between formal and non-formal education, as well as the theoretical rationale for their convergence in the context of foreign language learning. This convergence is grounded in both pedagogical theory and policy developments that have reshaped the understanding of how learning occurs across different contexts. The evolving landscape of educational policy has historically been shaped primarily by formal education. However, a major turning point occurred with the adoption of the Memorandum on Lifelong Education of the European Union (2000), signed in Lisbon during the March 2000 European Summit. This policy document marked a paradigm shift by officially recognizing non-formal and informal education as equally important components of the broader educational framework. This recognition signaled the beginning of a more inclusive approach to lifelong learning, acknowledging that diverse forms of education contribute meaningfully to the development of skills and competencies needed in a knowledge-based, open society.

Numerous international initiatives and scholarly works have since reinforced the legitimacy and educational value of non-formal and informal education. Seminal contributions in this area include the research of Bjornavold (2000), Davies (2001), Werquin (2010), and the Organization for Economic Co-operation and Development (OECD) project of 2007, which recognized nonformal and informal learning. All these initiatives advocate for policy integration, recognition of learning outcomes, and flexible educational pathways.

Despite the diversity in how education systems are classified globally, the educational triad—formal, non-formal, and informal education – remains central to contemporary discourse (see Figure 1). This triadic model, further codified by the UNESCO International Standard Classification of Education, highlights the importance of structured pedagogical intent in both formal and non-formal settings. Nevertheless, scholars such as Cameron and Harrison (2012) argue that attempts to distinguish between the concepts of formal, non-formal, and informal education are controversial and contradictory (Cameron & Harrison, 2012).

Illeris (2009) contributes to this discussion by identifying five interconnected learning spaces in modern society: “everyday learning, school and educational learning, workplace learning, interest-based learning, net-based learning” (Illeris, 2009). His framework supports the view that educational experiences today are not confined to traditional classrooms but span multiple environments where both structured and incidental learning take place.

To further clarify the conceptual distinction and interplay between formal, non-formal, and informal education, which underpins the rationale for convergence explored in this research, Figure 1 presents the educational triad. This framework highlights the defining characteristics of each education type and serves as a theoretical foundation for understanding how convergence can enhance students’ language development within institutional and extracurricular settings.

The educational triad illustrated in Figure 1 emphasizes the deliberate and goal-oriented nature of both formal and non-formal education, typically facilitated by educators and structured programs. In contrast, informal learning occurs naturally in daily life and lacks organized instruction, yet it remains a vital element in lifelong educational development. Souto-Otero (2021) points to intent, recognition, and learning conditions as key parameters: “learning conditions; intentions and planning to promote learning; formal recognition” (Souto-Otero, 2021).

Malcolm et al. (2003) emphasize the political and theoretical dimensions in determining the formality of education. The theoretical dimension included approaches to learning, conflicting statements about the effectiveness of learning, and statements about the interrelationship between knowledge and learning. Policy change, in turn, includes attempts to expand opportunities for disadvantaged students and attempts to use learning for social inclusion and economic competitiveness. Richards (2015) offers his own parameters for distinguishing between formal and non-formal language education: level of structure, location of control, location (inside/outside the classroom), and teaching methods, including clarity of instructions and explanation. Richards (2015) also highlights additional aspects such as the learner’s goals – from intentional

(formal) to incidental (non-formal) education – and the type of interaction, which can be one-way (formal) or reciprocal (non-formal).

