



## Pedagogical referendariat and the professional development of beginning teachers: a gender-sensitive study

*El periodo de prácticas pedagógicas y el desarrollo profesional del profesorado novel: un estudio con perspectiva de género*

### Authors

Gulden Yespolova<sup>1</sup>  
Aidana Tanirbergen<sup>2</sup>  
Anargul Sharipkhanova<sup>1</sup>  
Ainur Ansabayeva<sup>3</sup>  
Bagi Bazarbek<sup>1</sup>  
Saniya Nurgaliyeva<sup>2,4</sup>

<sup>1</sup> Sarsen Amanzholov East Kazakhstan University (Kazakhstan)

<sup>2</sup> Abai Kazakh National Pedagogical University (Kazakhstan)

<sup>3</sup> Zhetysay university named after I. Zhansugurov (Kazakhstan)

<sup>4</sup> Ataturk University (Turkey)

Corresponding author:  
Saniya Nurgaliyeva  
[sanianurgaliyeva77@gmail.com](mailto:sanianurgaliyeva77@gmail.com)

Received: 17-01-25  
Accepted: 26-01-26

### How to cite in APA

Yespolova, G., Tanirbergen, A., Sharipkhanova, A., Ansabayeva, A., & Nurgaliyeva, S. (2026). Pedagogical referendariat and the professional development of beginning teachers: a gender-sensitive study. *Retos*, 76, 884-896. <https://doi.org/10.47197/retos.v77.113023>

### Abstract

**Introduction:** The professional development of beginning teachers remains an important concern in contemporary education systems. Although prior research has examined motivations for entering the teaching profession, limited attention has been given to the pedagogical referendariat as a structured mechanism supporting novice teachers' transition into professional practice and the development of core pedagogical competencies, particularly from a gender-sensitive perspective.

**Objective:** This study aims to examine beginning teachers' perceptions of the pedagogical referendariat and its perceived contribution to professional development, with particular attention to gender-related differences.

**Methodology:** A survey-based, non-experimental pre-post research design was employed. Data were collected using a structured questionnaire covering six competency domains. The sample consisted of 400 beginning teachers who had completed the pedagogical referendariat program in East Kazakhstan.

**Results:** The findings indicate self-reported improvements across all examined pedagogical competency domains following participation in the program. Overall perceptions of the pedagogical referendariat were positive. Small gender-related differences were observed, with female teachers reporting slightly higher perceptions of program effectiveness.

**Discussion:** The results suggest that the pedagogical referendariat is perceived as a meaningful form of professional support by beginning teachers. However, the findings reflect perceived changes rather than evidence of causal program effects.

**Conclusions:** Considering gender as an analytical category provides additional insight into variation in reported experiences among beginning teachers. Given the reliance on self-reported data and the absence of a control group, the study offers context-specific, descriptive evidence from Kazakhstan that contributes to ongoing discussions on supporting beginning teachers' professional development.

### Keywords

Beginning teachers; pedagogical referendariat; gender differences; professional development; professional growth.

### Resumen

**Introducción:** El desarrollo profesional de los docentes principiantes sigue siendo una preocupación relevante en los sistemas educativos contemporáneos. Aunque investigaciones previas han analizado las motivaciones para ingresar a la profesión docente, se ha prestado escasa atención al referendariado pedagógico como un mecanismo estructurado de apoyo a la transición de los docentes noveles hacia la práctica profesional y al desarrollo de competencias pedagógicas clave, especialmente desde una perspectiva sensible al género.

**Objetivo:** Este estudio tiene como objetivo examinar las percepciones de los docentes principiantes sobre el referendariado pedagógico y su contribución percibida al desarrollo profesional, con especial atención a las diferencias relacionadas con el género.

**Metodología:** Se empleó un diseño de investigación no experimental, basado en encuestas, con medición pre-post. Los datos se recopilaron mediante un cuestionario estructurado que abarcó seis dominios de competencia. La muestra estuvo compuesta por 400 docentes principiantes que completaron el programa de referendariado pedagógico en el este de Kazajistán.

**Resultados:** Los resultados indican mejoras autoinformadas en todas las dimensiones de competencias pedagógicas examinadas tras la participación en el programa. En general, las percepciones sobre el referendariado pedagógico fueron positivas. Se observaron pequeñas diferencias relacionadas con el género, siendo las docentes quienes reportaron percepciones ligeramente más altas sobre la efectividad del programa.

**Discusión:** Los hallazgos sugieren que el referendariado pedagógico es percibido por los docentes principiantes como una forma significativa de apoyo profesional. No obstante, los resultados reflejan cambios percibidos y no constituyen evidencia de efectos causales del programa.

**Conclusiones:** La consideración del género como categoría analítica aporta una comprensión adicional de la variación en las experiencias reportadas por los docentes principiantes. Dado el uso de datos autoinformados y la ausencia de un grupo de control, el estudio ofrece evidencia descriptiva y contextual del sistema educativo de Kazajistán que contribuye a los debates actuales sobre el apoyo al desarrollo profesional de los docentes principiantes.

