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Development of Soft Skills in Pre-Service Foreign Language Teachers: A Structural-Functional Model

Saule Zhunussova[a], Lazzat Baimanova*[a] & Liza Naviy[b]

* Corresponding author:
Email: LBaimanova@shokan.edu.kz
a. Department of General Linguistics and Literature, Sh. Ualikhanov Kokshetau University, Kokshetau, Kazakhstan.
b. Department of Pedagogy and Psychology Sh. Ualikhanov Kokshetau University,
Kokshetau, Kazakhstan.

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ABSTRACT
The study aims to develop, theoretically substantiate, and experimentally test a structural-functional model for the formation of soft skills among pre-service foreign language teachers in the context of multilingual education in the Republic of Kazakhstan. The model integrates cognitive, socio-communicative, and self-regulatory components into a dynamically interconnected system realized through specially designed module-based exercises and activities. It consists of five interrelated blocks (target, content, process, assessment, and outcome) and was implemented through a 15-week elective special course entitled “The Formation of Soft Skills in the Educational Environment” (3 credits, 90 hours) for third-year students of the educational program “Foreign Language: Two Foreign Languages” at a pedagogical university. A total of 160 students participated in the quasi-experiment (experimental group, n=80; control group, n=80). Diagnostics were conducted before and after the course using the author’s Likert-scale questionnaire, the standardized TEIQue-SF and CD-RISC-25 tests, and physiological data (heart rate variability). Covariance analysis (ANCOVA) confirmed a statistically significant advantage of the experimental group on most indicators. The data demonstrate the model's effectiveness in addressing perceived gaps in self-reported readiness, reflective capacity, intercultural adaptability, and emotional stability. Notably, students' awareness of the professional importance of soft skills increased significantly by 11.9% ($p < .001$), suggesting a positive shift in motivational orientation. However, direct measurement of motivation was beyond the scope of this study. The results offer practical implications for improving teacher training in multilingual settings and may be adapted to other contexts with similar linguistic and pedagogical profiles, pending further cross-cultural validation.

KEYWORDS
Multilingual education, soft skills, pre-service teacher training, emotional intelligence, quasi-experimental design, intercultural competence.

INTRODUCTION

Modern teacher education faces the challenge of training teachers who can function effectively amid globalization, digitalization, and accelerating social transformations. In the Republic of Kazakhstan, this task is particularly acute in the context of implementing the state language policy aimed at fostering a multilingual personality (Government of the Republic of Kazakhstan, 2023). Foreign language teachers play a central role in Kazakhstan's multilingual education system. They must constantly switch between languages and cultures while managing emotional dynamics and creating an inclusive classroom environment. Therefore, soft skills such as communication skills, emotional intelligence, adaptability, and stress management are particularly crucial for them (Byram, 2021; World Economic Forum, 2025).

Despite growing international interest in developing soft skills in higher education, the systematic development of these skills among future foreign language teachers remains understudied. Most studies and educational programs focus on linguistic and methodological training, whereas the integration of soft skills into teachers' professional development is fragmented or episodic (Cinque, 2016; Gizatullina & Sibgatullina, 2018; Succi & Canovi, 2020).

International literature demonstrates that targeted soft skills development is possible through the integration of classical and modern pedagogical approaches. Experiential learning based on Kolb's cycle (Kolb, 2015) allows students to experience, reflect, and experiment, developing creativity and critical thinking. Mezirow's transformative learning (2009) promotes changes in attitudes and worldviews through critical reflection, a process that is particularly important for developing intercultural competence and emotional intelligence (Gazioğlu & Güner, 2021; Ma & Liu, 2024). Digital pedagogy offers tools for personalized learning and for objective, supplementary monitoring of emotional and physiological states through virtual reality simulations and wearable devices. However, in the present study, these technologies were used only as supplementary elements: VR simulations were applied selectively in a few sessions, and HRV data were collected from a limited subsample of participants (Garrison, 2021; Marais, 2023). The andragogical approach (Knowles et al., 2020) takes into account students' adult age and their need for meaningful self-development. Constructivist theory (Vygotsky, 2019) emphasizes the role of social interaction in the construction of knowledge. The competency-based approach (Gizatullina & Sibgatullina, 2018; Kunanbaeva, 2019) considers soft skills to be an integral part of a teacher's professional competence.

Despite the existence of individual approaches to developing soft skills in teacher education, comprehensive structural-functional models specifically adapted to the conditions of multilingual education and combining the above approaches with digital technologies are virtually nonexistent. This creates a research gap that is particularly relevant for regions with transitional education systems and multilingual educational contexts, where traditional foreign language teacher training programs often neglect the development of soft competences (Gizatullina & Sibgatullina, 2018; Hauerwas et al., 2023; Succi & Canovi, 2020).

The research undertakes the development, theoretical grounding, and experimental verification of a structural-functional methodological framework aimed at fostering soft skills in pre-service foreign language teachers.

This study addresses three core research questions: first, evaluating the effectiveness of the structural-functional model compared to traditional training (**RQ1**); second, identifying which soft skill components demonstrate the most significant improvement after the 15-week intervention (**RQ2**); and third, determining to what extent emotional intelligence and physiological indicators (HRV) confirm the model's overall efficacy (**RQ3**).

To achieve these aims, the research analyzed modern theoretical approaches to soft skills, substantiated the structural-functional model for future foreign language teachers, and implemented it through a 15-week elective course. Finally, the model's effectiveness was evaluated using a multi-method quasi-experimental design incorporating self-reports, standardized tests, and physiological measures.

The **research hypothesis** was that the systematic development of soft skills among pre-service foreign language teachers would be significantly more effective when instruction was grounded in a structural-functional model — conceived as a dynamically interconnected system of cognitive, socio-communicative, and self-regulatory components — than when they followed a conventional teacher-training curriculum.

The scientific novelty of the study lies in the development and experimental testing of a structural-functional model for the formation of soft skills in future foreign language teachers, which, unlike previous fragmented approaches, integrates cognitive, socio-communicative, and self-regulatory components into a single, dynamically interconnected system.

The theoretical significance of the research lies in clarifying the concept of “soft skills” as it applies to the professional training of foreign language teachers in a multilingual and multicultural educational environment, and in substantiating the relationship between the model’s structural components and basic pedagogical theories.

The practical significance is confirmed by the development of a working program for a special course, an electronic teaching aid, and a set of diagnostic tools that can be implemented in pedagogical universities in Kazakhstan and adapted for other multilingual educational systems.

THEORETICAL FOUNDATIONS

Contemporary pedagogical science considers soft skills to be an integral and increasingly important component of a teacher’s professional competence. Soft skills are understood as interpersonal and intrapersonal abilities that enable effective social interaction, adaptation to change, emotional regulation, stress management, and goal achievement in conditions of uncertainty and high complexity of professional activity (Cinque, 2016; Succi & Canovi, 2020; Robles, 2012). These competencies include communication, cognitive, self-management leadership and teamwork skills that cannot be directly taught in the traditional sense but can be

purposefully developed through reflection, practice, and social interaction (Tang, 2020; Heckman & Kautz, 2012; Sanatbay et al., 2025; Kim et al., 2021).

In the context of globalization and digitalization, soft skills are strategically important for building resilience and competitiveness in the labor market (Mambetova et al., 2025; Marais, 2023; World Economic Forum, 2025). Employers increasingly prioritize them over technical knowledge in communication-intensive professions, including teaching (López-Serrano et al., 2025; Hauerwas et al., 2023).

A bibliometric analysis of publications in Scopus revealed exponential growth in research on soft skills and 21st-century skills, indicating a shift in the concept toward a central construct in pedagogical science (World Economic Forum, 2025). Keyword analysis showed a shift in focus from classic interpersonal skills to adaptive and cognitive skills in the context of AI and digitalization.

International organizations utilize various terminological equivalents to describe soft skills, such as “key skills” (OECD, 2025), “21st-century skills” (World Economic Forum, 2025), “transversal competencies” (UNESCO, 2016), “life skills” (WHO, 2020), and “key competences” (Council of the European Union, 2018). According to the *Future of Jobs Report 2025*, 39% of workers’ core skills are expected to transform by 2030, with analytical thinking, resilience, and leadership emerging as the most sought-after competencies in the global labor market (World Economic Forum, 2025).

