








# Impact of Pedagogical Management Training Program on Students' Professional Competencies and Management Abilities Development: Case of Kazakhstan

Meiramgul Yessengulova <sup>1</sup>, Dinara Ramazanova <sup>1\*</sup>, Aigulden Togaibayeva <sup>1</sup>, Adina Kaztayeva <sup>2</sup>  
, Beibitgul Turganbayeva <sup>3</sup>, Lyaila Sultanbayeva <sup>4</sup> and Ainur Abilyasheva <sup>1</sup>

<sup>1</sup> Department of General Pedagogy and Management in Education, K. Zhubanov Aktobe Regional University, Aktobe 030000, Kazakhstan;

<sup>2</sup> Joint Stock Company "Social-Entrepreneurial Corporation "Caspiy", Aktau 130000, Kazakhstan;

<sup>3</sup> Department of Pedagogy and Psychology, Shakarim University, Semey 071410, Kazakhstan;

<sup>4</sup> Department of Preschool and Primary Education, K. Zhubanov Aktobe Regional University, Aktobe 030000, Kazakhstan.

\* **Corresponding author:** ramazanova@mymail.academy.

**ABSTRACT:** To perform their basic functions in professional practice, future teachers need not only general vocational pedagogical competencies but also specialized knowledge and abilities in management the effectiveness of management determines efficiency of education. The purpose of this study is to analyze the potential of improving students' professional competencies, management abilities, and leadership qualities through the introduction of a pedagogical management training program within the educational process. The research employs literature analysis and a pedagogical experiment conducted with 102 students at a pedagogical university in Kazakhstan. The experimental group participated in an elective pedagogical management course, which included elements of psychological training, while the control group followed the traditional education process. The findings reveal that the students exposed to the pedagogical management program showed a significant improvement in leadership qualities and academic performance compared to students in the control group. This study concludes that integrating pedagogical management programs into teacher training can effectively enhance future educators' managerial skills and professional competence.

**Keywords:** competence, leadership, pedagogical activity, pedagogical management, student training.

## I. INTRODUCTION

Today, competitiveness in the educational labor market is ensured by a wide range of professional qualities of the teacher. This includes respective managerial training, the result of which is the teacher's ability to manage themselves and the team. At present, Kazakhstan's educational space requires teachers who are not only well-versed in their subject but can create conditions that promote the development, self-development, and realization of the student's personality and offer competent advice on the possible options for behavior in a new sociocultural situation [1]. Vocational training in Kazakhstan's higher education institutions has long-standing traditions and features, which change with the demands of the time and the corresponding normative-legal base [2]. The training of future educators itself requires the study of several purely pedagogical disciplines aimed at building not only the pedagogical but also the managerial competence of future teachers in the process of their professional training [3-5]. A teacher needs to possess a

wide array of managerial qualities, which makes it necessary to introduce into pedagogical vocational education programs a system of techniques to develop both the professional and personal competencies that a future educator should have [6, 7].

As a consequence, it is necessary to incorporate into the pedagogical block of courses the discipline "Pedagogical management", the aim of which is to develop managerial competence in students. Pedagogical management is a component of educational management as an academic discipline that covers the practice of managing educational (including pedagogical) processes [8]. This pertains not only to the management of individual educational institutions or territorial educational systems. It is important to draw student's attention to all aspects of management, including management of the educational process, making expedient managerial decisions, improving procedures for evaluating the efficiency of educational systems, etc. [9, 10]. At present, there are varying perspectives on creating pedagogical management programs for students. Researchers outline the general principles of developing such programs [11], yet training in them is contingent on various conditions, including regional ones, that differ by geographical, socio-economic, demographic, and natural characteristics. Accounting for these features and understanding the features of the processes unfolding in the regions allows identifying the regional characteristics for the construction of educational systems and pedagogical management.

The described factors attribute increasing importance to analyzing the opportunities to develop a pedagogical management program to improve the professional competencies and management abilities of Kazakh students, particularly at the stage of future teachers acquiring professionally important knowledge, skills, and abilities in higher education. To develop professional competencies and management skills, it is necessary to develop and implement a special program that will demonstrate its effectiveness. The significance of the study is that the authors try to fill the gap in pedagogical education by including pedagogical management in the process of training future specialists. By this study research authors tend to answer several research questions such as:

- Would the implementation of a pedagogical management program improve students' professional competencies and management skills?
- What impact do psychological training elements have in the pedagogical management program and how they help the development of leadership qualities among students?
- How does the implementation of a pedagogical management program affect the educational performance of students compared to traditional training methods?