### Palabras clave

Maestros principiantes; programa de referendario pedagógico; desarrollo profesional; crecimiento profesional; género.

## Introduction

Professional support for young teachers is a priority in the education policies of most developed countries. Currently, many countries in various regions of the world are experiencing a shortage of teaching staff. According to research, the demand for teachers will remain high in the near future (Symeonidis et al., 2025; White et al., 2025). Modern schools are in dire need of young teachers who are able to adequately respond to changes in the educational situation, the specifics of pedagogical systems, and new conditions of professional activity (Crawford, 2025; Vreuls et al., 2022). However, beginning teachers are often left without support and leave the profession early in their careers, without achieving mastery. On average, one in ten beginning teachers leaves the profession. Therefore, numerous facts about the professional training, activities, and well-being of beginning teachers have long been the subject of debate among researchers (Squires, 2019). The contradiction between the requirements of the profession and the professional and personal development of graduates of pedagogical universities is the main contradiction in the development of beginning teachers (Asterhan & Lefstein, 2024). The impact of prolonged failure affects not only teacher results but also the development of a teacher's personality: failure leads to lower self-esteem and a lack of confidence in one's abilities. Failure is especially detrimental to the work of a beginning teacher. A teacher's level of aspirations and self-esteem are influenced by successes and failures (Gan, 2018).

In the current situation of social development, the general education school, as a basic link in education, is being reoriented towards new educational outcomes, which are associated, first of all, with the development of the student's personality and impose new demands on the level of teacher professionalism (Tsybulsky & Muchnik-Rozanov, 2019). The current situation of aging teaching staff in educational institutions shows that the current set of state measures to attract and retain young teachers in the field of education is insufficient and does not have a decisive impact on positive change in the situation (Opoku et al., 2025). The solution of these issues is aggravated by a number of the following factors, such as low wages, increased requirements for the level of qualifications of young teachers, and insufficiently high social status of teachers (Lutfiu & Hoxha, 2024). The feminization of the teaching profession is not a new or well-known problem, but it has become more acute in recent years. Most researchers view this as a negative phenomenon. Indeed, the predominance of women in the teaching profession has a significant impact on the functioning and development of the education system and, consequently, on the future development of society and the state (Heinz et al., 2023). At the same time, meta-analysis and practice show that most young teachers experience difficulties in choosing optional programs and selecting subject-specific educational content. Difficulties arise in developing the school component of the educational standard. These challenges have led to the development of various institutionalized forms of support aimed at facilitating the transition from pre-service training to full professional practice.

### **Problem Statement**

Currently, there are many factors in Kazakhstani society that negatively impact the confidence of beginning teachers in their choice of profession and their desire to join the professional community (Nurgaliyeva et al., 2025; Yerezhpov et al., 2025; Mendigaliyev et al., 2025). Growing public dissatisfaction with the quality of teachers and unsatisfactory results of international comparative studies of students in Kazakhstani schools gave impetus to adopt the law "On the Status of a Teacher." Consequently, the status of a teacher is in the government's focus, and certain measures are being taken to improve it.

The work of a beginning teacher is carried out within the framework of an educational institution. Their stability and predictability are among the factors that contribute to professionalization, which requires the long-term development of an individual teacher. The opposite logic also applies: frequent changes in institutional rules of the game negatively impact the professionalization process, preventing the establishment of stable patterns of behavior and the normalization of the most significant actions.

Professionalization is supported by the profession's high prestige. However, a paradoxical situation persists in which prestigious professions are predominantly in the public sector and chronically suffer from a lack of funding, which fails to meet the needs of their employees. Let's transform this observation into a second hypothetical: low wages, inferior to those of less prestigious professions, can significantly reduce the attractiveness of the teaching profession and encourage young people to switch to a more rewarding career (Kurebayeva et al., 2025; Zhumabayeva et al., 2025; Ayapbergenova et al., 2020).



Researchers say efforts need to be made to ensure that beginning teachers are provided with substantial, effective support and guidance during the first few years of their professional careers (Abildina et al., 2024; Karibaev et al., 2024; Nurgaliyeva et al., 2025). Inclusive education has become widespread, requiring beginning teachers to be able to work with children with special educational needs in a mainstream school setting. Beginning teachers are required to be proficient in digital technologies; they must possess high innovative potential, a need for continuous self-improvement, and the ability to make prompt, appropriate decisions (Kuralbayeva et al., 2025; Baigaliyev et al., 2025).

An analysis of the best school systems found that high-performing school systems place significant emphasis on improving the quality of beginning teachers, as this factor has a direct impact on student achievement (Kilybayeva et al., 2025; Ospankulov et al., 2023; Kulgildinova et al., 2025).