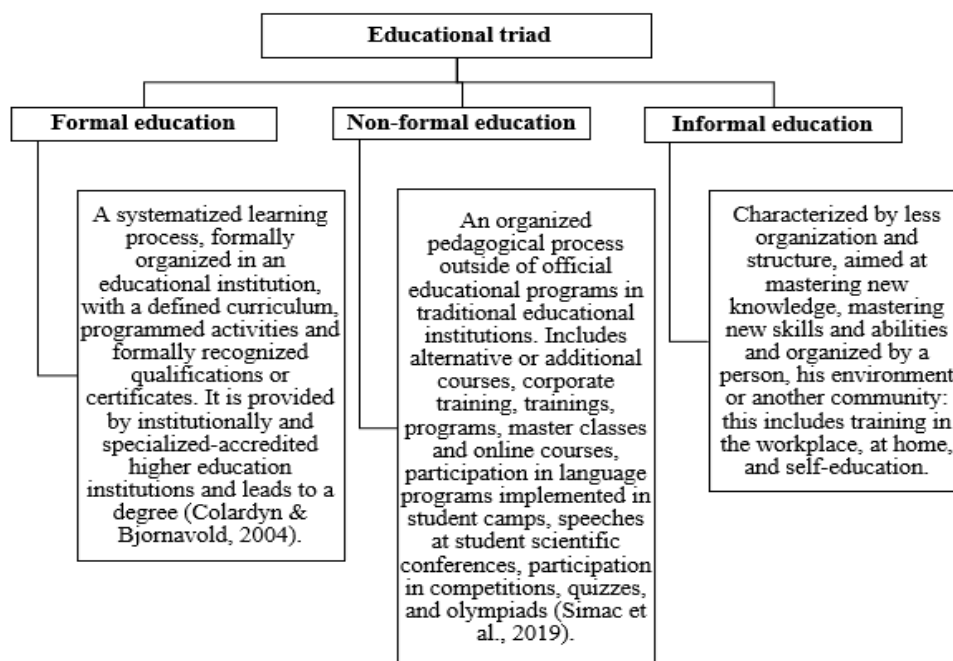


Figure 1: Educational triad

The existence of such a variety of parameters to distinguish between formal and non-formal language education supports the idea that the two approaches are not clearly defined and demarcated. Instead, they represent a continuum from formal to non-formal language education. To clarify the conceptual framework, it is essential to outline the defining features of formal and non-formal education. The concept of non-formal education has gained increased attention in recent decades, particularly in light of global trends in lifelong learning. While formal education typically occurs within structured institutional settings, non-formal education is characterized by its flexibility, intentionality, and context-driven nature. [Pienimäki et al. \(2021\)](#) note that although non-formal education usually takes place outside of schools, it can also be delivered within formal environments, depending on its structure and objectives ([Pienimäki et al., 2021](#)). According to [Stevens \(2009\)](#), non-formal education can be intentional, but most often it is accidental or unintentional and can also be called reactive learning.

The defining feature of non-formal education is not necessarily its location, but its conceptual non-standardization. [Denkowska et al. \(2020\)](#) argue that non-formal education usually leads to the development, expansion, and acquisition of skills in various areas of professional, social, and cultural life ([Denkowska et al., 2020](#)). Meanwhile, [Opdecam and Everaert \(2018\)](#) emphasize its goal-oriented and flexible nature. [Corney et al. \(2024\)](#) highlight a distinction between non-formal education and formal education, stating that non-formal education is centered around continuous, or lifelong, learning ([Corney et al., 2024](#)). Moreover, non-formal education encompasses a broad spectrum of learning activities that target not only cognitive development but also emotional, social, and behavioral competencies ([Badger, 2021](#); [Erta-Majó & Vaquero, 2023](#)).

### *Policy Developments and Lifelong Learning Frameworks*

The strategic importance of non-formal education was reinforced at the policy level with the adoption of the 2030 Agenda for Sustainable Development by the United Nations in 2015. It underscores the significance of 17 global sustainable development goals aimed at effecting change worldwide by the year 2030. One of the main aims is to ensure access to inclusive and equitable education of high quality so that all people have lifelong learning opportunities and lead to sustainable lifestyles. The main idea is to emphasize the acquisition of basic and advanced skills, provide equal access to technical and vocational education, encourage lifelong learning and higher education, and other activities in this direction. These requirements for modern education pose a number of educational tasks for universities in order to achieve more effective and creative realization of students ([Bordoloi et al., 2020](#)).

### *Integration of Formal and Non-formal Education in Higher Education*

In the context of higher education, there is growing momentum toward integrating formal and non-formal learning as part of broader institutional reforms. [Alm \(2019\)](#) introduced the term “intra-formal” to describe

this integration, suggesting that the convergence of learning environments creates an ecosystem where formal, non-formal, and informal modes of learning reinforce one another. This idea aligns with Socket's (2023) framework, which views such convergence as essential to deepening students' engagement and enhancing their learning experiences.

### *Legislative Recognition and Validation of Non-formal Education*

In Kazakhstan, this global trend has been acknowledged in national policy documents such as the Concept for the Development of Higher Education and Science in the Republic of Kazakhstan for 2023–2029 (2023). According to Omirbayev et al. (2021), the convergence of formal and non-formal learning has become a necessary response to rapid social and labor market changes, particularly the widening gap between graduate skills and employer expectations. This has created an urgent need for continuous competence upgrading and flexible transitions across professions. Charunkaittikul et al. (2022) echo this sentiment, arguing that the education system should focus on improving the competence of students and provide them with the opportunity to choose to reveal their full potential (Charunkaittikul et al., 2022).