The hypothesis of this study is that the introduction of a program of pedagogical management with elements of psychological training into the curriculum of pedagogical universities will lead to a significant increase in professional competencies, management skills, leadership qualities and academic performance of students. In this context, the purpose of the present study is to analyze the possibilities of raising the level of professional competencies, managerial abilities, and leadership qualities of students through the implementation of a pedagogical management program in the educational process.

## II. RELATED WORK

The traditional view of educational process management in various studies, as a rule, is disclosed in the following characteristics: purposeful influence of the subject on the object of management; the influence of the controlling system on the controlled one to bring the latter to a qualitatively new state; introduction of fragments of the scientific organization of pedagogical work [12]. As argued by Nazmutdinov and Iarullin [13], modern society is experiencing a shift from the philosophy of influence in pedagogical management to the philosophy of interaction, cooperation, and reflexive management. This will undoubtedly give rise to a new theory of pedagogical management distinguished, most importantly, by its focus on the personality (the work of a manager (executive) is based on true respect, trust in their subordinates, and creating the conditions for their success). In this connection, reflection on the ideas of management and their extension into the sphere of pedagogical problems create grounds for the development of an independent scientific and practical direction of management pedagogical management [14].

The concept of pedagogical management has several meanings that describe various aspects of managerial work: the theory of management in an educational institution [15]; the management system of an educational institution concerned with the need to find ways for its development and adoption of strategic and operational decisions; management of educational activities; a set of principles, methods, organizational forms, and technological techniques of management of pedagogical systems aimed at improving the effectiveness of their operation and development [16, 17].

The core idea of pedagogical management is that the teacher becomes an organizer, advisor, and coach rather than a mentor in the process of education, upbringing, and development of personality [18]. Gaineev [19] interprets pedagogical management as the managerial activity of the teacher that is carried out in the classroom and is aimed at achieving the goals of developing a child's personality for them to be prepared to live in the new socio-pedagogical conditions. While agreeing with the researches mainly in the definition of the concept of pedagogical management, authors of the article wish to further clarify and specify it. In this study, pedagogical management considered as a specific type of managerial work of the teacher in an academic group. This work is aimed at organizing the educational process, managing educational information, organizing educational and upbringing work, and ensuring communication with the aim of fostering learning and cognitive activity of students, which ensures the development of the personality of a student ready for life in new social conditions. Thus, pedagogical management can be defined as the science, art, and activity of mobilizing intellectual and material resources for the purpose of effective and efficient functioning of an educational organization. Management of the educational process is a consistent, step-by-step implementation of the procedures of learning and cognitive activity. Its objective necessity is determined by new approaches in the organization of the educational process, built on a personal-oriented basis in the process of learning, to change the very position of the teacher as a manager of the educational process [20-22].

The conditions of Kazakhstan call for developing leadership in students (as a personal competence) and for a focus on broader professionals to raise their competitiveness upon graduation. In our view, it is necessary to develop the competencies that fit the settings of Kazakhstan, while considering the educational landscape, cultural context, and the needs of the educational labor market. This suggests that identification of the teacher's leadership qualities will give the opportunity to create optimal conditions for the development of each individual's personality, considering their personal interests and needs, and improving all aspects of pedagogical interaction with children. Describing the specifics of assessing leadership in professional pedagogical practice, researchers point out that each teacher acts as a formal supervisor due to the specifics of their work [23]. A prominent feature of a teacher's labor is that they work with different groups and contingents of students who differ significantly from each other. Therefore, their management style needs to be distinguished by high flexibility and mobility [24].

A review of scientific sources on leadership and specific features of teachers' work suggests that the combination of formal and informal types of leadership is a vital need in the profession. An important requirement for each teacher is that their personality combines the qualities of an instrumental (business) and an affective (expressive, psychological) leader [25, 26]. Researchers further note that for a teacher-leader to interact with other people successfully, they do not have to demonstrate all leadership qualities. Instead, the qualities developed the most efficiently are those that best correspond to the student's subjective experience [27-30]. Recent studies, such as the one on pedagogical leadership in the educational management of Peruvian institutions by Rodriguez et al. [30], revealed a substantial relationship between pedagogical leadership and educational management. The possession of specific skills by managers, teachers, and administrative staff facilitates effective educational management, thereby enhancing outcomes in educational institutions. They also concluded that factors related to pedagogical leadership in educational management include motivation. This factor allows teachers, administrative staff, students, and parents to identify with the achievement of institutional objectives, knowing that achieving these purposes will promote educational quality and social relationships through respect and mutual support. Although this study was exploratory and quite comprehensive, it lacked practical experimentation, which the current research addresses, and relied solely on literature analysis.