Although teacher induction and mentoring programs have been widely examined in various international contexts (Courtney et al., 2023; García-Carrión et al., 2020; Luong et al., 2025), limited attention has been paid to the Pedagogical Referendariat Program (PRP) as a structured mechanism for supporting beginning teachers, particularly in post-Soviet and Central Asian education systems. Unlike mentoring, which is often informal and relationship-based, or induction programs that typically focus on short-term adaptation, the PRP represents a more structured and institutionally regulated model aimed at combining professional support, competency development, and supervised entry into the profession. Residency models, in turn, are usually embedded within initial teacher education and emphasize extended in-school practice, whereas the pedagogical referendariat is positioned at the post-graduation stage and linked to formal professional certification.

In Kazakhstan, where ongoing educational reforms emphasize teacher quality and professional readiness, empirical evidence on the effectiveness of such programs remains scarce. Examining the pedagogical referendariat within this national context, and in conceptual comparison with alternative induction and support models, therefore addresses an important research gap and offers insights that may also be relevant for other countries implementing or reforming teacher induction models.

Accordingly, these considerations point to a clear need for systematic research on the professional integration of beginning teachers and the effectiveness of support programs aimed at facilitating their entry into the teaching profession. However, existing studies have not sufficiently examined how this PRP contributes to beginning teachers' professional adaptation, competence development, and engagement with modern educational practices. This study investigates how the pedagogical referendariat is perceived by beginning teachers as contributing to the development of core pedagogical competencies and professional growth, with particular attention to gender-based differences.

## **Research Questions**

Q1: How do beginning teachers perceive the PRP in relation to their professional adaptation and development?

Q2: Are there differences between male and female beginning teachers in their perceptions of the PRP?

Q3: To what extent do beginning teachers report perceived improvements across key pedagogical competencies following participation in the PRP?

## **Method**

### **Study design**

The study employed a non-experimental pre-post survey design without a control group, aimed at examining self-reported changes in perceived pedagogical competencies among beginning teachers. The first step involved evaluating the respondents' self-assessed degree of competence development in various domains. In order to support the development of these competencies, the PRP was implemented in the second stage. Respondents were retested in the third stage to evaluate changes in their perceived competency levels over time. Paired-sample t-tests were conducted to compare pre- and post-PRP scores for the key pedagogical competencies. Given the absence of a control group, the analysis focused on

identifying statistically significant differences in self-reported perceptions rather than establishing causal program effects. To control for potential confounding variables, participants' teaching subject, school type, and prior pedagogical experience were considered as covariates in the analysis.

## Participants

The study took place in Ust-Kamenogorsk, located in East Kazakhstan. Participants were selected using purposive sampling based on the following criteria: (1) successful completion of the PRP, (2) being at an early stage of their teaching careers (0–1 years), and (3) representation from a variety of school types. A total of 400 beginning teachers participated in the study, drawn from mixed-language schools (Kazakh and Russian), secondary schools, gymnasiums, lyceums, and boarding schools. The average age of participants was  $26.5 \pm 3.4$  years. Participants' teaching subject, school type, and prior pedagogical experience were considered in the statistical analysis to reduce the influence of background characteristics. While the sample size was relatively large, the restriction to a single city and the gender distribution (approximately 60% female) limit the generalizability of the findings.

## Study Implementation

The study was carried out over a 24-week period from February to June 2024. Offline formats were used in the sessions. Each week, there was a single, one-hour session. There were 24 offline sessions in all.

The program incorporated interactive workshops, case-based learning, peer collaboration, classroom observation, and reflective practice activities. These instructional approaches were intended to enhance participants' professional development across various pedagogical domains. The modules were delivered by methodologists, psychologists, and educational researchers holding doctoral degrees from Sarsen Amanzholov East Kazakhstan University (see Table 2). However, the study did not include a systematic evaluation of implementation fidelity, trainer effectiveness, or variability across sessions, which constitutes an additional limitation of the research design.

Table 2. Overview of Module Content.

Modules 1–6	Modules 7–12	Modules 13–18	Modules 19–24
1. Introduction to Pedagogical Skills	7. Fostering Positive Student-Teacher Relationships	13. Planning for Inclusive Classrooms	19. Adaptation for Different Learning Styles
2. Active Learning Strategies	8. Motivating Students	14. Time Management in the Classroom	20. Handling Classroom Conflicts
3. Lesson Plan Design	9. Assessment for Learning	15. Student-Centered Teaching Methods	21. Using Technology in Teaching
4. Differentiated Teaching Strategies	10. Self-Reflection Practices	16. Managing Group Work	22. Professional Development Planning
5. Designing Classroom Rules and Routines	11. Questioning Techniques	17. Feedback and Evaluation	23. Reflecting on Student Outcomes
6. Preventing Disruptions	12. Classroom Discussions	18. Teaching Critical Thinking	24. Final Evaluation and Feedback

## Instruments

The instrument was developed based on research on contemporary professional support programs for beginning teachers. To ensure content validity, the questionnaire was reviewed by experts in teacher education and pedagogical training. Construct validity was examined through factor analysis, which confirmed that the items loaded appropriately on the intended competency dimensions. Prior to the main data collection, the instrument was piloted with a small group of beginning teachers. Cronbach's alpha coefficients for the competency subscales ranged from 0.78 to 0.85, indicating acceptable internal consistency.