Higher education institutions face several challenges, including intense competition, the rapid pace of technological advancement Kanwar et al. (2019), and the swift obsolescence of information. In order to remain relevant, universities are increasingly expected to adopt lifelong learning models and embed non-formal education into their institutional systems (Omirbayev et al., 2021).

The above-mentioned trend of integrating non-formal education into the institutional educational environment stems from the growing interest of the scientific and methodological community in this issue. In the 2000s, the involvement in non-formal education was primarily driven by individual teachers, but currently, there is a consistent and enduring interest from the professional community in this matter, leading to the official endorsement of the validation process of non-formal education in formal educational settings at a legislative level. The purpose of validation is to confirm the results of training, which can be exchanged for the opportunity for further training and/or employment. This is formalized through the Joint Order of the Minister of Science and Higher Education and the Minister of Education of the Republic of Kazakhstan of 2023, which outlines the procedures for recognizing learning outcomes and professional qualifications acquired through non-formal education.

### *Relevance of Convergence in Foreign Language Education*

The convergence of formal and non-formal education is particularly relevant in the field of foreign language education. Distinguished by its flexibility, accessibility, and student-centered approach, non-formal education significantly changes the methods of foreign language learning outside of traditional formal education. Corney et al. (2024) emphasize that non-formal education in language learning is notable for its diverse methods and learner-centered content (Corney et al., 2024). As Decius et al. (2022) observe, university students acquire knowledge both in formal courses and independently and autonomously outside the classroom.

Developing professional foreign language competence requires more than traditional communicative exercises; students must be challenged to engage in critical thinking, problem-solving, and decision-making. Non-formal settings are particularly conducive to these activities, enabling learners to use language for authentic expression and complex thought. The limited number of instructional hours allocated to foreign language courses in formal programs has further necessitated the expansion of non-formal learning opportunities. As Ratana-Ubol and Soopunyo (2021) note, non-formal education immerses learners in an open and supportive learning environment that promotes lifelong learning, including self-awareness, self-directed learning, and a love of learning (Ratana-Ubol & Soopunyo, 2021).

While the theoretical justification for converging formal and non-formal foreign language education is well established, empirical evidence also points out its effectiveness in teaching practice. Recent studies underscore the practical benefits of converging traditional classroom instruction with more flexible, student-driven learning environments. Decius et al. (2022) developed and tested a model of informal learning in higher education, finding that students who actively engaged in language-related activities outside formal settings, such as discussion clubs or online forums, demonstrated improved language retention and a greater sense of learner autonomy. These findings support the notion that informal or non-formal practices, when strategically linked to formal curricula, foster deeper language engagement.

Zainuddin and Yunus (2022) emphasized that using social networking sites for blended language learning enhances flexibility and motivation; Zhang and Zhu (2020) demonstrated that converging of learning formats outperform purely face-to-face or online approaches in foreign language teaching; and Cheung et al. reported that converging formal and non-formal foreign language teaching can enhance students' autonomy, encourage sustainable language development, and increase motivation (Cheung et al., 2023). Similarly, Simac et al. (2019) carried out a longitudinal empirical study in European institutions to discover the long-term effects of non-formal education. Their results showed that students who supplemented traditional classroom learning with non-formal educational formats retained a higher level of communicative competence compared to those

exposed only to formal educational formats.

In Kazakhstani realia, Imanova et al. (2025) ascertained the influence of the convergence of formal and non-formal education across several Kazakhstani universities. Their findings revealed that combining two education modes can enhance students' confidence, motivation, self-regulation, and English proficiency. These empirical studies confirm that convergence can lead to better language outcomes by overcoming limitations inherent in traditional formal education. However, while international and regional research supports convergent approaches, few studies offer a context-sensitive model designed specifically for Kazakhstani universities. This study is designed to address that gap by proposing and experimentally validating a convergent model tailored to the Kazakhstani multilingual, policy-driven educational landscape.