According to Crispín et al. [31], their study examined the influence of managerial performance and pedagogical leadership in school management, focusing on learning in educational institutions. They

concluded that school management focused on learning depends on managerial performance and pedagogical leadership, which also positively impacts student learning. Although this study employed practical experimentation and data collation using surveys, it still faced limitations. These limitations included a lack or shortage of research materials and an over-dependency on theoretical explanations rather than practical experimentation. These limitations are addressed in the present study [31]. Bush [32] highlighted the concept of middle leadership as a practical step in pedagogical leadership management. He stated that middle leaders are critical to the growth of instructional leadership because they possess the specialized curricular competence required to lead and manage their subjects, improve student outcomes, and support school improvement. Bush [32] reported that in a Singaporean study involving a nonprofit child care as its case study, a series of interviews was conducted with the principal and the teachers. They were able to conclude the influence of middle or distributed leadership on national context, school culture, power relations, and pedagogical vision. Brauckmann-Sajkiewicz and Pashiardis [33] proposed the idea that presented a connection between business and pedagogy. In their study, they presented entrepreneurial leadership as a way of boosting efficiency and accountability in pedagogical leadership management. They presented a notion in which economic efficiency must work and collaborate alongside instructional leadership. Thus, the component of educational entrepreneurship that fascinates us involves individual school administrators who, as trailblazers, point out new paths and encourage or even drive innovation in their institutions. To do so, they monitor their surroundings for chances and innovative solutions to challenging educational issues.

A common limitation in these is the misconception that pedagogical leadership is solely a responsibility of the teachers, and most studies fail to capitalize on the influence of students. While some researchers have studied the understanding of pedagogical management and its integration into the educational process, a gap remains in its application to future professionals in teacher education programs, particularly in Kazakhstan. It is also worth noting that relatively little research has been conducted on the impact of such programs on student professional achievement and leadership skills development. Therefore, the authors aimed to eliminate this gap by introducing a program of pedagogical management with elements of psychological support for future specialists in education adapted to the conditions of Kazakhstan.

### III. MATERIAL AND METHOD

#### 1. RESEARCH DESIGN

The study employed two primary research methods – literature analysis and a pedagogical experiment with students of K. Zhubanov Aktobe Regional University in Kazakhstan. In accordance with the research goal, the first stage of the study consisted in selecting scientific sources dealing with the research problem. The search was performed using the Web of Science and Scopus international databases with a restriction on the date of publication to no more than 10 years ago. In the second stage of the research, an experimental study (pedagogical experiment) was conducted to investigate the opportunities to improve the level of professional competencies and management abilities in students by introducing an elective pedagogical management program into the educational process.

The pedagogical management program lasted for one academic semester (16 weeks) and consisted of 48 classroom hours. It included a series of lectures, workshops, and interactive sessions combining theoretical and practical components. Theoretical sessions covered topics such as fundamentals of educational management, leadership styles in pedagogy, and principles of team motivation. Practical sessions involved situational analysis, role-playing exercises, and project-based teamwork focused on solving real pedagogical management problems. Psychological training elements were integrated into every module to enhance self-awareness, emotional intelligence, and communication skills. Each session concluded with guided reflection discussions to strengthen students' self-assessment and leadership development. The Ethical Committee of the K. Zhubanov Aktobe Regional University, Kazakhstan has granted approval for this study on 3rd of November 2024 (Ref. No. 78-16-2023).

## 2. RESEARCH PARTICIPANTS

The study covered 102 respondents, who were full-time students in the 2nd and 3rd years, 81 women and 21 men. The average age of the respondents was 20 years old. The study also included 11 experts, who were teachers of pedagogical disciplines from the same university. These experts provided evaluations of the students' leadership qualities using an established rating system. All participants were informed about the purpose of the research and provided voluntary written consent before participating. Participation was anonymous, and data were processed and stored in aggregate form only, without personal identifiers.

## 3. RESEARCH PROCEDURE AND INSTRUMENTS OF DATA COLLECTION

In the first stage of the experiment, an expert assessment of the level of leadership qualities in students was conducted through a survey. The questionnaire listed 28 leadership qualities, each of which was evaluated by the experts on a 5-point scale (Appendix). Three levels of development of leadership qualities were determined as follows: a high level 101-140 points; an average level – 61-100 points; a low level less than 60 points. The academic performance of students in pedagogical disciplines was determined based on academic documentation. The average number of points (on a five-point scale) across the last two academic semesters was taken as the main criterion for assessing academic performance. Self-assessment and peer feedback were intentionally excluded because perceptions of one's own leadership qualities could be strongly influenced by self-esteem, emotional state, or social desirability bias. Expert evaluation, in contrast, provided a more objective and consistent measure of leadership development across all participants. In the second stage of the experiment, the experimental sample was divided into the experimental (EG) and control (CG) groups. The EG was comprised of 52 students (two academic groups), and the CG included 50 students (two academic groups). Students were assigned to experimental and control groups based on existing academic groups within the university.