Particularly noteworthy is the trend towards synthesizing digital and soft skills: foreign language teachers increasingly need to develop emotional intelligence and empathy in AI-mediated environments to effectively recognize students’ emotional states and adapt their communication skills to reduce anxiety and increase engagement (Ding & Xue, 2025; Makeleni et al., 2023; Yussupova & Tarman, 2025).

In the context of training foreign language teachers, soft skills are particularly important. Teachers act not only as language translators and methodologists, but also as facilitators of intercultural communication, organizers of group and project work in multi-level and multicultural classrooms, and models of emotionally stable and inclusive behavior (Byram, 2021; Porto & Yulita, 2019; Deardorff, 2006; Gazioğlu & Güner, 2021). Foreign language teachers in the Kazakhstani education system must simultaneously switch among Kazakh, Russian, and English, manage the cognitive load associated with code-switching, resolve cultural conflicts, and create a safe educational environment for learners with diverse linguistic and cultural backgrounds. Without developed soft skills, teachers risk emotional exhaustion, decreased student motivation, and ineffective lessons (Succi & Canovi, 2020; Tang, 2020; Karabassova, 2021). Research on intercultural communicative competence in teaching English as a foreign language indicates that soft skills improve teaching quality, enhance intercultural interaction, and foster global citizenship among learners (Porto & Yulita, 2019; Guilherme, 2002; Houghton, 2014; Smakova & Paulsrud, 2020; Gizatullina & Sibgatullina, 2018).

International studies emphasize that traditional training for foreign language teachers (EFL/ESL) focuses primarily on developing linguistic and methodological competence, while the

formation of soft skills often remains on the periphery of the educational process (Cinque, 2016; Tang, 2020; Castro, 2013; Orih et al., 2024). As a result, graduates of teacher training programs show a marked deficiency in key soft skills: emotional intelligence, stress resistance, cognitive flexibility, and intercultural adaptability. These competencies are among the most sought-after in the modern labor market (Hauerwas et al., 2023; World Economic Forum, 2025). Systematic reviews (Hinojosa-Torres et al., 2025; Orih et al., 2024) emphasize that the lack of a comprehensive, integrated approach to soft skills development in teacher education leaves graduates unprepared for real-world pedagogical challenges. This gap is further addressed by López-Serrano et al. (2025), whose pilot study demonstrates that active, gamified interventions can significantly raise awareness of key competencies among higher education students.

The concept of soft skills has evolved from a simple list of personal qualities to a comprehensive system of competencies necessary for successful work in a VUCA environment (volatility, uncertainty, complexity, ambiguity). These skills are particularly important in professions that involve intensive communication skills and interaction with people, including teaching (Succi & Canovi, 2020; Andrews & Higson, 2008; Hidayah, 2021). In teacher education, soft skills are seen as an integral part of overall professional competence, directly affecting the quality of the learning process, the effectiveness of intercultural interaction, and the teacher's resilience to professional stress (Knowles et al., 2020; López-Serrano et al., 2025; Tang, 2020). Research on soft skills in initial teacher education confirms that their development through systematic interventions improves empathy and practical skills (Hauerwas et al., 2023; Hinojosa-Torres et al., 2025).

In foreign language teaching methodology, it is customary to distinguish four main groups of soft skills that form an integrative system of professional competence: communicative, cognitive, self-management, and leadership and teamwork (Succi & Canovi, 2020; Deardorff, 2006; López-Serrano et al., 2025). These groups are interrelated and form a synergistic system, which is particularly important in multilingual and multicultural teaching contexts (Byram, 2021; Porto & Yulita, 2019).

Soft skills in this study are grouped into communicative, cognitive, self-management, and leadership domains; however, these categories are not mutually exclusive and are treated as an interconnected system. For measurement purposes, they were operationally defined as follows: communicative (interaction in multilingual contexts), cognitive (critical thinking and creativity), self-management (emotional regulation and stress management, measured by TEIQue-SF and CD-RISC-25), and leadership (initiative and teamwork). These definitions informed the development of the author's questionnaire. While some approaches emphasize reflective development, others support direct instruction; this study adopts an integrative perspective combining both.

At present, relatively few studies focus on the development of soft skills in future teachers, although their relevance to modern teacher education is widely recognized (Kusmangazynova, 2025). Foreign language teachers must simultaneously develop language

skills in several languages and manage emotional and cultural conflicts in the classroom, which requires a high level of stress resistance, adaptability, and emotional intelligence - qualities that traditional teacher training programs often do not develop systematically enough (Karabassova, 2021).

In this regard, it is appropriate to integrate several theoretical approaches into a comprehensive model for soft skills development. The framework is grounded in experiential learning (Kolb, 2015), which fosters creativity and critical thinking through a cycle of experience and reflection (Hauerwas et al., 2023), and Mezirow's transformative learning (2009), focusing on critical reflection to enhance intercultural competence and emotional intelligence (Guilherme, 2002; Liu & Zhang, 2023). Furthermore, digital pedagogy (Garrison, 2021) enables personalized learning and safe modeling of complex situations through virtual reality (VR) (López-Serrano et al., 2025), while the andragogical approach (Knowles et al., 2020) addresses the self-development needs of adult learners. Finally, the model incorporates constructivist theory (Vygotsky, 2019), emphasizing social interaction, and a competence-based approach (Kunanbaeva, 2019; Orakova et al., 2024), which treats soft skills as an integral component of professional teaching competence.

A review of the literature reveals several critical gaps in existing approaches. First, current models for developing soft skills are often fragmented, focusing on isolated competencies rather than systematic integration (López-Serrano et al., 2025). Furthermore, these frameworks are often ill-suited to the specific professional demands of foreign language teachers working in multilingual and multicultural environments (Karabassova, 2021). Finally, the high technical dependence of many digital models on advanced infrastructure, such as VR and wearable devices, significantly limits their scalability and widespread adoption across diverse educational institutions (World Economic Forum, 2025; López-Serrano et al., 2025).

Thus, the study's theoretical foundations confirm the need to develop a new, comprehensive structural-functional model for the formation of soft skills. This model should be adapted to the specific needs of training foreign language teachers in a multilingual and multicultural educational environment. It integrates classical pedagogical approaches with modern digital tools while addressing the specific professional demands and challenges faced by pre-service EFL teachers in Kazakhstan.

METHODOLOGY

The study was conducted using a pre-post quasi-experimental design with non-equivalent groups, enabling assessment of the impact of the developed structural-functional model on the level of soft skills formation among future foreign language teachers (Creswell & Creswell, 2018; Shadish et al., 2002). The quasi-experimental approach was chosen due to the natural conditions of a pedagogical university: the impossibility of complete randomization of students because of a fixed curriculum, group streams, and ethical restrictions. To increase internal validity, initial group differences were controlled using analysis of covariance (ANCOVA) (Field, 2018; Goss-Sampson, 2025; JASP Team, 2025;Tabachnick & Fidell, 2019;). An a priori statistical

power analysis was conducted using G*Power 3.1 (Faul et al., 2009) to determine the minimum required sample size. The analysis showed that, with a total sample size of n = 160, the statistical power of the test is 0.85 at a significance level of α = 0.05**,** assuming a medium effect size (f = 0.25)**.**

Participants

The study involved 160 third-year students (aged 19-22, 82% female) divided into two equal groups of 80 participants each. The experimental group completed a 15-week elective course, "Formation of Soft Skills in the Educational Environment" (3 ECTS credits, 90 academic hours), which utilized a mixed format of 45 hours each for practical work and independent study. In contrast, the control group followed the standard university curriculum, focusing on traditional foreign language teaching methodology and pedagogical practice without additional intervention.

The groups were equivalent in key characteristics: gender composition, initial level of English proficiency (not below B1 according to CEFR), academic performance, and motivation to pursue a teaching career (as measured by a preliminary questionnaire). A statistical test of equivalence at the pre-testing stage (Mann-Whitney U test) confirmed the absence of significant differences in most indicators ($p > .05$), except for certain indicators (e.g., social activity and confidence among peers), which were taken into account as covariates in the subsequent analysis (Field, 2018).