Importantly, the instrument was designed to assess participants' perceptions of competency development rather than objective or externally validated measures of teaching performance. It consisted of six sections: Pedagogical Skills (PS), Instructional Planning (IP), Classroom Management (CM), Student Interaction (SI), Reflective Practices (RP), and Overall Program Impact (OPI). The items were adapted from prior research on program effectiveness and professional development (Lantz-Andersson et al., 2018) and contextualized for the Kazakhstani educational system. All items were rated on a five-point

Likert-type scale ranging from 1 (Strongly Disagree) to 5 (Strongly Agree). The instrument (see Appendix A) comprised 24 items aimed at capturing various aspects of perceived professional development (see Table 3).

Table 3. Structure of the Survey Instrument

Section	Focus Area	Question Numbers
Section 1: PS	Perceptions of teaching methodologies and pedagogical strategies	1-4
Section 2: IP	Lesson Planning and Curriculum Design	5-8
Section 3: CM	Classroom Management and Behavior Strategies	9-12
Section 4: SI	Student Engagement and Relationship Building	13-16
Section 5: RP	Reflective Teaching Practices	17-20
Section 6: OPI	Professional Growth and Mentorship in Teaching	21-24

## Data Analysis

Research data were analyzed using SPSS 26.0. Descriptive statistics were used to summarize central tendencies and variability. Descriptive statistics were computed to examine response distributions, and a paired-samples t-test was applied to evaluate pre-post differences in perceived competencies following participation in the PRP. Given the non-experimental design, these analyses were interpreted as indicative of perceived change over time rather than evidence of causal program impact. Multiple regression analysis was used to explore associations between selected PRP components (e.g., mentorship, supervised teaching, reflective practice) and perceived competency development. These analyses were exploratory and aimed to identify relational patterns rather than causal effects.

## Results

As shown in Table 4, female teachers reported slightly higher perceptions of the PRP than male teachers. This difference was statistically significant,  $t(398) = 2.14$ ,  $p = .033$ , with a small effect size (Cohen's  $d = 0.22$ ), suggesting a modest gender-related variation in perceived program experiences (see Table 5).

Table 4. Descriptive statistics of PRP perception scale by gender.

Variable	M	SD	SE	95% CI
Overall Sample (n=400)	4.06	0.892	0.0445	3.97-4.15
Female (n=240)	4.12	0.85	0.0549	4.01-4.23
Male (n=160)	3.98	0.91	0.0719	3.84-4.12

Table 5. Independent Samples t-Test by Gender

Gender	N	M	SD	t	df	p	Cohen's d
Female	240	4.12	0.85	2.14	398	.033	0.22
Male	160	3.98	0.91				

Note. Cohen's  $d$  values of 0.20, 0.50, and 0.80 indicate small, medium, and large effects, respectively.

Teachers' self-reported perceptions of key pedagogical competencies reflected improvements across all areas following completion of the PRP. The highest post-program mean scores were observed in reflective practice ( $M = 4.5$ ) and student interaction ( $M = 4.4$ ). In terms of pre-post change, the largest mean differences were found in classroom management and student interaction. Standard deviations indicate moderate agreement among participants, suggesting a broadly similar perceived impact of the program across the sample (see Table 6).

Table 6. Descriptive statistics of perceived key pedagogical competencies

Competency	Pre M	Pre SD	Post M	Post SD	n	SE Pre	SE Post	95% CI Pre	95% CI Post
PS	3.1	0.72	4.2	0.68	400	0.035	0.035	3.03-3.17	4.13-4.27
IP	3.2	0.63	4.1	0.59	400	0.03	0.03	3.14-3.26	4.04-4.16
CM	3.0	0.81	4.3	0.76	400	0.04	0.04	2.92-3.08	4.22-4.38
SI	3.1	0.74	4.4	0.69	400	0.035	0.035	3.03-3.17	4.33-4.47
RP	3.3	0.65	4.5	0.61	400	0.03	0.03	3.24-3.36	4.44-4.56



Note. SE = SD /  $\sqrt{n}$ ; 95% CI = M  $\pm$  1.96·SE

Paired-sample t-tests confirmed statistically significant increases in all competency domains (see Table 7). Effect sizes ranged from moderate to large (Cohen's  $d = 0.54$ – $0.82$ ), reflecting substantial perceived changes over time. Given the pre–post survey design without a control group, these findings are interpreted as indicative of changes in self-reported perceptions rather than evidence of causal program effects.

Table 7. Paired Sample t-Test results.