An elective pedagogical management program was introduced into the educational process in the EG. The program contained elements of psychological training and focused on the development of professional management abilities and leadership qualities in pedagogy students. The program provided for the acquisition of a wider range of skills spanning beyond their primary pedagogical specialization, including national-cultural competencies, digital literacy by integrating digital technologies into teaching and learning processes, etc. The CG was trained in the traditional academic program without the additional elective pedagogical management course. In the third stage of the experiment, a repeated expert assessment of students' leadership qualities and academic performance over the period of the pedagogical experiment was carried out. The results were systematized and summarized.

## 4. VALIDITY AND RELIABILITY TESTS

To ensure the validity of the instrument, the content validity of the questionnaire was assessed by a panel of experts in pedagogical studies. The reliability of the questionnaire was measured using Cronbach's Alpha, a statistical tool that assesses the internal consistency of the instrument. The Cronbach's Alpha value for the questionnaire was found to be 0.86, indicating a high level of reliability and internal consistency for the instrument used in this study. Before the main experiment, the questionnaire was piloted with a small group of 15 students who were not included in the final sample to assess clarity and item interpretation. Feedback from the pilot led to minor wording adjustments in several items to improve comprehensibility. Additionally, the structure of the questionnaire was reviewed to ensure that each dimension of leadership (cognitive, motivational, and communicative) was adequately represented, thereby strengthening its construct validity.

## IV. DATA ANALYSIS

Mathematical data processing was conducted using Student's t-test to establish the statistical significance of differences between the EG and CG by the results of the assessment of students' leadership qualities and academic performance. The t-test results were interpreted based on a significance level of  $p < 0.01$ , indicating a high degree of statistical reliability for the observed differences. Alongside p-values, effect sizes were estimated to clarify the magnitude of observed differences. For the comparison of leadership qualities between



experimental and control groups ( $t = 5.623$ ,  $p < 0.01$ ), the effect size (Cohen's  $d$ ) was approximately 0.78, indicating a large practical effect. For academic performance ( $t = 4.327$ ,  $p < 0.01$ ), Cohen's  $d$  was about 0.60, suggesting a medium-to-large effect size. These results confirm that the differences observed are not only statistically significant but also meaningful in practical terms. Statistical data processing was performed using Statistica 7.0 software.

## V. RESULTS

The dynamics of leadership qualities according to expert assessment at the ascertaining and control stage of the experiment are presented in Table 1.

**Table 1.** Results of expert assessment of leadership qualities, average score.

Level of leadership qualities	Ascertaining stage				Control stage			
	EG, n=52		CG, n=50		EG, n=52		CG, n=50	
	N	%	N	%	N	%	N	%
High	4	7.7	5	10.0	12	23.1	5	10.0
Average	28	53.8	24	48.0	29	55.8	27	54.0
Low	20	38.5	21	42.0	11	21.1	18	36.0

The results demonstrate that at the start of the experimental work, EG and CG students had no significant differences in the development of leadership qualities. Later on, in the process of EG students' training in the elective pedagogical management program with elements of psychological training, pedagogical conditions for the development of their leadership qualities were created and put into practice. Mathematical processing demonstrates that the level of leadership qualities in EG students upon the completion of the pedagogical experiment differs from that of CG students with a high degree of reliability ( $t = 5.623$ ,  $p < 0.01$ ). Indicators of the dynamics of academic performance of EG and CG students at the ascertaining and control stages of the experiment are given in Table 2.

**Table 2.** Indicators of academic performance dynamics.

Academic achievement level	Ascertaining stage				Control stage			
	EG, n=52		CG, n=50		EG, n=52		CG, n=50	
	N	%	N	%	N	%	N	%
High (4.5-5 points)	9	17.3	8	16.0	12	23.1	9	18.0
Average (3.5-4.5 points)	31	59.6	32	64.0	34	65.4	34	68.0
Low (under 3.5 points)	12	23.1	10	20.0	6	11.5	7	14.0

Results have shown that in the EG, the number of students with a high level of academic performance at the control stage increased by 6%, and the share of students at the average level was also 6% higher. To compare, the same indicators in the CG amounted to 2 and 4%, respectively. Mathematical processing indicates that the level of academic performance among EG students at the end of the pedagogical experiment is significantly different from the performance of CG students ( $t = 4.327$ ,  $p < 0.01$ ).