Variables and diagnostic tools

Independent variable: participation in a special course based on a structural-functional model of soft skills formation.

Dependent variables: level of proficiency and subjective significance of key soft skills (communication skills, creativity, critical thinking, time management, emotional intelligence, leadership, teamwork, stress management, adaptability, self-organization, responsibility, confidence, cooperation, erudition, learning ability, initiative, management, and mentorship).

To ensure triangulation and increase construct validity, a multi-method approach was used, including the following diagnostic tools:

1. An author's questionnaire based on the Likert scale (7 points) - self-assessment of the level of proficiency and importance of each skill (before and after the intervention), developed based on a literature review (Succi & Canovi, 2020; Tang, 2020) and tested in a pilot study (n = 30). Cronbach's alpha reliability on the pre-test was 0.89; on the post-test, it was 0.92. The questions were formulated in a behavioral style. To examine the underlying factor structure and confirm the instrument's construct validity, an Exploratory Factor Analysis (EFA) was conducted on the pre-test data (n = 160). Principal Axis Factoring (PAF) was used as the extraction method, and Promax rotation (with Kaiser normalization) was applied because the factors were expected to correlate. The Kaiser-Meyer-Olkin measure of sampling adequacy was 0.89, and Bartlett's test of sphericity was significant ($\chi^2(153) = 2847.36$, $p < .001$), indicating that the data were suitable for factor analysis. Four factors with eigenvalues greater than 1.0 were extracted, explaining

68.4% of the total variance. All items had factor loadings above 0.45 on their primary factor, with no substantial cross-loadings (i.e., above 0.35) on secondary factors. Communalities ranged from 0.52 to 0.81. The factor structure corresponded well to the theoretically proposed four-component model of soft skills.

2. To ensure the triangulation of key components, the study utilized standardized tests, including the Trait Emotional Intelligence Questionnaire - Short Form (TEIQue-SF) (Petrides, 2009) for measuring global and factor-based emotional intelligence, and the Connor-Davidson Resilience Scale (CD-RISC-25) (Connor & Davidson, 2003) to assess psychological resilience and stress resistance.

3. The subsample was formed by simple random selection among participants who gave additional consent and had a compatible wearable device. The sample size n = 40 was chosen to ensure sufficient statistical power (post hoc power ≈ 0.82 at $\alpha = 0.05$ and expected effect size $d = 0.8$), given the limited research resources, and in line with the practice of similar psychophysiological interventions (Wang et al., 2024). HRV data were used primarily for exploratory triangulation with self-report measures and were not used as a primary outcome variable due to the absence of a control-group comparison.

Model implementation procedure

The 15-week intervention was structured according to the five blocks of the proposed model. The target block (weeks 1-2) focused on baseline diagnosis, individual goal setting, and motivational induction through the analysis of professional EFL requirements. This was followed by the content block (weeks 3-8), which integrated thematic soft-skills modules that used trilingual code-switching (Kaz/Ru/En) to foster intercultural communication. During the process block (weeks 9-13), students engaged in active methods including role-playing, case studies, and reflective practices such as learning diaries. Within this block, digital pedagogy elements served as supplementary tools; for instance, VR simulations were used selectively to model classroom conflicts, while HRV monitoring was conducted for a designated subsample (n=40) to triangulate emotional regulation data. It is important to note that neither VR nor HRV was central to the intervention; they served primarily to support self-report measures. Finally, the results block (weeks 14-15) concluded the course with final reflections and the compilation of individual soft skills profiles.

To control for the teaching factor, the special course in the experimental group and the classes in the control group were conducted by the same teacher with over 10 years of experience. Fidelity checks (class observations and journals) confirmed 92% compliance with the plan in the experimental group and no deviations in the control group, thereby allowing the model's effect to be isolated from teacher-level differences.

The control group continued with the standard program without additional interventions.

Implementation fidelity was assessed through three random observations of lessons and analysis of teacher logs using a structured checklist of key intervention components. The

program was implemented with a high compliance rate, indicating strong adherence to the original design. Fidelity checks, including lesson observations and teacher logs, confirmed adherence to the experimental protocol, ensuring the internal validity of the intervention outcomes.

Statistical data processing

Prior to the main analysis, an independent-samples t-test was conducted to assess baseline differences between the experimental and control groups (Table 1). As no statistically significant differences were found for most soft skills indicators ($p > .05$), ANCOVA was subsequently used to compare post-test scores, with pre-test scores serving as a covariate. This procedure increases statistical power and controls for any minor initial differences (Field, 2018).

Statistical analysis, conducted via JASP (version 0.95.4.0), utilized descriptive statistics (means, SD, and growth rates) and intragroup comparisons using paired t-tests based on distribution normality. To control for initial differences, intergroup comparisons were performed using ANCOVA with baseline scores as a covariate. Statistical significance was set at $p < .05$ with Bonferroni correction, while effect sizes were evaluated through Cohen's *d* and partial η^2.

Ethical considerations

Approval for this research was granted by the local Institutional Review Board (IRB), confirming that the research procedure complies with established ethical standards and requirements for work involving human subjects.

The study was conducted in accordance with international research ethics standards (Creswell & Creswell, 2018), ensuring that voluntary informed consent was obtained from all participants. To maintain data anonymity, all questionnaires were coded, and the confidentiality of biometric (HRV) data was strictly protected in compliance with the Law of the Republic of Kazakhstan "On Personal Data and Their Protection". Furthermore, participants were allowed to withdraw from the experiment at any stage without any consequences for their academic performance.

RESULTS

Initial data (pre-testing)

At the pre-testing stage (before the start of the special course), participants in the experimental (n=80) and control (n=80) groups demonstrated comparable results for all measured soft skills, assessed using the author's questionnaire on a Likert scale (from 1 to 7). The average scores for skill proficiency ranged from 3.8 to 4.5, which corresponds to an average level of development. The highest scores were observed for skills related to everyday learning activities: Communicativeness (M = 4.5, SD = 0.9), Learning ability (M = 4.4, SD = 1.0), and Confidence (M = 4.3, SD = 1.1). The lowest scores were recorded for skills requiring high emotional stress and responsibility: Stress management (M = 3.8, SD = 1.1), Leadership (M = 3.9, SD = 1.0), and Responsibility (M = 4.0, SD = 1.0).

The assessment of the importance of these same skills for the profession of a foreign language teacher was high across the entire sample (M = 5.8-6.5). Students considered Communicativeness (M = 6.5, SD = 0.7), Emotional intelligence (M = 6.3, SD = 0.8), Teamwork (M = 6.2, SD = 0.9), and Critical thinking (M = 6.1, SD = 0.8) to be the most professionally important skills. This is in line with global trends: according to the World Economic Forum (2025), communicativeness and emotional intelligence are among the most sought-after skills for teachers.

The initial differences between the experimental and control groups across all indicators (level of proficiency and significance) were not statistically significant (independent-samples test, $p > .05$). This confirms the comparability of the groups at the start of the experiment and allows for a correct interpretation of subsequent changes. To assess the initial comparability of the groups in terms of soft skills proficiency, a comparative analysis of pre-test data was conducted (see Table 1 in the appendix).

Intragroup changes (pre- vs post-testing)

The experimental group showed significant growth across all domains ($p < .001$), with the most notable gains in communicativeness and leadership (see Appendix Table 2).

In the control group, the changes were minimal and statistically insignificant for most skills ($p > .05$). The average total score increased from 77.9 to 81.2 (a 4.2% increase), which can be explained by natural variability without special intervention.