Competency	Pre-Program M	Post-Program M	$\Delta$ M (Post–Pre)	$t$	df	$p$	Cohen's $d$	95% CI for $\Delta$ M
PS	3.1	4.2	1.1	12.34	399	< .001	0.62	0.93 – 1.27
IP	3.2	4.1	0.9	10.87	399	< .001	0.54	0.74 – 1.06
CM	3.0	4.3	1.3	14.02	399	< .001	0.70	1.12 – 1.48
SI	3.1	4.4	1.3	15.29	399	< .001	0.76	1.13 – 1.47
RP	3.3	4.5	1.2	16.45	399	< .001	0.82	1.06 – 1.34

Finally, an exploratory multiple regression analysis was conducted to examine potential associations between specific PRP components and perceived competency development. Mentorship, supervised teaching, and reflective practice were included as predictors, with gender as a control variable. Reflective practice emerged as the strongest predictor of perceived competency growth ( $\beta = .34$ ,  $p < .01$ ), followed by mentorship support ( $\beta = .21$ ,  $p < .05$ ). Gender showed a small yet statistically significant association with overall PRP perception scores ( $\beta = .12$ ,  $p < .05$ ). Given the exploratory nature of the analysis and reliance on self-reported data, these results are interpreted as indicative of relational patterns rather than evidence of causal effects.

## Discussion

The findings of this study provide empirical support for the research questions by indicating that beginning teachers perceive the PRP as contributing to their professional development and the enhancement of core pedagogical competencies. At the same time, these findings should be interpreted with caution, as additional contextual or personal factors not measured in this study may also influence perceived professional growth.

The results are consistent with previous research suggesting that training programs undertaken by beginning teachers are associated with a more successful transition into the profession (Kearney, 2021). With respect to gender, statistically significant differences were observed in participants' perceptions of the PRP, with female teachers reporting slightly higher overall scores than male teachers. However, the magnitude of this difference was small (Cohen's  $d = 0.22$ ), indicating a modest variation rather than a substantial divergence in experiences. Prior studies have similarly documented gender-related differences in perceptions of professional development and support programs (Seehuus, 2023; Moskos, 2020). In a related study, Uka (2024) reported that female beginning teachers expressed more favorable perceptions of professional skill development compared to their male counterparts. Taken together, these findings suggest that gender may be associated with variations in perceived program effectiveness, although the practical significance of this difference appears limited.

Improvements were reported across all examined competency domains following participation in the PRP. These increases reflect substantial perceived changes over time; however, given the pre–post design without a control group, they should be interpreted as changes in self-reported perceptions rather than as definitive evidence of program impact. The magnitude of the observed pre–post differences was substantial. While this may reflect meaningful perceived development, it may also be partially explained by response-shift bias, increased self-awareness of professional standards, or positive expectancy effects associated with program completion. Additionally, as the data were collected through self-report measures, social desirability bias may have influenced participants' responses, potentially leading to overestimations of program-related benefits.

The exploratory regression analysis further indicated that specific components of the PRP—particularly reflective practice and mentorship—were positively associated with perceived competency development. These results highlight relational patterns between program elements and reported professional growth; however, they do not establish causal relationships. The reliance on self-reported data and the absence of experimental control limit the strength of causal interpretations.

The findings align with prior research indicating that professional advancement among beginning teachers is most evident when supported through innovative and structured activities (Taufiq et al., 2024; Süer & Oral, 2021). Innovative training initiatives may provide opportunities for teachers to strengthen both psychological readiness and practical skills, thereby supporting their professional trajectory (Gorard et al., 2022). Support programs can also encourage autonomy in exploring instructional strategies and constructing individualized professional pathways based on personal experience (Fuchsman et al., 2023; Nesje et al., 2018; Gorard et al., 2022).

Nevertheless, caution is warranted when generalizing these results. Differences in educational systems, institutional resources, and cultural contexts may affect the applicability of the findings beyond the present sample. Furthermore, the consistently high post-program scores across all competency domains may partly reflect ceiling effects or social desirability tendencies rather than solely program-related influences. Although the PRP appears promising in terms of participants' perceptions, the current evidence does not allow strong causal conclusions. Future research employing experimental or longitudinal designs across diverse educational contexts is recommended to further examine the mechanisms underlying beginning teachers' professional development and to validate the observed patterns.

### ***Limitations of the Study***

This study has several limitations. First, it relied on self-reported survey data, which may be influenced by social desirability bias. Second, the sample was limited to beginning teachers in Ust-Kamenogorsk, East Kazakhstan, and participation was voluntary, which may affect representativeness and generalizability. Third, no formal control group or observational/performance-based measures were included, so causal effects cannot be established. Fourth, program implementation fidelity and trainer effectiveness were not formally assessed, which could introduce variability in participant experiences. Finally, significant improvements across all competencies may partly reflect ceiling effects or other biases rather than solely program impact. Future studies should consider experimental designs, multi-region samples, and qualitative or observational data to provide a more comprehensive evaluation.