## Methodology

### *Research Design*

This research study uses a mixed-methods research design, combining both theoretical and empirical approaches. The theoretical component involved the examination of conceptual frameworks, synthesis of innovative pedagogical practices, and analysis of regulatory and legislative documents related to foreign language education. In parallel, empirical methods were applied to gather and analyze data directly from participants.

### *Sampling technique*

A purposive sampling technique was employed to select participants who could provide profound and relevant insights into the convergence of formal and non-formal foreign language education. Purposive sampling was used to ensure that all participants had meaningful exposure to foreign language education and to compare the experiences of the participants from both linguistic and non-linguistic fields and assess the applicability of the convergent model across disciplines. A total of 95 participants took part in the research. The sample included third-year students from the Faculty of Foreign Languages (specializing in the educational program "Foreign Language: Two Foreign Languages") and the Faculty of Biology and Geography (specializing in the educational program "Biology") at Karaganda Research University named after Buketov (Karaganda, Kazakhstan) and fourth-year students of non-linguistic fields of Kazakh Agrotechnical Research University named after S. Seifullin (Astana, Kazakhstan).

Purposive sampling enabled the deliberate involvement of participants with experience in both formal and non-formal foreign language learning modes, thereby augmenting the study's ability to investigate the research questions in depth (Palinkas et al., 2015). The final sample size ( $N = 95$  for quantitative,  $n = 15$  for qualitative) provided sufficient data for descriptive and inferential statistical analysis, as well as thematic coding of interview transcripts.

### *Data Collection Methods*

Data were collected using semi-structured interviews and a custom-designed survey questionnaire. The instruments were developed by the research team based on a review of relevant literature and expert consultations. Content validity was established through expert review by three specialists in applied linguistics and educational research. A pilot study was conducted with 10 students to refine the questionnaire. Based on their feedback, items were revised for clarity and cultural relevance. Reliability was evaluated using the Student's t-criterion. As the calculated t-value (22.24) significantly exceeds the critical t-value (2.02) at a 95% confidence level ( $\alpha = 0.05$ ), the improvement in the results at the control and evaluation stage is statistically significant. Semi-structured interviews, conducted with a smaller group of participants from both linguistic and non-linguistic backgrounds to gain deeper qualitative insights. Interview prompts were designed to elicit students' experiences with extracurricular language learning, motivations, and perceived barriers.

In addition to survey and interview data, modeling techniques were applied to design a convergent model of professional foreign language competence. These techniques incorporated international best practices in educational modeling and were informed by the collected data and relevant policy frameworks.

### *Data Analysis*

Qualitative data from interviews were analyzed using thematic coding, which allowed for the identification of recurring patterns and categories relevant to the research questions. Quantitative data from the survey were analyzed using descriptive statistics to summarize participant responses and examine trends in perceptions of formal and non-formal education.

### *Ethical Considerations*

All participants were informed about the purpose and procedures of the research and provided written

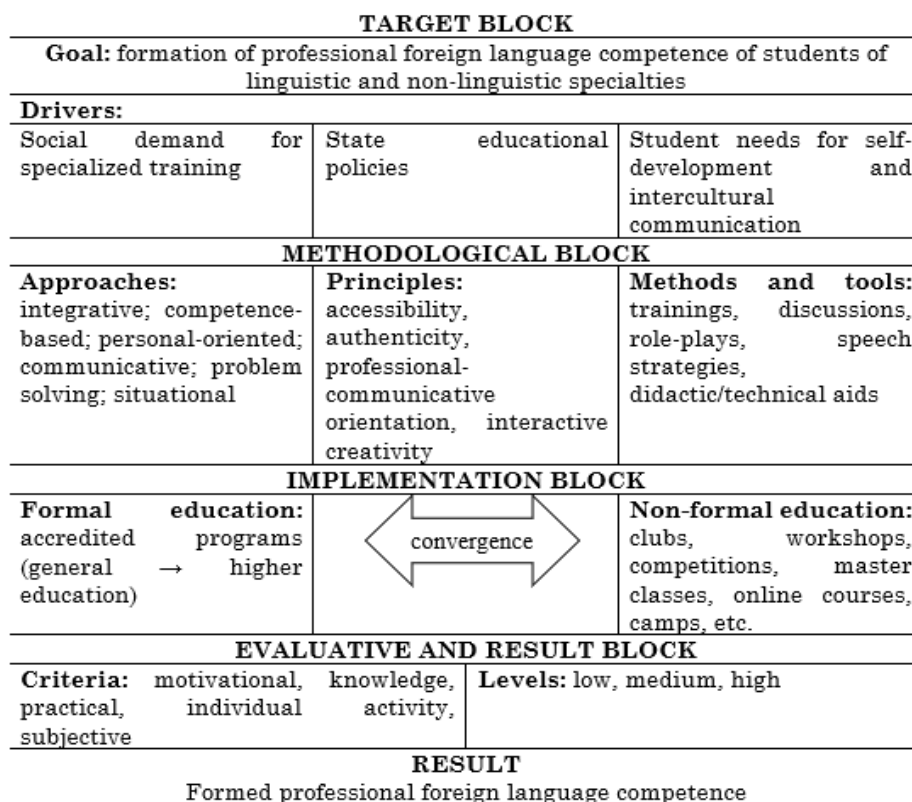
informed consent before participation. Participation was voluntary, and individuals were assured of their anonymity and confidentiality. The research complied with the institutional ethical guidelines for research involving human subjects.