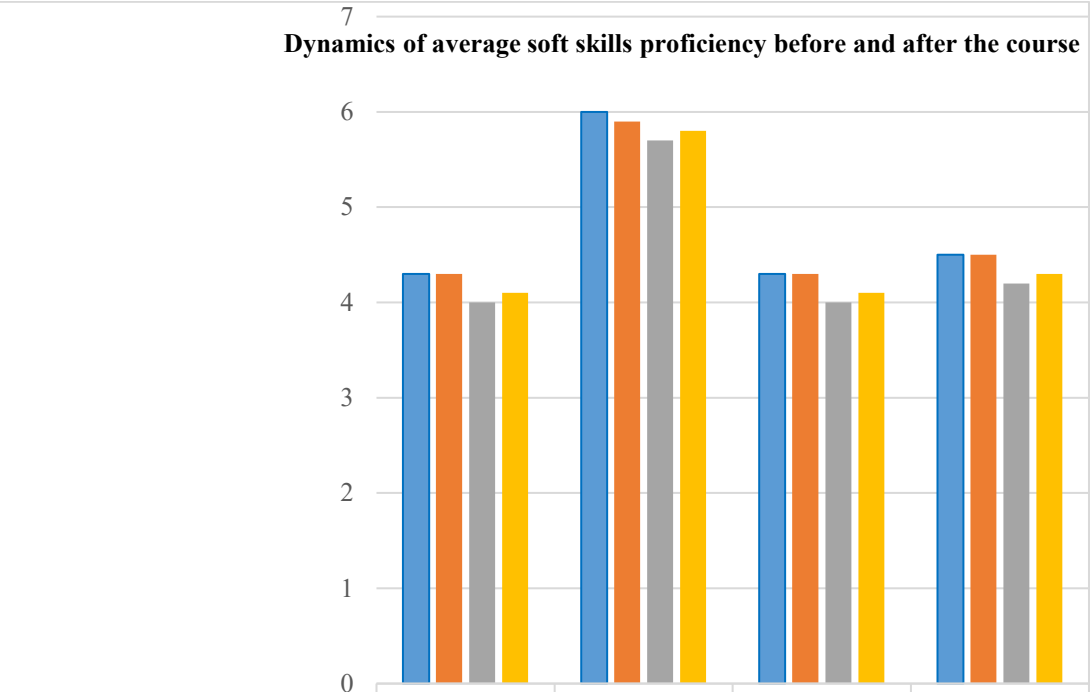
Intragroup changes for all soft skills are presented in Table 2 (see Appendix Table 2). Figure 1 shows the dynamics of the average level of soft skill proficiency before and after the course across four main skill groups. The diagram allows for a clear comparison of changes between the experimental and control groups, without detailing individual skills.

Analysis of the diagram shows a clear advantage for the experimental group: the average score for all four groups increased by 1.6-1.7 points (from 4.0-4.3 to 5.7-6.0), corresponding to a 38-40% increase over the 15 weeks of the course. The most noticeable progress was in communication skills (up to 6.0), reflecting the model's emphasis on intercultural interaction and dialogue facilitation in a multilingual context. Cognitive, self-management, and leadership-team groups show comparable growth, confirming the synergistic effect of a comprehensive approach (active methods, reflection, and digital tools).

In the control group, the average Likert score remained virtually unchanged, increasing by only 0.2 points (from approximately 4.1 to 4.3 on the 7-point scale), indicating no significant progress without targeted intervention. The differences between the groups are visually evident and statistically confirmed by ANCOVA results ($p < .001$, $\eta^2 = 0.18$-0.36).

Figure 1.

Changes in the average level of soft skills proficiency before and after the course



	Experimental Group (Pre-test	Experimental Group (Post-test)	Control Group (Pre-test)	Control Group (Post-test)
Communicative skills	4.3	6	4.3	4.5
Cognitive skills	4.3	5.9	4.3	4.5
Self-management skills	4	5.7	4	4.2
Leadership and teamwork skills	4.1	5.8	4.1	4.3

Intergroup comparisons (ANCOVA)

To exclude the influence of baseline differences, covariance analysis (ANCOVA) was applied with baseline scores as covariates. The results confirmed a significant advantage for the experimental group across all skills (F values from 6.78 to 14.56, $p < .001$, η^2 from 0.18 to 0.36). Notably, the intervention demonstrated the strongest effects on skills directly practiced throughout the course. Specifically, the highest gains were observed in communicativeness (F=14.56, η^2=0.36), leadership (F=13.89, η^2=0.34), and emotional intelligence (F=12.45, η^2=0.32). Significant improvements were also recorded for critical thinking (F=11.78, η^2=0.30) and stress management (F=10.92, η^2=0.28), with all results reaching statistical significance at p<0.001.

The effect size (Cohen's d) ranged from 0.95 to 1.42, indicating a large practical effect of the intervention (d > 0.8; Cohen, 1988).

The assessment of the importance of skills for the profession of a foreign language teacher increased in the experimental group from 5.9 to 6.6 (an increase of 11.9%) and in the control group from 5.9 to 6.1 (an increase of 3.4%). The differences are significant (F = 8.45, p < .001, η^2 = 0.22), which indicates an increase in students' awareness of the role of soft skills. To exclude the influence of initial differences, covariance analysis (ANCOVA) was applied with

initial scores as a covariate. Table 3 presents the results of the ANCOVA comparing adjusted post-test means between the two groups.

Table 3.

ANCOVA results for soft skills proficiency (adjusted post-test means).

№	Skill	F	*p*	η^2	Cohen's d
1	Communicativeness	14.56	<0.001	0.36	1.42
2	Leadership	13.89	<0.001	0.34	1.38
3	Emotional intelligence	12.45	<0.001	0.32	1.31
4	Critical thinking	11.78	<0.001	0.30	1.25
5	Stress management	10.92	<0.001	0.28	1.22
6	Creativity	10.50	<0.001	0.27	1.18
7	Time management	10.20	<0.001	0.26	1.15
8	Self-organization	9.85	<0.001	0.25	1.12
9	Teamwork	9.50	<0.001	0.24	1.10
10	Responsibility	9.20	<0.001	0.23	1.08
11	Confidence	8.90	<0.001	0.22	1.05
12	Adaptability	8.60	<0.001	0.21	1.02
13	Initiative	8.30	<0.001	0.20	1.00
14	Cooperation	8.00	<0.001	0.20	0.98
15	Learning ability	7.70	<0.001	0.19	0.96
16	Management	7.40	<0.001	0.19	0.95
17	Erudition	7.10	<0.001	0.18	0.95
18	Mentorship	6.78	<0.001	0.18	0.95

Intergroup differences in soft skills growth dynamics are presented in Figure 2—comparison of soft skills growth between groups (experimental vs. control). The diagram enables a visual assessment of the experimental group's advantage over the control group across all skill categories.

An intergroup comparison of the dynamics of the unified soft skills index (total score) before and after the course is presented in Figures 3 and 4. Figure 3 illustrates the natural dynamics without targeted intervention (control group), and Figure 4 shows the effect of the special course in the experimental group.

Figure 2.

Comparison of soft skills growth between groups (experimental vs. control).