## **Conclusions**

This study examined the professional development of beginning teachers and their perceptions of the PRP's contribution to core pedagogical competencies. Initial results indicate that beginning teachers already possessed foundational competencies prior to program participation. The findings suggest that the PRP may provide supportive structures for professional growth. Based on the observed patterns, practical recommendations for enhancing program implementation include offering targeted mentoring, incorporating structured feedback mechanisms, and adapting program components to local educational contexts. Future research using experimental or longitudinal designs is needed to further examine these associations and refine program strategies. Overall, the PRP shows potential to support beginning teachers' professional development and to inform policy for teacher support.

## **References**

- Abildina, S., Sarsekeyeva, Zh., Mukhametzhanova, A., Kopbalina, K., & S. Nurgaliyeva. (2024). Enhancing reading literacy among elementary school learners in Kazakhstan: The application and effectiveness of modern teaching techniques. *Journal of Infrastructure Policy and Development*, 8 (8), 5905. <https://doi.org/10.24294/jipd.v8i8.5905>
- Ayapbergenova, G.S., Nurgaliyeva, S.A., Bissebayeva, N.A., Kabakova, M.P., & Koyshibayev, M.N. (2020). Developing project skills in future primary school teachers within the university-based initial



- teacher education. *Science for Education Today*, 10(6), 7–26. <http://dx.doi.org/10.15293/2658-6762.2006.01>
- Asterhan, C. S., & Lefstein, A. (2024). The search for evidence-based features of effective teacher professional development: A critical analysis of the literature. *Professional development in education*, 50(1), 11-23. <https://doi.org/10.1080/19415257.2023.2283437>
- Baigaliyev, A., Mamadaliyev, S., Islyamov, B., Azirbaizhan, E., Adilzhanova, M., & Serzhanuly, B. (2025). The impact of the co-teaching model on students with disabilities in Kazakhstan: a case study. *Retos*, 72, 1264-1275. <https://doi.org/10.47197/retos.v73.117457>
- Courtney, S. A., Austin, C. K., & Zolfaghari, M. (2023). International perspectives on teacher induction: A systematic review. *Teaching and Teacher Education*, 125, 104047. <https://doi.org/10.1016/j.tate.2023.104047>
- Fuchsman, D., Sass, T. R., & Zamarro, G. (2023). Testing, teacher turnover, and the distribution of teachers across grades and schools. *Education Finance and Policy*, 18(4), 654-675. [https://doi.org/10.1162/edfp\\_a\\_00376](https://doi.org/10.1162/edfp_a_00376)
- Gan, Z. (2018). Success and failure in first-year teaching: Mainland Chinese ESL teachers in Hong Kong schools. *Cogent Education*, 5(1), 1455631. <https://doi.org/10.1080/2331186X.2018.1455631>
- García-Carrión, R., Padrós Cuxart, M., Alvarez, P., & Flecha, A. (2020). Teacher induction in schools as learning communities: Successful pathways to teachers' professional development in a diverse school serving students living in poverty. *Sustainability*, 12(17), 7146. <https://doi.org/10.3390/su12177146>
- Glutsch, N., & König, J. (2019). Pre-service teachers' motivations for choosing teaching as a career: Does subject interest matter?. *Journal of Education for Teaching*, 45(5), 494-510. <https://doi.org/10.1080/02607476.2019.1674560>
- Gorard, S., See, B. H., & Morris, R. (2022). How to Get More People into Teaching? Comparing Undergraduates' and Teacher Trainees' Motivation and Perceptions of a Teaching Career. *Education Sciences*, 12(11), 767. <https://doi.org/10.3390/educsci12110767>
- Crawford, R. (2025). Responding to the de-professionalisation of teaching: Empowering teachers to enhance their pedagogy through action research. *Education Sciences*, 15(3), 274. <https://doi.org/10.3390/educsci15030274>
- Heinz, M., Keane, E., & Davison, K. (2023). Gender in initial teacher education: entry patterns, intersectionality and a dialectic rationale for diverse masculinities in schooling. *European Journal of Teacher Education*, 46(1), 134-153. <https://doi.org/10.1080/02619768.2021.1890709>
- Karibaev, Z., Zhumabayeva, A., Kurbonova, B., & Nurgaliyeva, S. (2024). Subjective Well-Being Among Students with Disabilities in Kazakhstan: An Exploratory Study. *Journal of Curriculum Studies Research*, 6(2), 88-103. <https://doi.org/10.46303/jcsr.2024.12>
- Kearney, S. (2021). The challenges of beginning teacher induction: A collective case study. *Teaching Education*, 32(2), 142-158. <https://doi.org/10.1080/10476210.2019.1679109>
- Kilybayeva, G., Kyyakbayeva, U., Izmagambetova, R., Myshbayeva, G., Bekmagambetova, R., & Nurgaliyeva, S. (2025). *International Journal of Evaluation and Research in Education*, 14(4), 2902-2914. <http://doi.org/10.11591/ijere.v14i4.31955>
- Kulgildinova, T., Sarsembayeva, A., Surova, D., Kalelova, I., Zhaizhatyrova, M., & Nurgaliyeva, S. (2025). The Influence of an Adaptive Non-Formal Education Model on Student Learning Activity and Engagement. *International Journal of Modern Education and Computer Science*, 17(5). <https://doi.org/10.5815/ijmecs.2025.05.06>
- Kurebayeva, G., Kulgildinova, T., Kurebayeva, G., Akhatova, B., Shevyakova, T., & Nurgaliyeva, S. (2025). From Tradition to Innovation: Pre-Service Teachers' Perceptions of Digital Transformation in Language Learning. *Forum for Linguistic Studies*, 7(3), 351-361. <https://doi.org/10.30564/fls.v7i3.8768>
- Kuralbayeva, A. A., Tasova, A., Sultanbek, M., Jazydkbayeva, M., Kozhageldieva, S., & Shalabaeva, Z. (2025). Evaluación del Impacto de la Pedagogía No Lineal en el Compromiso Estudiantil en Educación Física. *Retos*, 66, 1041-1056. <https://doi.org/10.47197/retos.v66.114393>
- Lantz-Andersson, A., Lundin, M., & Selwyn, N. (2018). Twenty years of online teacher communities: A systematic review of formally-organized and informally-developed professional learning groups. *Teaching and teacher education*, 75, 302-315. <https://doi.org/10.1016/j.tate.2018.07.008>