## Findings

### Model Overview

The examination of the convergence of formal and non-formal foreign language education has prompted the development of a convergent model of professional foreign language competence among students specializing in linguistic and non-linguistic fields.

The model, illustrated in Figure 2, merges foreign language education with vocational preparation, allowing students to apply language skills within the framework of their prospective careers.



**Figure 2:** Convergent model of professional foreign language competence of students in linguistic and non-linguistic specialties

### Experimental Study

The experimental study consisted of three basic stages: ascertaining, formative and control, and evaluation stages. At the ascertaining stage of the research process, a survey was conducted among the participants. The primary objective of this investigation was to compile a series of 9 inquiries meticulously designed to elucidate and evaluate the educational requisites specific to various demographic segments, particularly within the realm of amalgamating formal and non-formal higher education methodologies.

In the course of analyzing the respondents' answers, the following results were obtained: to the question "What are the advantages of non-formal education in teaching a foreign language?" the majority of respondents, namely 45.3%, noted the possibility of combining it with work, 41.2% of respondents indicated that with this form of training its effectiveness will increase, since students will voluntarily attend classes at a time convenient for them. And 13.5% of respondents noted that this form of education is less expensive, both from a financial and time point of view, compared to formal education (Table 1).

**Table 1:** Students' perceived advantages of non-formal language education (N = 95)

#	Advantage	N	%
1	The possibility of combining it with work	43	45.3
2	Better effectiveness	39	41.2
3	Lower financial and time costs	13	13.5

In response to the inquiry “What are the disadvantages of formal education in teaching a foreign language?” it was found that a majority of the participants (52.9%) noted the high cost of training, 32.3% noted a strict training schedule, and 14.8% of respondents noted the high time-consuming nature of formal education (Table 2).

**Table 2:** Disadvantages of formal foreign language education (N = 95)

#	Disadvantage	N	%
1	High costs	50	52.9
2	Strict training schedule	31	32.3
3	High time consumption	14	14.8

To the question “What is formal and non-formal education?” the majority of survey participants (84.6%) chose the correct definitions, while 4.1% answered the question incorrectly, and 11.3% encountered difficulties in formulating a definitive response (Table 3).

**Table 3:** Definitions of formal education (N = 95)

#	Definition	N	%
1	Correct definition	80	84.6
2	Incorrect definition	4	4.1
3	Difficult to answer	11	11.3

To the question “Is formal education sufficient for the best mastery of a foreign language?” The respondents’ opinions were divided almost equally, that is, 41.8% believe that formal education is sufficient, and 44.3% consider it insufficient. 13.9% encountered difficulties in formulating a definitive response (Table 4).

**Table 4:** Sufficiency of formal education (N = 95)

#	Perception	N	%
1	Sufficient	40	41.8
2	Insufficient	42	44.3
3	Difficult to answer	13	13.9

Regarding the question of whether students attend additional foreign language courses, the majority of survey participants (40.9%) answered that they do not attend additional courses in foreign languages, and 34.1% of respondents attend additional courses. 25% of respondents are thinking about enrolling in a foreign language course (Table 5).

**Table 5:** Attendance of additional foreign language courses (N = 95)

#	Attendance status	N	%
1	Attend	32	34.1
2	Do not attend	39	40.9
3	Planning to enrol	24	25

Regarding the question “What methods of teaching foreign languages are most effective?” 54.5% of respondents named the language immersion method, 25% of students - the communicative method, 18.2% - thematic discussion method, and 2.3% - teaching methods using ICT (Table 6).