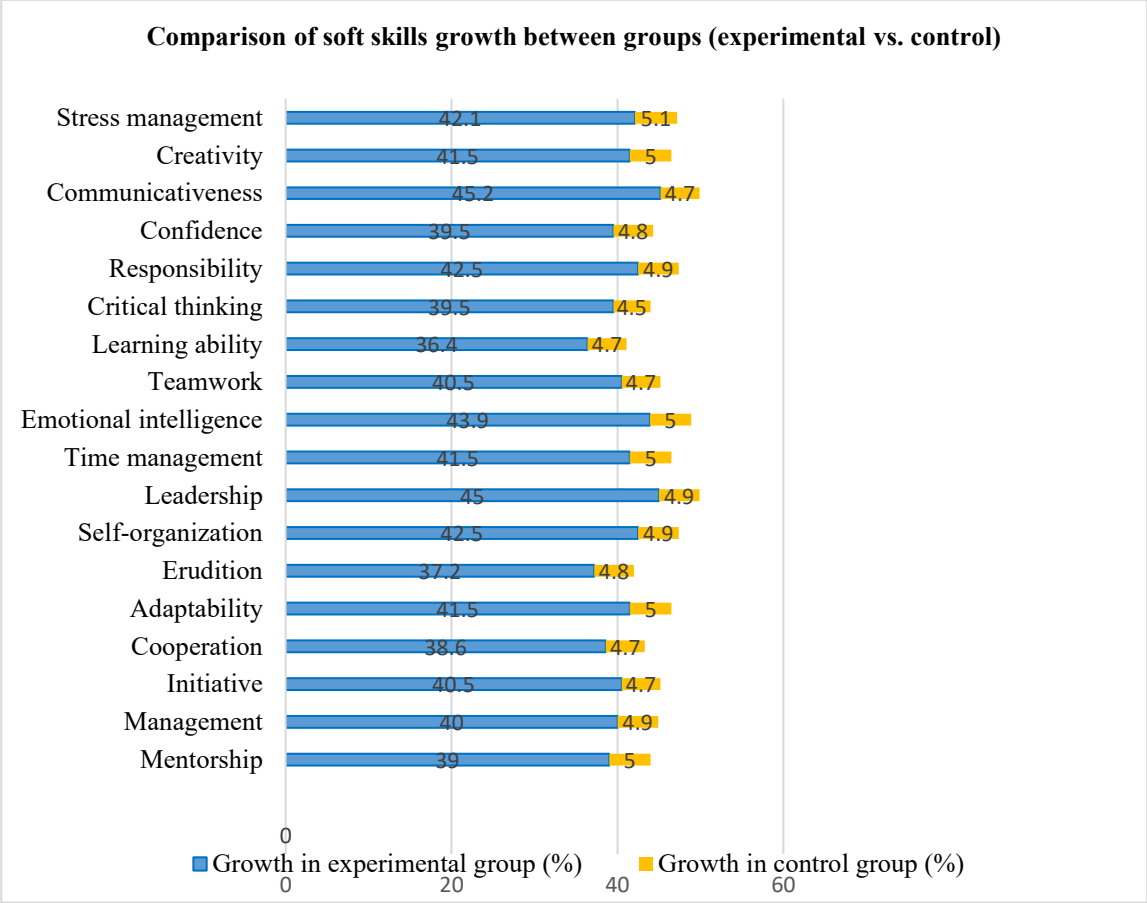
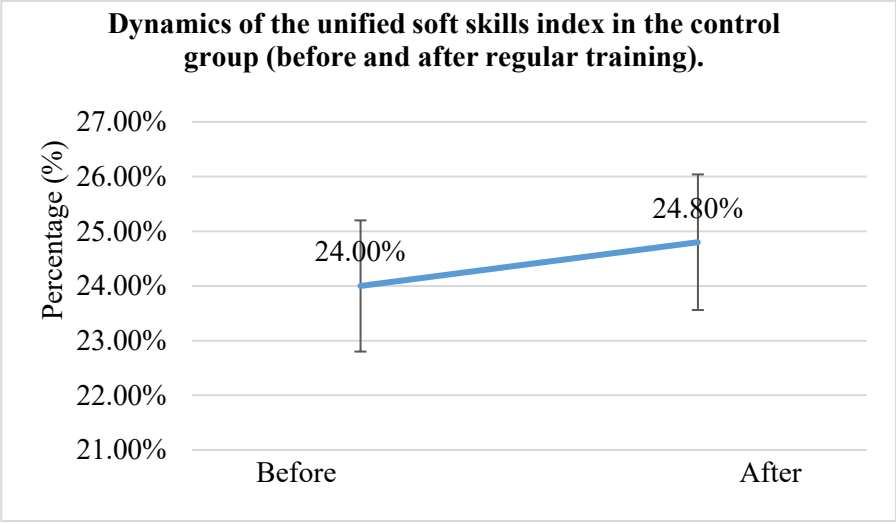


Figure 3.

Dynamics of the unified soft skills index in the control group (before and after regular training).

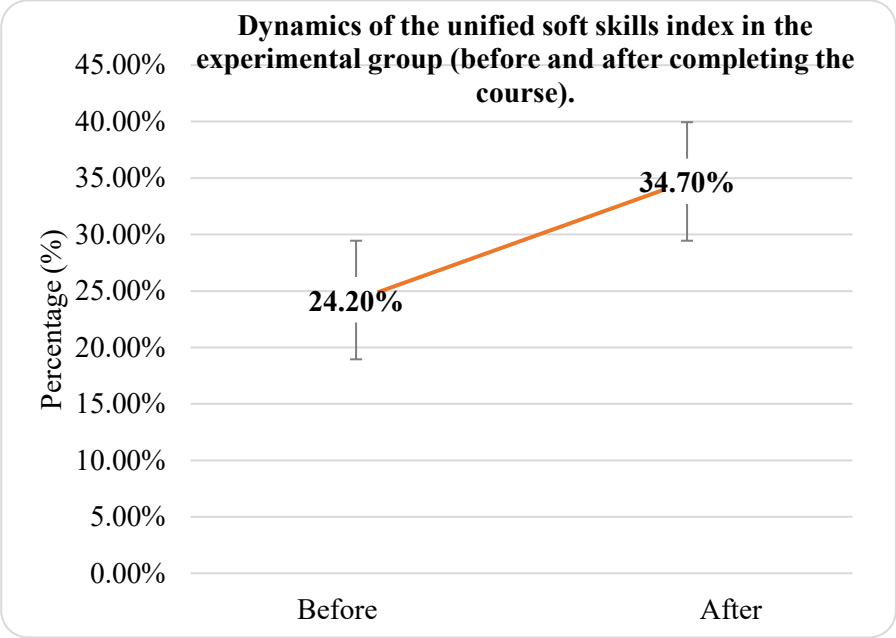


A comparison of Figures 3 and 4 clearly demonstrates the difference in the dynamics of the unified soft skills index. In the control group (Figure 3), the increase is only 0.8% (from 24.0%

to 24.8%), which corresponds to natural development in the learning process without special intervention ($p > .05$).

Figure 4.

Dynamics of the unified soft skills index in the experimental group (before and after the course).



In the experimental group (Figure 4), after completing the 15-week special course, a significant 10.5% increase (from 24.2% to 34.7%) was observed, as confirmed by the ANCOVA results ($F = 12.34$, $p < .001$, $\eta^2 = 0.31$).

The differences between the groups are statistically significant, underscoring the effectiveness of the structural-functional model in the comprehensive development of soft skills among future foreign language teachers.

Mediation analysis

To test the mechanisms by which the model influences the development of soft skills, a mediation analysis was conducted using the PROCESS method (Hayes, 2018, model 4). Emotional intelligence (according to TEIQue-SF) acted as a mediator, participation in a special course as an independent variable, and the total score for skills as a dependent variable. The results showed a significant indirect effect through emotional intelligence (ab = 0.32, 95% BCa CI [0.18; 0.47], $p < .001$), confirming that improvements in communication and leadership skills are partially mediated by increased emotional intelligence. The direct effect remained significant ($c = 0.45$, $p < .001$), indicating partial mediation.

Additional results and triangulation

To support data triangulation and increase the reliability of the results, the standardized instruments TEIQue-SF (Petrides, 2009) and CD-RISC-25 (Connor & Davidson, 2003) were additionally administered to a random subsample of the experimental group (n = 40). This subgroup showed a 19.7% increase in emotional intelligence (from 132 to 158 points, t = 9.87,

$p < .001$, d = 1.12) and a 20.6% increase in psychological resilience (from 68 to 82 points, t = 10.23, p < .001, d = 1.15). These indicators correlated strongly with the results of the author's questionnaire (r = 0.72-0.85, $p < 0.001$), confirming the reliability of the students' self-assessment and indicating a real improvement in competencies rather than a social desirability effect.

Physiological monitoring (HRV) in the experimental subsample (n = 40) supported the self-reported stress reduction trend: a significant decrease of 28–32% in stress-related autonomic arousal was recorded during simulation tasks (t (39) = 7.84, $p < .001$, Cohen's d = 1.24, 95% CI [0.82; 1.66]). This physiological change correlated moderately with self-reported stress management gains (r = 0.48, $p = .002$), supporting the triangulation of subjective and objective indicators.

Qualitative data (open-ended questions in the questionnaire) showed that 78% of students in the experimental group reported increased confidence in applying their skills, 65% reported increased motivation for self-development, and 59% reported improved communication and teamwork skills. Typical quotes: "I have become better at understanding students' emotions and managing my stress in class", "The special course helped me become a leader in the group and speak three languages with more confidence".

Conclusions based on the results

The data clearly demonstrate the model's effectiveness: a significant increase in all soft skills within the experimental group ($p < .001$, d > 0.95), while the control group showed minimal changes. This is consistent with international research on the development of soft skills through active methods and digital technologies (López-Serrano et al., 2025; Garrison, 2021). To some extent, the model helps address the deficits identified within Kazakhstan's state language policy.