## VI. DISCUSSION

The purpose of the introduced elective pedagogical management program with elements of psychological training was to provide students with a system of specialized knowledge about the problems and prospects of educational management and allow them to develop practical skills of managerial activity in education and foster their leadership qualities. This purpose aligns with the findings of Gribkova [34]. Substantiating the reasons for including knowledge and skills of pedagogical management in the content of vocational training in pedagogy, the researcher emphasizes the need to find effective means to raise students' level of education,

prepare them for managerial activities, and develop and introduce new forms of training and personality-oriented teaching methods into the learning process. Importantly, apart from improved academic performance and leadership qualities, as a result of the elective "Pedagogical Management" course, the students mastered specialized pedagogical competencies, knowledge, and abilities in the sphere of pedagogical management.

In the course, students gained knowledge of the features and role of education management in achieving the goals of development of the educational institution. According to the authors of the article, one of the important competencies that students were able to achieve was ability to plan the work of the teaching team and identify the problems of the educational institution and choose optimal methods of their solution [35] as well as development of special knowledge and skills allowing to maintain healthy relationships within the team and ability to work in a team. Moreover, the training helped students to evolve skills of making, justifying, and ensuring the implementation of managerial decisions, considering the requirements of current legislation, ethical considerations, and social responsibility. They also developed the ability to organize the educational process in line with modern requirements; ability to plan and organize methodological, material, financial, and personnel support of the educational institution.

Another important feature was an ability to implement educational innovations in the institution: using educational technologies, multimedia systems, and media education in teaching and reports at seminars and conferences. Students learned how to apply innovative teaching technologies in various educational areas in standard, non-standard, and uncertain situations [36, 37]. Also, the program strengthened students' communication abilities in academic Kazakh and foreign languages orally and in writing, to use various communication strategies, to form a community of learners where everyone feels part of it. It was crucial in the management program to teach students the ability to organize and manage work and educational processes in education, including processes that are complex and unpredictable and require new strategic approaches, cooperate with various social institutions and categories of specialists, and use information and communication technologies and digital services [38, 39]. Based on the results, students have come to understanding the mechanism of ensuring the competitiveness of the educational institution at the current stage of development of the educational services market.

Another skill was particularly relevant to developing in a competitive labor market. The ability to create a personal professional image, self-present the results of professional activity, and manage one's life and career. By managing their personal and professional lives effectively, students are better equipped for future work. The results of our study agree with the findings of Turganbaeva [5], who highlights the importance of the discipline "Pedagogical Management". First of all, pedagogical management contributes to the formation of a system of scientific knowledge about the essence of basic categories and features of management of modern educational institutions, legislative support and powers of management bodies of educational institutions, directions of education reform, the functions, methods, and technologies of management in education, and the socio-psychological mechanisms of managerial activity. Secondly, it also plays an important role in developing future teachers' abilities to apply suitable methods of managing the educational process. By studying, students realize the functions of pedagogical management and create a positive image of the educational institution and a favorable psychological climate in the pedagogical team. This ability is essential for ensuring relationships and for encouraging a positive environment within educational institutions. Another key objective is the development of the student's ability to self-knowledge and comprehension of their own actions and states, interpersonal relations, possibilities of managerial activity, and the level of development of their leadership and communicative qualities.

Finally, students develop their recognition of the importance of the basics of pedagogical management for professional self-realization. The discipline enables them to see how managerial competence contributes not only to the functioning of educational institutions but also to their own professional growth. Our findings support international research demonstrating that leadership outcomes are influenced by both digital literacy and cultural competence, which links pedagogical management training to teacher leadership development. According to recent research, digitally literate teachers are more likely to develop dynamic, captivating learning environments and promote technological innovation in the classroom [40, 41]. The significance of teacher training in digital tools was highlighted by Temirkhanova et al. [40], who found that students taught by digitally literate teachers demonstrated notable improvements and more creative engagement. Similarly,

according to Antonopoulou et al. [41], transformational leadership is "pivotal" for encouraging teachers to embrace digital practices, implying that digital competency and leadership style complement each other.

However, the literature on culturally responsive leadership emphasizes that effective school leadership requires cultural competence. Empirical research indicates that teachers' intercultural competency positively influences their transformational leadership behaviors, which in turn enhance teaching performance and student engagement. Studies have suggested that cultural responsiveness is essential for effective school leadership [42, 43]. Abdraimova and Dyankova [44] discovered that technology-integrated learning not only improves skills but also creates "more open and culturally relevant" educational spaces that connect digital pedagogy with cultural learning. These global insights are indicative of Kazakhstan's situation.

Digitally savvy teacher-leaders are better able to navigate and bridge cultural diversity in classrooms in Kazakhstan, where educational reforms emphasize ICT and multilingualism. This is in line with calls for integrating digital and intercultural competences in teacher education. In conclusion, enhancing teachers' digital literacy and cultural awareness can synergistically improve pedagogical management, as indicated by both international research and newly emerging local data. These competencies allow teacher-leaders to embrace innovative practices and lead inclusively in a variety of learning environments. However, this study has several limitations. In terms of methodology, it was a single-context case study with a small sample size and convenience sampling, which reduces external validity and statistical power [45, 46]. Also, since participants were relatively homogeneous in age and educational background, the study didn't control for potential differences in socioeconomic status, academic performance history, or prior leadership experience. These factors may have influenced students' initial leadership levels and should be examined in future research to strengthen external validity.