- Luong, G. Y. (2025). The effectiveness of mentoring, coaching, and induction practices for early career teachers: A scoping review. *Teaching and Teacher Education*, 163, 105065. <https://doi.org/10.1016/j.tate.2025.105065>
- Lutfiu, B., & Hoxha, L. L. (2024). Socioeconomic status of teachers and its impact on teaching quality. *European Journal of Education and Pedagogy*, 5(2), 52-58. <https://doi.org/10.24018/ejedu.2024.5.2.790>
- Mendigaliyev, B., Ospankulov, Y. E., Kaden, N., Orynbayeva, L., Bayaliyev, R., Zhunusbekova, A., & Nurgaliyeva, A. (2025). Enhancing physical education through technology and freestyle wrestling: impact on elementary school students' activity, engagement and motivation. *Retos: nuevas tendencias en educación física, deporte y recreación*, (69), 118-131. <https://doi.org/10.47197/retos.v69.114212>
- Moskos, M. (2020). Why is the gender revolution uneven and stalled? Gender essentialism and men's movement into 'women's work'. *Gender, Work & Organization*, 27(4), 527-544. <https://doi.org/10.1111/gwao.12406>
- Nesje, K., Brandmo, C., & Berger, J. L. (2018). Motivation to become a teacher: A Norwegian validation of the factors influencing teaching choice scale. *Scandinavian Journal of Educational Research*, 62(6), 813-831. <https://doi.org/10.1080/00313831.2017.1306804>
- Nurgaliyeva, S., Zhumabayeva, A., Kulgildinova, T., Abildina, S., Kurbonova, B., Umirbekova, A., & Bolatov, A. (2025). Evaluating student satisfaction of terminological apparatus with natural and mathematical textbooks in Kazakhstani schools. *Cogent Education*, 12(1), 2468563. <https://doi.org/10.1080/2331186X.2025.2468563>
- Nurgaliyeva, S., Zeinolla, S., Aben, A., Iskenderova, S., & Ismukhanova, G. (2025). Kazakhstan's universities: global challenges and local duties improving education quality. *International Journal of Evaluation and Research in Education*, 14(1), 768-776. <http://doi.org/10.11591/ijere.v14i1.31852>
- Ospankulov, Y., Nurgaliyeva, S., Zhumabayeva, A., Zhunusbekova, A., Tolegenuly, N., Kozhamkulova, N., & Zhalel, A. (2023). Examining the Relationships between Primary School Students' Participation in Sports and Technology Addictions. *International Journal of Education in Mathematics, Science and Technology*, 11(3), 804-819. <https://doi.org/10.46328/ijemst.3177>
- Opoku, M. P., Morshedi, G., Alsheikh, N., Guirguis, B. M., Mustafa, A., Abdullah, E. M., ... & El-Laithy, A. (2025). Catching them young! A comparative study of teacher retention among beginning teachers in Egypt and the United Arab Emirates. *British Educational Research Journal*, 51(6), 3049-3070. <https://doi.org/10.1002/berj.4217>
- Seehuus, S. (2023). Gender differences and similarities in work preferences: Results from a factorial survey experiment. *Acta Sociologica*, 66(1), 5-25. <https://doi.org/10.1177/00016993211060>
- Squires, V. (2019). The well-being of the early career teacher: A review of the literature on the pivotal role of mentoring. *International journal of mentoring and coaching in education*, 8(4), 255-267. <https://doi.org/10.1108/IJMCE-02-2019-0025>
- Symeonidis, V., Guberman, A., & Cooper, R. (2025). Addressing teacher shortages in an international context: Implications for the quality and status of teacher education. *European Journal of Teacher Education*, 48(1), 1-8. <https://doi.org/10.1080/02619768.2025.2447968>
- Süer, S., & Oral, B. (2021). Investigation of classroom teachers' views towards innovative pedagogical practices. *Participatory Educational Research*, 8(4), 253-273. <https://doi.org/10.17275/per.21.89.8.4>
- Taufiq, M., Widodo, A., Kaniawati, I., Liliyasi, L., & Samsudin, A. (2024). Professional Development Program on Innovative Teaching Methods for Beginner Science Teachers. *Journal of Innovation in Educational and Cultural Research*, 5(3), 474-483. <https://doi.org/10.46843/jiecr.v5i3.1600>
- Tsybulsky, D., & Muchnik-Rozanov, Y. (2019). The development of student-teachers' professional identity while team-teaching science classes using a project-based learning approach: A multi-level analysis. *Teaching and Teacher Education*, 79, 48-59. <https://doi.org/10.1016/j.tate.2018.12.006>
- Uka, E. (2024). Exploring differences in Primary School Teachers' Attitudes Towards Inclusive Education in Kosovo. *European Journal of Special Needs Education*, 1-10. <https://doi.org/10.1080/08856257.2024.2334537>