DISCUSSION

The mediation analysis (see Results, Section 4) confirms that emotional intelligence partially mediates the intervention's impact on soft skills development. This suggests the model operates not only through direct practice but also by strengthening emotional self-regulation, which in turn supports communicative and leadership competencies. Aligning with theories that view socio-emotional capacities as catalysts for professional growth (Heckman & Kautz, 2012; Tang, 2020), the reflective components of the course (e.g., learning diaries, debriefing) foster psychological readiness, thereby enhancing the transfer of other soft skills.

The substantial growth in soft skills within the experimental group, in contrast to minimal changes in the control group, confirms that the improvements are a direct result of the targeted pedagogical intervention rather than natural development (Field, 2018; Shadish et al., 2002). Specifically, the pronounced gains in communication skills, leadership, and emotional intelligence validate the model's emphasis on intercultural interaction and emotional regulation within a multilingual environment, demonstrating its practical efficacy for teacher training.

Data from standardized tests (TEIQue-SF and CD-RISC-25) and physiological monitoring (HRV) provide triangulation and increase the reliability of conclusions: a 19.7% increase in

emotional intelligence and a 20.6% increase in psychological resilience correlate with self-assessment results (r = 0.72-0.85, $p < .001$). A 28-32% reduction in stress levels during simulations is consistent with the development of stress resistance and self-regulation. However, alternative explanations, such as habituation to the testing procedure or familiarization with the simulation environment, cannot be entirely ruled out, particularly given that HRV was measured only in the experimental group subsample.

Qualitative data (reflective responses) complement quantitative indicators: 78% of students reported increased confidence, 65% reported increased motivation for self-development, and 59% reported improved communication and teamwork. Typical statements ("I learned to manage stress better and not burn out", "The special course helped me become a leader in the group and lead discussions with more confidence") reflect not only quantitative growth but also a qualitative change in attitude towards the profession: from awareness of the importance of soft skills (an increase from 5.9 to 6.6 points) to a willingness to develop them in one's own practice systematically.

The results are consistent with international studies demonstrating the effectiveness of active methods and digital technologies in developing soft skills in future teachers (López-Serrano et al., 2025; Garrison, 2021). In particular, Kolb's cycle (2015) and Mezirow's transformative learning (2009), combined with VR simulations and reflective practices, allow students to experience authentic pedagogical situations, which is especially valuable given the limited real-world experience in multilingual classrooms (Garrison, 2021; Hauerwas et al., 2023). The high effect on communication skills and leadership confirms the conclusions of Byram (2021) and Porto & Yulita (2019) that the targeted development of intercultural competence through reflection and practice increases the teacher's ability to facilitate dialogue and resolve conflicts.

At the same time, the data allow for clarification of several theoretical propositions. First, the model demonstrates the synergistic nature of soft skills: the growth of one group (e.g., communication skills) positively affects other groups (leadership, teamwork, and self-management skills), thereby confirming a systemic approach to their formation (Deardorff, 2006; López-Serrano et al., 2025). Secondly, physiological data (HRV) serve as an objective indicator of self-regulation, expanding traditional diagnostic methods and complementing self-assessment and standardized tests (Tang, 2020). Thirdly, the growth in awareness of the importance of soft skills (+11.9%) indicates an increase in internal motivation and metacognitive skills, which is consistent with the andragogical approach (Knowles et al., 2020).

The results obtained are important for pedagogical theory and practice in Kazakhstan. The model successfully overcomes the identified deficits (low motivation, lack of reflection, limited intercultural experience, weak stress resistance), confirming the possibility of their systematic elimination through the integration of classical and digital approaches. This issue acquires particular significance within the framework of Kazakhstan's multilingual language *p*olicy, in which foreign language teachers act as key agents in the formation of a multilingual personality

and the development of intercultural citizenship (Concept of the Development of the Language Policy of the Republic of Kazakhstan for 2023-2029, 2023; Byram, 2021).

This study makes a specific contribution to the theoretical discussion of the nature and mechanisms of soft skills formation within contemporary educational policy in teacher training. The proposed structural-functional model clarifies the relationships among the cognitive, socio-communicative, and self-regulatory components of soft skills, treating them as a dynamically formed system integrated into the professional context of teacher training. Thus, the results of the study expand existing ideas about the possibilities for targeted development of soft skills within institutionally organized educational interventions and may be relevant to teacher education systems in multilingual, culturally diverse environments.

CONCLUSION

This study is devoted to the development and experimental testing of a structural-functional model for the formation of soft skills in future foreign language teachers in the multilingual educational environment of the Republic of Kazakhstan. The results strongly support the hypothesis that a structural-functional model combines cognitive, socio-communicative, and self-regulatory components into one interconnected system. This model, implemented through active methods, reflective practices, and digital technologies, effectively promotes the targeted development of soft skills. It particularly enhances areas previously identified for improvement, such as reflective capacity, intercultural adaptability, emotional stability, and self-reported readiness. The observed increase in students' awareness of the professional value of soft skills indicates a promising shift in motivational orientation, warranting further investigation with dedicated motivation measures.

Theoretical analysis confirmed that soft skills act as a comprehensive system of competencies essential for professional efficacy in a VUCA environment (Succi & Canovi, 2020; World Economic Forum, 2025). In the context of foreign language education, they take on a special role, promoting intercultural dialogue and global citizenship (Byram, 2021; Porto & Yulita, 2019). In Kazakhstan, where state language policy requires teachers to be multilingual and adapt to multilingual and multicultural conditions, the model has been adapted to national challenges, including digital inequality and a shortage of skilled personnel (Karabassova, 2021).

The quasi-experimental methodology with multi-method diagnostics (Likert questionnaire, TEIQue-SF, and CD-RISC-25) ensured data reliability (Creswell & Creswell, 2018). The results of testing on 160 students demonstrated significant growth in the experimental group (total score +38%, $p < .001$, $d = 1.68$) with minimal changes in the control group (+4.2%, $p > .05$). ANCOVA confirmed the model's effect ($F = 6.78\text{-}14.56$, $\eta^2 = 0.18\text{-}0.36$), particularly in communication skills, leadership, and emotional intelligence (López-Serrano et al., 2025). Qualitative data revealed increases in confidence (78%), motivation (65%), and communication skills (59%), consistent with reflective approaches (Mezirow, 2009).

The theoretical significance of the study lies in clarifying the concept of soft skills in the professional training of foreign language teachers and in substantiating an integrative model that combines key approaches (Kunanbaeva, 2019; Knowles et al., 2020).

The practical significance lies in the specialized course program, diagnostic tools, and recommendations for universities, adapted to teacher training systems in multilingual contexts (Concept of Language Policy of the Republic of Kazakhstan for 2023-2029, 2023).

Limitations of the study

Despite statistically significant results, the study has several methodological limitations. Primary among these is the quasi-experimental design with non-equivalent groups, necessitated by the natural constraints of the university curriculum and ethical considerations. Although ANCOVA was employed to control for baseline differences, this approach cannot fully eliminate the influence of unmeasured confounding variables, such as prior exposure to soft skills training or individual personality traits, which may have influenced the outcomes. Second, much of the data relied on self-assessment tools, which, despite high reliability, remain susceptible to social desirability bias. Third, conducting the intervention in a single institution within Kazakhstan's unique multilingual context may restrict the generalizability of the findings to other pedagogical settings.

Finally, the combination of self-report measures with a single-instructor design may have inflated the observed effect sizes. Students' awareness of the intervention's goals, coupled with consistent delivery by the same teacher, could have introduced expectancy effects and socially desirable responding. While implementation fidelity checks (92% compliance) and triangulation with standardized tests mitigate this risk, future research should employ independent raters or multi-instructor designs to isolate the model's true impact. Additionally, HRV data were collected only from a subsample of the experimental group (n = 40), with no corresponding measurements in the control group. This limits the ability to attribute HRV changes specifically to the intervention, as habituation effects or contextual factors cannot be ruled out; consequently, physiological data should be interpreted as supplementary triangulation rather than standalone confirmation. Additionally, the absence of a delayed post-test precludes assessment of long-term skill retention and transfer to authentic teaching practice. Subsequent studies should incorporate follow-up measurements at 3–6 months post-intervention to evaluate the sustainability of soft skills gains.