Our work is consistent with similar mixed-methods research conducted in Kazakhstan, which found that context-specific designs and small sample sizes "decreased the generalizability" of findings. Results may not be replicated across regions or school types because data were taken from a single institution (or program site), and they may reflect local institutional culture or selection factors. We evaluated self-reported competencies and management skills right after training. Although the study focused on the immediate outcomes of the pedagogical management program, its results indicate that the intervention effectively enhanced students' leadership qualities and professional competencies within a single academic semester. Given these positive short-term effects, it can be reasonably assumed that the program's impact will extend beyond the experimental period and continue to support students' professional growth in subsequent stages of training and early career development.

Finally, the unique cultural and policy context of Kazakhstan, including its specific teacher status laws and national education priorities, means that findings must be interpreted with caution outside this setting. These limitations echo broader critiques that educational program evaluations often remain narrowly focused on one locale, lacking cross-cultural validation [46]. To advance this work, future research should adopt more expansive and longitudinal approaches. Implementing similar pedagogical management programs across diverse institutional contexts (different schools, regions, or countries) would test the model's robustness and cultural adaptability [47]. Program design can be enriched by integrating emerging digital and intercultural elements, such as AI-assisted learning programs and other innovative technologies.

## VII. CONCLUSION

At present, the management activity of a teacher acquires new qualitative features. Traditional management based on subject-object relations is changing into management based on subject-subject relations and provides students with an opportunity for equal interaction with the teacher in solving problems in their lives. These processes are accompanied by a change in the position of the teacher, who performs not directly executive, but rather managerial functions, the essence of which is to create conditions of support, care, cooperation, and indirect influence on the person through the organization of their life activities in the educational institution. The processes described have long been the subject of the study of pedagogical management, the core idea of which is that the teacher becomes an organizer and advisor in the process of education, upbringing, and development of the personal and creative abilities of the student.



The quantitative and qualitative analysis of the results of the experimental study proves that the students who studied in the elective pedagogical management program with elements of psychological training significantly improved their levels of leadership qualities and academic performance in comparison with those students who studied in the traditional training program.

### Funding Statement

This research received no external funding.

### Author Contributions

All authors made an equal contribution to the development and planning of the study.

### Conflicts of Interest

The authors declare no conflicts of interest.

### Data Availability Statement

Data is available from the authors upon request.

### Acknowledgments

Not applicable.

## REFERENCES

1. Anapiyayeva, S., Uaisova, G., Turalbayeva, A., & Nishanbayeva, S. (2025). The impact of innovative technology on shaping digital design skills in primary school students: A case study of Kazakhstan. *International Journal of Evaluation and Research in Education*, 14(3), 2389–2399.
2. Ibrayeva, N., Agzamova, M., Abdullayev, I., Akhmetshin, E., & Kiselev, A. (2025). Confidential data protection in Central Asia to ensure human rights and public security. *Juridicas CUC*, 21(1), 232–246.
3. Smolyaninova, O. G., & Ivanova, N. A. (2024). The development of the communicative component of the social intelligence of adolescents as a pedagogical problem. *Anthropological Didactics and Upbringing*, 7(1), 11–25.
4. Togaibayeva, A., Ramazanov, D., Kartbayeva, Z., & Yergazina, A. (2020). The religious context of humanistic spiritual and moral values as a factor in counteracting self-destructive tendencies in student behavior. *European Journal of Science and Theology*, 16(4), 79–87.
5. Turganbaeva, B. Sh. (2019). Pedagogical management in the content of professional training of future teachers. *Bulletin of Psychology and Pedagogy of Altai State University*, (2), 101–109.
6. Begimbetova, G., Retnawati, H., Kassymova, G., Triyono, M., Azman, M., & Sodikin, R. (2025). Developing students' HOTS digital literacy profile using IRT. *Journal of Curriculum Studies Research*, 7(2), 155–176.
7. Shafazhinskaya, N. E., Bugayenko, Y. Y., Dzhanyan, S. T., & Kim, A. E. (2025). Influence of volunteering on the professional development of economics and law students. *Perspectives of Science and Education*, (5), 168–182.
8. Amirgalina, N., Slambeckova, T., Kazhimova, K., Issayeva, G., & Taspayeva, S. (2025). Effect of practice-oriented courses in the study of natural sciences on the development of professional qualities in college students. *Journal of Curriculum Studies Research*, 7(2), 114–139.
9. Akhmetov, L., Istomina, O., Levicheva, S., Koshokova, S., Kochetkov, E., & Shelygov, A. (2024). Directions for the development of higher education aimed at stimulating students' creative abilities and self-education in scientific research: Developing a model of interpersonal learning. *Multidisciplinary Science Journal*, 7(3), 2025106.
10. Ramazanov, D., Togaibayeva, A., Yessengulova, M., Baiganova, A., & Yertleuova, B. (2022). Using Instagram to raise the effectiveness of distance learning in English: The experience of Kazakhstani students. *Frontiers in Education*, 7, 923507.
11. Popandopulo, A., Kudysheva, A., Kudarova, N., Matayev, B., & Antikeyeva, S. (2025). Effectiveness of an author's program for psychopedagogical support in the development of metacognitive abilities. *International Journal of Evaluation and Research in Education*, 14(2), 1183–1195.
12. Polovchenko, K. (2024). Interactive methodology for teaching legal disciplines: Theory and practice. *Revista Juridica*, 1(77), 117–140.
13. Nazmutdinov, V. Ia., & Iarullin, I. F. (2013). *Managerial work and management in the system of personality education*. TRI "Shkola".
14. Tapalova, O., & Zhiyenbayeva, N. (2024). Innovative strategies of scientific activity in educational and scientific participatory management: Electronic digital mechanisms. *Cogent Education*, 11(1).
15. Malik, U., Malikov, A., & Abdyhalykova, Z. (2024). Blended learning in the development of university students' metacognition. *International Journal of Evaluation and Research in Education*, 13(4), 2461–2472.