**Table 6:** Perceived effectiveness of teaching methods (N = 95)

#	Method	N	%
1	Language immersion method	52	54.5
2	Communicative method	24	25
3	Thematic discussion method	17	18.2
4	ICT-based methods	2	2.3

In response to the inquiry, “Is the acquisition of additional knowledge and skills through non-formal education a necessary component of formal education?” the overwhelming majority, comprising a significant 70.5% of the total respondents, provided affirmative responses. This notable statistic raises concerns as it implies a prevalent sentiment among students, indicating a certain level of dissatisfaction with the current standards of formal education. Conversely, a mere 13.6% of participants expressed a negative stance on the matter, while the remaining 15.9% encountered difficulties in formulating a definitive response, as illustrated in Table 7.

**Table 7:** Necessity of non-formal education as a component of formal education (N = 95)

#	Response	N	%
1	Affirmative	67	70.5
2	Negative	13	13.6
3	Difficult to answer	15	15.9

Upon exploration of the perceived quality of foreign language instruction dispensed within the confines of formal education, the survey findings revealed that 68.2% of the surveyed individuals deemed the quality to be of an “average” standard. Furthermore, a notable 27.3% of respondents opined that the quality of education in this domain was categorized as “high”, with a marginal 4.5% indicating a perception of low quality. These insights are visually represented in [Table 8](#).

**Table 8:** *Perceived quality of formal language education (N = 95)*

#	Quality rating	N	%
1	High	26	27.3
2	Average	65	68.2
3	Low	4	4.5

In relation to the inquiry “In what manner do you prefer to acquire a new language?” it was found that a significant proportion of the survey participants, specifically 52.3%, favored the approach of acquiring a foreign language within a setting that combines formal and non-formal educational elements. Furthermore, 29.5% of the respondents indicated a preference for solely engaging in traditional formal education methods for language learning, while 18.2% of the participants expressed a preference for acquiring a new language through non-formal educational environments, as outlined in [Table 9](#).

**Table 9:** *Preferred learning format for language acquisition*

#	Format	N	%
1	Formal only	28	29.5
2	Non-formal only	17	18.2
3	Converged (formal + non-formal)	50	52.3

After data collection, the survey participants’ responses were analyzed. Having analyzed the data, we concluded that students were familiar with the concepts of formal education and non-formal education and can distinguish between them. According to respondents, formal education is not enough to develop the necessary professional competencies, since the majority of survey participants believe that formal education does not provide the development of all necessary skills and abilities. Thus, according to the interviewed participants in the ascertaining stage of the research, the best format for foreign language training for students in linguistic and non-linguistic specialties is the convergence of formal and non-formal education.

Having received the data that students consider the convergence of formal and non-formal education to be the best format for foreign language training for students in linguistic and non-linguistic specialties, our research team embarked on an investigation to evaluate the efficacy of the proposed convergent model designed to enhance the professional foreign language competence of students.

[Table 10](#) presents generalized results obtained during the formative stage of the study, reflecting the professional foreign language competence levels of students from both linguistic and non-linguistic specializations.

**Table 10:** *Comparative analysis of the levels of professional foreign language competence development within the control and experimental groups*

Types of speech/language activities															
	Listening			Reading			Speaking			Writing			Structures (vocabulary and grammar)		
	Low	Average	High	Low	Average	High	Low	Average	High	Low	Average	High	Low	Average	High
EG	18	19	63	11	17	72	17	31	52	11	21	68	12	15	73
CG	29	39	32	18	58	24	38	48	14	25	43	32	28	30	42

In order to confirm the reliability of the results of the experimental study and formulate the correct conclusions, it was necessary to select an adequate method and use it to conduct a statistical analysis of the results.

In order to implement statistical verification of character sequences at the EG level at the ascertaining and control, and evaluation stages of the experimental study, Student's t-criteria for dependent samples (for the same sample) were chosen as a statistical method for testing the hypothesis. The choice of this method was also determined by the compliance of the sample data with the normal distribution law.

The null and alternative hypotheses were formulated:

- $H_0$  – the results at the control and evaluation stage of the experimental study do not differ significantly from the results of the ascertaining stage,
- $H_1$  – the results at the control and evaluation stage of the experimental study differ significantly from the results of the ascertaining stage.