Abbreviations

AI - Artificial Intelligence
ANCOVA -Analysis of Covariance
CD-RISC-25 -Connor-Davidson Resilience Scale – 25 items
CEFR -Common European Framework of Reference for Languages
ECTS -European Credit Transfer and Accumulation System
EFL -English as a Foreign Language
ESL -English as a Second Language

HRV -Heart Rate Variability
IRB -Institutional Review Board
JASP - Jeffreys's Amazing Statistics Program
OECD - Organization for Economic Co-operation and Development
PROCESS -PROCESS macro
SD -Standard Deviation
TEIQue-SF -Trait Emotional Intelligence Questionnaire – Short Form
UNESCO - United Nations Educational, Scientific, and Cultural Organization
VR - Virtual Reality
VUCA -Volatility, Uncertainty, Complexity, Ambiguity
WEF -World Economic Forum

REFERENCES

Andrews, J., & Higson, H. (2008). Graduate employability, "soft skills" versus "hard" business knowledge. *Higher Education in Europe*, *33*(4), 411–422. https://doi.org/10.1080/03797720802522627

Byram, M. (2021). *Teaching and assessing intercultural communicative competence revisited* (2nd ed.). Multilingual Matters. https://doi.org/10.21832/9781800410251

Castro, P., Sercu, L., & García del Moral, L. F. (2013). Intercultural education in the EFL classroom: A review of teacher education programs in Spain. *Porta Linguarum*, *19*, 5–22. https://doi.org/10.30827/Digibug.36832

Cinque, M. (2016). "Lost in translation". Soft skills development in European countries. *Tuning Journal for Higher Education*, *3*(2), 389–427. https://doi.org/10.18543/tjhe-3-2-2016pp389-427

Cohen, J. (1988). *Statistical power analysis for the behavioral sciences* (2nd ed.). Lawrence Erlbaum Associates.

Connor, K. M., & Davidson, J. R. T. (2003). Development of a new resilience scale: The Connor-Davidson Resilience Scale (CD-RISC). *Depression and Anxiety*, *18*(2), 76–82. https://doi.org/10.1002/da.10113

Council of the European Union. (2018). Council Recommendation of 22 May 2018 on key competences for lifelong learning (2018/C 189/01). *Official Journal of the European Union*, *C 189*/1. https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX:32018H0604(01)

Creswell, J. W., & Creswell, J. D. (2018). *Research design: Qualitative, quantitative, and mixed methods approaches* (5th ed.). SAGE Publications.

Deardorff, D. K. (2006). Identification and assessment of intercultural competence as a student outcome of internationalization at institutions of higher education in the United States. *Journal of Studies in International Education*, *10*(3), 241–266. https://doi.org/10.1177/1028315306287002

Ding, Z., & Xue, W. (2025). Navigating anxiety in digital learning: How AI-driven personalization and emotion recognition shape EFL students' engagement. *Acta Psychologica*, *260*, Article 105466. https://doi.org/10.1016/j.actpsy.2025.105466

Faul, F., Erdfelder, E., Buchner, A., & Lang, A.-G. (2009). Statistical power analyses using G*Power 3.1: Tests for correlation and regression analyses. *Behavior Research Methods*, *41*(4), 1149–1160. https://doi.org/10.3758/BRM.41.4.1149

Field, A. (2018). *Discovering statistics using IBM SPSS Statistics* (5th ed.). SAGE Publications.

Gazioğlu, M., & Güner, B. (2021). *Foreign language teachers' intercultural competence as a new aspect of professional development*. Journal of Culture and Values in Education, 4(2), 27–41.

Garrison, D. R. (2021). *Community of Inquiry*. https://coi.athabascau.ca/coi-model/

Gizatullina, A., & Sibgatullina, A. (2018). *Forming a foreign language teacher's professional competencies in a multilingual educational environment*. Journal of Social Studies Education Research, 9(3), 282–295.

Goss-Sampson, M. (2025). *Statistical analysis in JASP: A guide for students* (Version 2025). JASP. https://jasp-stats.org/wp-content/uploads/2025/07/Statistical-Analysis-in-JASP-A-guide-for-students-2025.pdf

Government of the Republic of Kazakhstan. (2023). *Concept of language policy development of the Republic of Kazakhstan for 2023–2029*. Government of Kazakhstan

Guilherme, M. (2002). *Critical citizens for an intercultural world: Foreign language education as cultural politics*. Multilingual Matters. https://www.multilingual-matters.com/page/detail/?k=9781853596094

Hauerwas, L. B., Gómez-Barreto, I. M., Fernández, R. S., & Boix Mansilla, V. (2023). Transformative innovation in teacher education: Research toward a critical global didactica. *Teaching and Teacher Education*, *123*, Article 104032. https://doi.org/10.1016/j.tate.2022.104032

Hayes, A. F. (2018). *Introduction to mediation, moderation, and conditional process analysis: A regression-based approach* (2nd ed.). Guilford Press.

Heckman, J. J., & Kautz, T. (2012). Hard evidence on soft skills. *Labour Economics*, *19*(4), 451–464. https://doi.org/10.1016/j.labeco.2012.05.014

Hidayah, R. (2021). *Students' self-adjustment, self-control, and morality*. *Journal of Social Studies Education Research, 12*(1), 174–193.

Hinojosa-Torres, C., Barahona-Fuentes, G., Cajas-Luna, B., Soto-Meneses, J., Espoz-Lazo, S., & Valdivia-Moral, P. (2025). Soft skills development in initial teacher education in physical education: Systematic review. *Cogent Social Sciences*, *11*(1), Article 2597059. https://doi.org/10.1080/23311886.2025.2597059

Houghton, S. A. (2014). Exploring manifestations of curiosity in study abroad as part of intercultural communicative competence. *System*, *42*, 368–382. https://doi.org/10.1016/j.system.2013.12.024

JASP Team. (2025). *JASP* (Version 0.19.3) [Computer software]. https://jasp-stats.org/

Karabassova, L. (2021). *English-medium education reform in Kazakhstan: Comparative study of educational change across two contexts in one country.* https://www.researchgate.net/publication/349307057

Kim, D., Coenraad, M., & Park, H. R. (2021). *Digital storytelling as a tool for reflection in virtual reality projects*. *Journal of Curriculum Studies Research, 3*(1), 101–121. https://doi.org/10.46303/jcsr.2021.9

Knowles, M. S., Holton, E. F., & Swanson, R. A. (2020). *The adult learner: The definitive classic in adult education and human resource development* (9th ed.). Routledge. https://doi.org/10.4324/9780429299612

Kolb, D. A. (2015). *Experiential learning* (2nd ed.). Pearson Education.

Kunanbayeva, S. S. (2019). *Kompetentnostnoe modelirovanie professionalnogo inoyazychnogo obrazovaniya* [Competency-based modeling of professional foreign language education]. KazUMO&MIA named after Abylai Khan.

Kusmangazynova, A. (2025). Exploring the importance of soft skills development of teachers as perceived by secondary school teachers in Kazakhstan. *Hungarian Educational Research Journal*. Advance online publication. https://doi.org/10.1556/2059.2025.00147

Liu, H., & Zhang, L. (2023). Transformative learning for intercultural competence and emotional intelligence in pre-service EFL teachers. *System*, *115*, Article 103145. https://doi.org/10.1016/j.system.2023.103145

López-Serrano, A., McGowan, N., Moreno-Ger, P., & Burgos, D. (2025). Teaching soft skills in higher education through serious games: Validation of the Compete! gamification. *Smart Learning Environments*, *12*, Article 49. https://doi.org/10.1186/s40561-025-00401-5

Ma, Y., & Liu, Z. (2024). Emotion regulation and well-being as factors contributing to lessening burnout among Chinese EFL teachers. *Acta Psychologica*, *245*, Article 104219. https://doi.org/10.1016/j.actpsy.2024.104219

Makeleni, S., Mutongoza, B., & Linake, M. (2023). *Language education and artificial intelligence: An exploration of challenges confronting academics in Global South universities*. *Journal of Culture and Values in Education, 6*(2), 158–171. https://doi.org/10.46303/jcve.2023.14

Mambetova, A., Mendaliyeva, S., Amaniyazova, G. & Akkenzheyeva, A. (2025). A Qualitative Study on the Perceived Contributions of Regional Standards-Based Vocational Training to Work Performance and Innovation Skills in the Kazakhstan Labor Market. *Journal of Social Studies Education Research, 16*(3),128-169. https://jsser.org/index.php/jsser/article/view/6720/745

Marais, E. (2023). *The development of digital competencies in pre-service teachers*. *Research in Social Sciences and Technology, 8*(3), 134–154. https://doi.org/10.46303/ressat.2023.28

Mezirow, J. (2009). *Transformative learning in practice*. Jossey-Bass.