16. Sadvakasova, Z. M. (2012). *Pedagogical management* (Training manual). Kazakh University.
17. Ukolova, L. I., & Afanasyev, V. V. (2023). Pedagogical potential of the application of computer educational programs in fine arts lessons. *Anthropological Didactics and Upbringing*, 6(1), 21–30.
18. Bazarbaeva, S., Dinmukhamedova, A., Tleubergenova, G., Rakhimzhanova, Z., Sembekova, K., Karbayeva, S., & Kuandykova, E. (2021). Morphofunctional and hematological characteristics of health in students from northern and southern regions of Kazakhstan. *Open Access Macedonian Journal of Medical Sciences*, 9(A), 753–759.
19. Gaineev, E. R. (2017). Fundamentals of vocational pedagogical management at practical training classes. *Vocational Education and Labour Market*, (4), 76–79.
20. Annushkin, V. I., Shalamova, T. V., & Shtukareva, E. B. (2021). Genre of New Year greetings in social networks. *Genres of Speech*, (2), 144–153.
21. Mukhametzianova, F. Sh. (2015). Objectives of educational management in the period of educational reforms. *Contemporary Problems of Social and Humanitarian Sciences*, (2), 5–7.
22. Yunissov, Y., Imankul, A., Urumbassarova, E., Rakimzhanova, S., García de Velasco, J. J. H., Seisekenova, A., & Tursynbaeva, A. (2023). Perceptions of life success and moral qualities of generation Z students. *Academic Journal of Interdisciplinary Studies*, 12(4), 193–202.
23. Kapustina, D. M. (2021). Philosophical understanding of the concept of success and its modern interpretation by technical university students. *Perspectives of Science and Education*, 2(50), 118–129.
24. Tretyakova, G., Arutyunian, V., Ginzburg, O., Azarova, O., & Belozerova, E. (2023). Formation of speech competence in future economists to the level of independent English proficiency (B2). *Perspectives of Science and Education*, 63(3), 253–270.
25. Salimullina, E. V. (2017). Leadership qualities of the teacher as a factor of professional activity. *Modern Studies of Social Issues*, 8(2–2), 198–202.
26. Pavlovskaya, N. G., & Chemodanova, G. I. (2022). The role of teacher leadership in professional activities. *Pedagogical Perspective*, 2(6), 53–60.
27. Bicheva, I. B., & Filatova, O. M. (2017). Formation of a teacher-leader in the educational process of higher education institutions. *Vestnik of Minin University*, 3(20), 5–17.
28. Denisova, D., Strandstrem, E., Akhmetshin, E., & Nikolenko, D. (2023). Efficiency of simulation training in the education of medical professionals. *European Journal of Contemporary Education*, 12(3), 788–796.
29. Shafazhinskaya, N., Zharov, A., Telezhko, I., & Saenko, N. (2023). Raising teaching efficiency: Teaching translation of business correspondence to economics students. *European Journal of Contemporary Education*, 12(2), 590–597.
30. Rodriguez, V. H. P., Morales, A. J. G., Navarro, L. R. R., Salvador, C. E., Espinoza, L. V., & Hernandez, O. H. (2023). Pedagogical leadership in educational management of Peruvian institutions. *Dialnet*, 8(4).
31. Crispin, R. L., Huayta-Franco, Y. J., Farfán Pimentel, J. F., Arenas, R. D., & Flores, E. (2022). Management performance, pedagogical leadership, and school management in learning. *Malaysian Online Journal of Educational Management*, 10(2), 15–38.
32. Bush, T. (2023). The importance of middle leadership for school improvement. *Educational Management Administration & Leadership*, 51(2), 267–269.
33. Brauckmann-Sajkiewicz, S., & Pashiardis, P. (2020). Entrepreneurial leadership in schools: Linking creativity with accountability. *International Journal of Leadership in Education*, 25(5), 787–801.
34. Gribkova, O. V. (2022). Formation of readiness of a modern teacher for innovative activity in the musical and educational space. *Pedagogical Scientific Journal*, (4), 61–68.
35. Bobkov, V. N., Simonova, M. V., Loktyuhina, N. V., & Shichkin, I. A. (2020). Peculiarities of unstable employment in the digital economy era. In S. Ashmarina et al. (Eds.), *Digital transformation of the economy* (pp. 235–243). Springer.
36. Mandel, B. R. (2018). *Modern management in education*. Direkt-Media.
37. Hernández García de Velasco, J. J. (2022). Knowledge societies and open science in the new normality. *Juridicas CUC*, 18(1), 1–4.
38. Karpova, S. I., Chirich, I. V., Avtsinova, G. I., Shtukareva, E. B., Ukhina, T. V., & Gordeeva, T. A. (2021). ICT in education: Video games as an environment for self-directed learning. *Webology*, 18(Special Issue), 116–128.
39. Kenzhin, Z. B., Tulegenova, A. U., Zolkin, A. L., Kosnikova, O. V., & Shichkin, I. A. (2021). Labour market under economic digitalization. *E3S Web of Conferences*, 311, 08007.
40. Temirkhanova, M., Abildinova, G., & Karaca, C. (2024). Enhancing teachers' digital literacy for computer science and design education integration. *Frontiers in Education*, 9.
41. Antonopoulou, H., Matzavinou, P., Giannoukou, I., & Halkiopoulos, C. (2025). Teachers' digital leadership and competencies in primary education. *Education Sciences*, 15(2), 215.
42. Mansfield, K. C., & Lambrinou, M. (2024). Culturally responsive leadership: A critical analysis of a school district's five-year plan. *Frontiers in Education*, 9.
43. Guo, L., & Laokulrach, M. (2024). Teachers' intercultural competence and teaching performance: The mediating role of transformational leadership. *International Journal of Education and Practice*, 12(4), 1201–1223.
44. Abdraimova, B., & Dyankova, G. (2024). Empowering preservice teachers in Kazakhstan through technology-integrated learning. *International Journal of Cognitive Research in Science, Engineering and Education*, 12(2), 273–282.