To accept one hypothesis and reject the other, the following conditions were met:

- if  $t_{\text{calc}} < t_{\text{crit}}$ , then  $H_0$  is accepted,
- if  $t_{\text{calc}} \geq t_{\text{crit}}$ , then  $H_1$  is accepted.

Table 11 demonstrates the results of calculating the student's t-test coefficient for dependent samples for statistical testing of the significance of differences in the obtained results of the EG at the ascertaining and control, and evaluation stages.

**Table 11:** Result of calculating the Student's t-test coefficient for dependent samples

Stages	Ascertaining stage	Control and evaluation stage	Difference
1	2	3	4
N, number of students in a group	48	47	-
Xav, average score	72,47917	88,47917	16
D, variance	367,8293	475,3187	24,85106
SD, root of variance	19,17888	21,80181	4,9850
m, standard error	2,768233	3,14682	0,719535
t-calculated	-	-	22,23659
F, degrees of freedom	-	-	47
$\alpha$ , significance level	-	-	0,05
t-critical	-	-	2,02

The number of degrees of freedom was calculated using formula (1):

$$f = n - 1 \quad (1)$$

The value of the student's t-criterion was calculated using formula (2):

$$t = \frac{x_{\text{cp}}}{m} \quad (2)$$

The following formula (6) was used to calculate the standard error (3):

$$m = \frac{S_d}{\sqrt{N}} \quad (3)$$

According to Table 11, the t-calculated value is 22.23659, which is a higher value than the t-critical value and confirms the alternative hypothesis about the presence of significant differences between the results in the EG at the ascertaining and control-analytical stages.

Therefore, it can be concluded that the changes observed at the control and evaluation stage are statistically significant at the 95% confidence level. These results confirm the effectiveness of the developed convergent model, which, when implemented within the university pedagogical process, contributes meaningfully to the formation of professional foreign language competence among students enrolled in both linguistic and non-linguistic fields.

The assessment of students' acquisition of professional foreign language competence hinges on their aptitude in handling diverse forms of speech activities prescribed in the curriculum. A high level indicates complete mastery of the relevant competence, while a low level indicates its absence, imperfection or instability. The outcomes of the investigation indicate that the proposed model facilitated enhancements in academic metrics concerning the cultivation of professional foreign language competence in the experimental group. It is argued that the superior performance exhibited by participants in the experimental group can be attributed to their heightened personal commitment to mastering professional foreign language skills, increased motivation towards professional growth, and a deepened awareness of the significance of acquiring foreign language communication abilities within the blend of formal and informal educational settings.

## Discussion

The findings of this study prove the effectiveness of the converging formal and non-formal educational methods in developing students' professional foreign language competence. The model proposed in this study encouraged the development of foreign language professional communicative competence, echoing previous theoretical and empirical studies and normative documentation. The statistical differences in foreign

language proficiency between the control and experimental groups, as demonstrated in the t-test, affirm the effectiveness of the designed convergent model.

The given study is grounded in the current Kazakhstani national educational strategy that prioritizes validation of the students' achievements in non-formal education and its convergence with formal education (Concept for the Development of Higher Education and Science for 2023–2029, 2023; Joint Order No. 544/322, 2023). These results are aligned with previous theoretical research that investigates the educational positive outcomes of such a type of convergence. At a theoretical level, this study supports Alm's (2019) concept of "intra-formal" education, which focuses on the convergence as a purposeful and interconnected continuum. Likewise, Corney et al. (2024) claim that non-formal education enhances students' autonomy and lifelong engagement. Furthermore, previous findings made by Badger (2021) and Ratana-Ubol and Soopunyo (2021) demonstrate students' preference for mixed learning formats and highlight their motivational power.

The results of this study are consistent with previous empirical research, as well. To illustrate, Zainuddin and Yunus (2022) reported that integrating formal education with social networking and other non-formal tools increases students' motivation and autonomy. It corresponds to students' preference for a blended education model by 52.3% of the respondents in our study. The preference for the converged format also reflects the findings of Zhang and Zhu (2020), who came to the conclusion that it outperformed traditional formal foreign language teaching. Similarly, Sockett (2023) highlighted the value of MOOCs, forums, and other "digital wild" learning environments as a valuable addition to traditional formal education. In Kazakhstani realia, Imanova et al. (2025) proved that the investigated type of instruction is especially beneficial at higher educational institutions that change due to policy reform and educational modernization.