OECD. (2025). *OECD skills outlook 2025: Building the skills of the 21st century for all*. OECD Publishing. https://doi.org/10.1787/26163cd3-en

Orakova, A., Nametkulova, F., Issayeva, G., Mukhambetzhanova, S., Galimzhanova, M., & Rezuanova, G. (2024). The Relationships between Pedagogical and Technological Competence and Digital Literacy Level of Teachers. *Journal of Curriculum Studies Research, 6*(1), 1-21. https://doi.org/10.46303/jcsr.2024.2

Orih, D., Heyeres, M., Morgan, R., Udah, H., & Tsey, K. (2024). A systematic review of soft skills interventions within curricula from school to university level. *Frontiers in Education*, *9*, Article 1383297. https://doi.org/10.3389/feduc.2024.1383297

Porto, M., & Yulita, L. (2019). Is there a place for forgiveness and discomforting pedagogies in the foreign language classroom in higher education? *Cambridge Journal of Education*, *49*(4), 477–499. https://doi.org/10.1080/0305764X.2019.1566441

Robles, M. M. (2012). Executive perceptions of the top 10 soft skills needed in today's workplace. *Business Communication Quarterly*, *75*(4), 453–465. https://doi.org/10.1177/1080569912460400

Sanatbay, P., Smailova, G., Shalgynbayeva, K., Asilbekova, M., & Tauekelova, A. (2025). Problem-oriented learning as a method of developing soft skills among students of pedagogical specialties. *Education Sciences*, *15*(7), Article 861. https://doi.org/10.3390/educsci15070861

Shadish, W. R., Cook, T. D., & Campbell, D. T. (2002). *Experimental and quasi-experimental designs for generalized causal inference*. Houghton Mifflin.

Smakova, K., & Paulsrud, B. (2020). Intercultural communicative competence in English language teaching in Kazakhstan. *Issues in Educational Research*, *30*(2), 691–708. https://www.iier.org.au/iier30/smakova.pdf

Succi, C., & Canovi, M. (2020). Soft skills to enhance graduate employability. *Studies in Higher Education*, *45*(9), 1834–1847. https://doi.org/10.1080/03075079.2019.1585420

Tabachnick, B. G., & Fidell, L. S. (2019). *Using multivariate statistics* (7th ed.). Pearson. https://www.pearson.com/us/higher-education/program/Tabachnick-Using-Multivariate-Statistics-7th-Edition/PGM1000030.html

Tang, K. N. (2020). The importance of soft skills for teachers and students. *International Journal of Learning, Teaching and Educational Research*, *19*(6), 1–16. https://doi.org/10.26803/ijlter.19.6.1

UNESCO. (2016). *Assessment of transversal competencies: Policy and practice in the Asia-Pacific region*. UNESCO Bangkok Office. https://unesdoc.unesco.org/ark:/48223/pf0000246590

Vygotsky, L. S. (2019). *Mind in society: The development of higher psychological processes* (Reprint ed.). Harvard University Press. (Original work published 1978)

Wang, H., Wang, W., Gao, X., Wu, D., Lu, Q., Li, C., & Wang, H. (2024). Vascular tone component of the baroreflex: Effects of postural resonance on skin sympathetic nerve activity and blood pressure. *Applied Psychophysiology and Biofeedback*, *50*(2), 169–188. https://doi.org/10.1007/s10484-024-09667-w

World Economic Forum. (2025). *The future of jobs report 2025*. https://www.weforum.org/publications/the-future-of-jobs-report-2025/

World Health Organization. (2020). *Helping adolescents thrive (HAT) guidelines: Evidence-informed recommendations for promoting and protecting adolescent mental health*. World Health Organization & United Nations Children's Fund. https://www.who.int/publications/i/item/9789240011854

Yussupova, S., & Tarman, B. (2025). *Cultural empathy and school climate in Kazakhstan: A factor and cluster analysis of students' perceptions*. *Journal of Curriculum Studies Research, 7*(1), 47–65. https://doi.org/10.46303/jcsr.2025.3

APPENDIX

Table 1.

An independent-samples t-test

Skill	Experimental group (M ± SD)	Control group (M ± SD)	t	*p*
Mentorship	4.1 ± 0.9	4.0 ± 1.0	0.42	0.675
Management	4.0 ± 1.0	4.1 ± 0.9	0.35	0.760
Initiative	4.2 ± 0.8	4.3 ± 0.9	0.48	0.632
Cooperation	4.4 ± 0.9	4.3 ± 1.0	0.51	0.610
Adaptability	4.1 ± 1.1	4.0 ± 1.0	0.56	0.576
Erudition	4.3 ± 0.9	4.2 ± 0.8	0.41	0.681
Self-organization	4.0 ± 1.0	4.1 ± 0.9	0.32	0.749
Leadership	4.0 ± 1.0	4.1 ± 0.9	0.32	0.749
Time management	4.1 ± 1.1	4.0 ± 1.0	0.56	0.576
Emotional intelligence	4.1 ± 1.1	4.0 ± 1.0	0.56	0.576
Teamwork	4.2 ± 0.9	4.3 ± 0.8	0.45	0.652
Learning ability	4.4 ± 1.0	4.3 ± 0.9	0.51	0.610
Critical thinking	4.3 ± 0.9	4.4 ± 0.8	0.41	0.681
Responsibility	4.0 ± 1.0	4.1 ± 0.9	0.32	0.749
Confidence	4.3 ± 1.1	4.2 ± 1.0	0.56	0.576
Communicativeness	4.2 ± 0.9	4.3 ± 0.8	0.45	0.652
Creativity	4.1 ± 1.0	4.0 ± 0.9	0.32	0.749

Skill	Experimental group (M ± SD)	Control group (M ± SD)	t	*p*
Stress management	3.8 ± 1.1	3.9 ± 1.0	0.56	0.576

Table 2.

Intragroup changes in soft skills (pre- vs post-testing)

Skill	Experimental group			Control group		
	Before course (M)	After (M)	Growth (%)	Before course (M)	After (M)	Growth (%)
Mentorship	4.1	5.7	+39.0	4.0	4.2	+5.0
Management	4.0	5.6	+40.0	4.1	4.3	+4.9
Initiative	4.2	5.9	+40.5	4.3	4.5	+4.7
Cooperation	4.4	6.1	+38.6	4.3	4.5	+4.7
Adaptability	4.1	5.8	+41.5	4.0	4.2	+5.0
Erudition	4.3	5.9	+37.2	4.2	4.4	+4.8
Self-organization	4.0	5.7	+42.5	4.1	4.3	+4.9
Leadership	4.0	5.8	+45.0	4.1	4.3	+4.9
Time management	4.1	5.8	+41.5	4.0	4.2	+5.0
Emotional intelligence	4.1	5.9	+43.9	4.0	4.2	+5.0
Teamwork	4.2	5.9	+40.5	4.3	4.5	+4.7
Learning ability	4.4	6.0	+36.4	4.3	4.5	+4.7
Critical thinking	4.3	6.0	+39.5	4.4	4.6	+4.5
Responsibility	4.0	5.7	+42.5	4.1	4.3	+4.9
Confidence	4.3	6.0	+39.5	4.2	4.4	+4.8
Communicativeness	4.2	6.1	+45.2	4.3	4.5	+4.7
Creativity	4.1	5.8	+41.5	4.0	4.2	+5.0
Stress management	3.8	5.4	+42.1	3.9	4.1	+5.1