45. Malone, K. L., Tussupbekova, G., Helmer, J., Namyssova, G., Abdrakhmanova, M., Polat, F., & Kataeva, Z. (2022). Graduate students' experiences in blended learning in Kazakhstan. *Contemporary Educational Technology*, 14(4), ep386.
46. Gu, Y., He, J., Huang, W., & Sun, B. (2025). Professional development for teachers in the digital age. *Behavioral Sciences*, 15(8), 1076.
47. Xueying, Y., Arshad, M. A., & Lihua, H. (2025). Teacher e-leadership in the digital age: A systematic review. *International Journal of Academic Research in Business and Social Sciences*, 15(5), 1118–1130.

## Appendix

Questionnaire for expert assessment of the level of leadership qualities in pedagogy students. With your help, we would like to assess some of the student's personal qualities. Scale of answers: 1 – very low level of quality; 2 – low level of quality; 3 – average level of quality; 4 – high level of quality; 5 – very high level of quality.

No.	Qualities	Answer options				
		1	2	3	4	5
1	mental fortitude					
2	responsibility					
3	equanimity					
4	confidence					
5	perseverance					
6	determination					
7	resolve					
8	communicability					
9	activity					
10	organizational skills					
11	initiative					
12	sociability					
13	ability to listen to others					
14	organizational acumen					
15	creativity					
16	ability to actively influence others					
17	need for success					
18	conflict resolution skills					
19	intellectual lability					
20	empathy					
21	ability to make responsible decisions in any situation					
22	honesty and integrity in relationships					
23	readiness for risk					
24	readiness for independent performance of tasks					
25	self-management					
26	willpower					
27	self-control					
28	adequate self-esteem and composure					