- Vreuls, J., Koeslag-Kreunen, M., van der Klink, M., Nieuwenhuis, L., & Boshuizen, H. (2022). Responsive curriculum development for professional education: Different teams, different tales. *The Curriculum Journal*, 33(4), 636-659. <https://doi.org/10.1002/curj.155>
- White, S., Bourke, T., Mills, R., Mills, M., van Leent, L., Wood, C., & Readette, M. (2025). Career change teachers: solving the teacher shortage?. *European Journal of Teacher Education*, 48(1), 97-112. <https://doi.org/10.1080/02619768.2024.2407546>
- Yerezhepov, T., Kazakhbayeva, G., Mektepbergenov, N., Orynbayeva, L., Shadibekov, T., & Nurgaliyeva, S. (2025). Exploring professional burnout and resilience in Physical Education teachers: a case study of Kazakhstan. *Retos*, 68, 66-81. <https://doi.org/10.47197/retos.v68.113620>
- Zhumabayeva, Z., Zhaxylikova, K., Omirzakova, A., Aitenova, E., Zhailauova, M., & NURGALIYEVA, S. (2025). Enhancing Teaching Skills through Digital Feedback in Microteaching: A Study with Prospective Primary Teachers. *International Journal of Information and Education Technology*, 15(9). <https://doi.org/10.18178/ijiet.2025.15.9.2383>

### Authors' and translators' details:

Gulden Yespolova  
Aidana Tanirbergen  
Anargul Sharipkhanova  
Ainur Ansabayeva  
Bazarbek Bagi  
Saniya Nurgaliyeva

gulden.11@mail.ru  
Aidana.tanirbergen.00@mail.ru  
anargul-sharipha@mail.ru  
ansabayeva.aynur@bk.ru  
dar\_bag\_nur@mail.ru  
saniaanurgalieva77@gmail.com

Author  
Author  
Author  
Author - Translator  
Author - Translator  
Author

### Supplementary Material

Appendix A:

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	Section 1: PS
1	Prior to the program, I possessed a solid understanding of various teaching methodologies.
2	Upon completion of the program, I feel confident in choosing appropriate instructional methods for different learning contexts.
3	The program strengthened my ability to explain complex concepts clearly and effectively.
4	I feel more capable of adjusting my teaching approaches to accommodate diverse student needs.
	Section 2: IP
5	Before participating in the program, I was competent in developing lesson plans aligned with curriculum standards.
6	The program enhanced my lesson planning and organizational abilities.
7	I now feel more confident incorporating innovative instructional strategies into my lesson planning.
8	The PRP enabled me to design lessons that address varied learning styles and abilities.
	Section 3: CM
9	Prior to the program, I was confident in my ability to maintain classroom discipline.
10	The program contributed to the development of my classroom management skills.
11	I feel more assured in managing classroom disruptions and student behavioral challenges.
12	As a result of the program, my ability to establish a positive and productive classroom climate has improved.
	Section 4: SI
13	Before the program, I was effective in engaging students in classroom discussions.
14	The program enhanced my capacity to interact with students and promote their engagement.
15	I feel more confident in developing constructive relationships with my students.
16	I am now better equipped to identify and respond to students' individual needs.
	Section 5: RP
17	Prior to the program, I engaged infrequently in reflective analysis of my teaching practices.
18	The PRP encouraged me to engage in regular reflection on my instructional practices.
19	I now systematically evaluate my lessons to identify areas for improvement.
20	Engaging in reflective practice has increased my adaptability in modifying teaching strategies based on student feedback and learning outcomes.
	Section 6: OPI
21	The PRP made a positive contribution to my overall professional development as a teacher.
22	As a result of the program, I feel better prepared to meet the demands of the teaching profession.
23	The mentorship component played a significant role in the development of my teaching competencies.
24	I would recommend the PRP to other beginning teachers.

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