All these studies demonstrate that, if carefully designed and implemented, convergence of formal and non-formal foreign language teaching brings more student-centered and sustainable outcomes. In addition, positive results of this experimental research provide a replicable framework for higher educational institutions seeking to converge formal and non-formal education. Although the results are promising, some challenges should be noted: some of the participants expressed their uncertainty towards navigating the non-formal educational format independently. This reinforces the necessity for structured guidance while converging both formats.

To sum up, the study demonstrates that the convergence of formal and non-formal foreign language education provides an effective and functional approach to enhancing professional foreign language communicative competence. The results prove that the proposed model is not only effective but policy-aligned and scalable.

## Conclusion

This study investigated the convergence of formal and non-formal foreign language education in Kazakhstani universities and estimated its impact on the development of professional foreign language communicative competence. The outcomes of the experimental investigation reveal encouraging advancements in the enhancement of professional foreign language competence among students specializing in linguistic and non-linguistic fields. These positive developments are credited to the continuous integration of developmental methodologies and dynamic teaching approaches within the framework of foreign language instruction, incorporating both formal and non-formal educational practices.

The aspiration of Kazakhstani universities for the convergence of formal and non-formal education is dictated by their adaptation to the requirements and pace of life of the modern world and the need to stimulate and maintain the continuous personal and professional growth of students. Thus, non-formal education is currently becoming the dynamic force that is changing the landscape of higher education in Kazakhstan. It complements formal education, takes into account the educational needs of students, and offers student-centered, flexible and accessible learning opportunities.

The convergence of formal and non-formal foreign language education is possible in the format of integrating blocks of disciplines aimed at learning a foreign language at a university, and a series of extracurricular events, namely: trainings, master classes, on-site language schools, non-credit MOOC courses, which allow increasing the level of professional foreign language competence not only within the walls of the university, but also every day outside it, which ensures the continuity of the process of foreign language training for students.

Therefore, the development and execution of an integrated model will secure the seamless progression of educational stages, amalgamation of formal and non-formal, enhanced entry into the workforce via adaptable mechanisms for acknowledging educational achievements and credentials, as well as elevated labor expenses and population mobility.

In spite of the promising results, this study also revealed some limitations. Among them is the limited number of universities, educational programmes and participants involved, which may not fully represent

the diversity of Kazakhstani universities and educational programmes. In addition, the study encompassed only short-term foreign language proficiency improvements, while long-term results were not evaluated. Some results of the qualitative research demonstrated variability in student involvement and access to the Internet connection, which may also have an impact on the effectiveness of using the non-formal mode.

Future research in the highlighted field should involve a broader range of Kazakhstani educational institutions, including national and private universities, to provide applicability. A longitudinal study is required, as well, to evaluate the sustainability of professional foreign language competence improvement and its impact on further employability of the graduates. Deeper insights into further convergence development would be achieved when taking further investigation into which specific types of non-formal education, such as MOOCs, seminars, summer camps, speaking clubs, etc., are the most effective.

This study contributes to supporting the convergence of formal and non-formal foreign language education in higher educational institutions. For researchers, it provides a validated framework for examining convergence in multilingual and educational policy settings. For practicing teachers and curriculum designers, it offers practical tools for the development of professional foreign language communicative competence by involving non-formal (extracurricular) and formal (institutional) efforts. At the educational policy level, the study confirms the need to recognize and accredit non-formal learning achievements consistent with the latest legislative changes in Kazakhstani education.

## Declarations

**Author Contributions.** All authors contributed significantly to the development and completion of this research article. Gulnaz Tleuzhanova conceptualized the study design, coordinated the research project, and provided critical revisions of the manuscript. Gulim Karimova was responsible for the literature review, data collection, and preliminary data analysis. Saulesh Mukanova contributed to the development of assessment tools, conducted the experimental procedures, and participated in interpreting the results. Dinara Joldanova performed the final data analysis, drafted the results and discussion sections, and assisted in preparing the manuscript for submission. All authors have read and approved the published on the final version of the article.

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**Ethical Approval.** Informed consent was obtained from all participants before their involvement. They were fully briefed on the research’s objectives, procedures, and their right to withdraw at any time without any repercussions.

**Data Availability Statement.** Data created or utilized during this research can be obtained from the authors upon request.

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