Article

Conceptualising the Integration of Action Research into the Practice of Teacher Education Universities in Kazakhstan

Aiman Berikkhanova [1], Bayan Sapargaliyeva [1], Zhanar Ibraimova [1], Lyaziza Sarsenbayeva [2], Fatima Assilbayeva [1], Dana Baidildinova [3] and Elaine Wilson [4,*]

1   Abai Kazakh National Pedagogical University, 050010 Almaty, Kazakhstan; brr.aiman@gmail.com (A.B.);
    bonya_sh@mail.ru (B.S.); ranazh@mail.ru (Z.I.); asilbaeva.0@gmail.com (F.A.)
2   Almaty Branch of St. Petersburg University of Trade Unions, 060004 Almaty, Kazakhstan; lyaziza_s@mail.ru
3   Nazarbayev Intellectual Schools (NIS), 050006 Almaty, Kazakhstan; dana.kalkovna@mail.ru
4   Faculty of Education, Homerton College, University of Cambridge, Cambridge CB2 8PQ, UK
*   Correspondence: ew208@cam.ac.uk

Abstract: This study provides a critical review and assessment of the problems of enhancing the research activity at a Kazakhstani pedagogical university that prepares future teachers. The aim of this study is to provide a rationale for the relevance of scientific and methodological support for increasing the research activity of teachers at pedagogical universities through the systematic integration of practitioner action research into professional practice. The value of action research is related to the change in and improvement of the professional practice of teachers based on the convergence of practice-oriented science and science-oriented practice. This work is in response to the gap in the professional preparation of future teachers, particularly in terms of developing research competencies and equipping future teachers with knowledge about action research. This is in marked contrast to in-service teachers who have been exposed to action research through the whole country's ongoing reform of teacher education. Using a large survey of academic staff, the paper identifies the key factors influencing the research activity of university teachers. The findings from the survey and the narrative review suggest a willingness and openness to new ways of working among staff, which would make it possible to increase the research activity of university teachers themselves by integrating non-formal forms of research such as action research into their practice.

Keywords: teacher reform; university-school partnership; preservice teacher reform; action research; practice-oriented science

1. The Context and Purpose of the Research

The intensity of changes and educational reforms in Kazakhstan has resulted in an unusual and arguably unsatisfactory situation where the knowledge of practitioner research and pedagogical practice of in-service schoolteachers is largely ahead of that of university-based teacher educators. We argue here that by introducing deeper explicit knowledge of pedagogical practice alongside deep theoretical knowledge of subject and subject pedagogy into teacher education university practice, future teachers will be better equipped to begin their teaching careers.

After the collapse of the USSR (Union of Soviet Socialist Republics), Kazakhstan gained its independence and, like other Soviet republics, started to build its national model of education. The basic normative legal documents, such as the Law of the Republic of Kazakhstan "On Education", were developed [1] (1993, 2007, and 2023), as well as state programmes of education development, promoting the concept of lifelong learning, and others. At the time of writing, there are 119 higher educational institutions [2], 7550 secondary schools, and 2753 small schools [3].

In 2010, in order to integrate into the global educational space, "Kazakhstan officially acceded to the Bologna Declaration and became the 47th member of the European Higher

Education Area and the first Central Asian state recognised as a full member of the European educational space" [4]. This document was the basis for radical reforms in universities across the country: the transition to a three-tier model of training specialists (Bachelor–Master–PhD), the academic mobility of teaching staff and students, the introduction of a credit system for education, etc.

In school education, one of the effective reforms was the introduction in 2012 of three levels of teacher professional development and the Head Teacher Leadership Programme, developed by the Centre for Teaching Excellence of JSC Nazarbayev Intellectual Schools together with the Faculty of Education of the University of Cambridge. Based on this programme, the content of primary and secondary school education in Kazakhstan was updated, and many types of additional programmes on criterion-based assessment, on the use of information and communication technologies in teaching, and on interactive teaching methods were developed.

Professional development courses for teachers were mainly conducted by the JSC National Centre for Professional Development "Orleu" and the JSC "Nazarbayev Intellectual Schools (NIS)". From 2012 to 2021, 38,553 teachers were trained by the NIS team, and 24,335 teachers were trained by the Orleu National Professional Development Centre JSC [5].

These professional development courses for teachers provided a timely change and equipped many teachers with various interactive teaching methods and tools, including online tests, online competitions, and online questionnaires. All of these served as good preliminary preparation for the unexpected challenges of the COVID-19 pandemic. During COVID-19, additional professional development courses for teachers on the digitalisation of learning content, online learning platforms, and online assessment of students' knowledge were also conducted. Video lessons in all subjects were developed for grades 1–11 in Russian and Kazakh, along with online simulators for exercises and test tasks.

A more serious reform in the education system was the post-COVID-19 adaptation of the learning process. After the COVID-19 pandemic, there was a sharp decline in students' motivation to learn, quite serious knowledge gaps due to school closures, a decline in cognitive activity, weakened memory, and relaxed academic discipline. The entire education system began to search for an effective transition to the new reality of the situation and to plan the development of the education system under the conditions of a "new normal" based on the best global practices.

According to the experience of the USA, UK, Finland, Japan, Singapore, and New Zealand, among other developed countries around the world, one of the most effective mechanisms for changing and improving classroom practice is through action research [6–8].

Through our reading, we have developed a more nuanced view of why it is important to increase the research activity of university teachers and how this will affect the professional training of future teachers.

The overall aim of this study is to understand how we can increase the research activity of teachers at pedagogical universities in Kazakhstan. In our own institute, we want to integrate pedagogical science into pedagogical practice so that we can reduce the gap between the theory and practice of teacher education in the "university–future teacher–school" triad.

To this end, our study will focus on the following research questions:

- How can we scientifically and methodologically ensure the systemic transformation of the "teacher" into the status of a "teacher–researcher"?
- How should university teachers themselves change in order to be competent enough to shape the identity of future teacher–researchers?

1.1. Action Research and Classification of Non-Formal, Close-to-Practice Research

We are defining action research as a process of tackling real-world problems in a participatory and collaborative way in order to produce action and knowledge in an

integrated fashion through a cyclical process. Process, outcome, and application are inextricably linked. We believe that action research is a philosophical perspective that links the production of knowledge with action to effect change and also examines the underlying assumptions and priorities. Action research gives practitioners intellectual and moral control over their practice [9].

Action research is a form of action inquiry that employs recognised research techniques to inform the action taken to improve practice. Action research gives practitioners intellectual and moral control over their practice. Teacher researchers must use research techniques rigorously so that they meet the criteria found in other kinds of academic research—that is, their research must withstand a peer review of procedures, be original and significant, and the data must be valid, while any claims made must be warranted by the evidence collected [10] (p. 229).

Further analysis of the scientific literature points to action research implementation as a potentially effective mechanism for changing and improving practice and implementing the concepts of practice-oriented science and science-based practice. Another important feature of action research is its activity-based nature, i.e., the continuous cycle of activities that involves the practitioner–teacher in the research process.

The literature study has identified several important ideas on the relevance of introducing non-formal forms of research in the practice of pedagogical universities:

-   In the system of teacher education in Kazakhstan, there is a need to expand the scope of non-formal education as an addition to formal education, but there is also a need to develop criteria for the validity of non-formal education.
-   The introduction of non-formal forms of education into the practice of educational organisations actualises the development of its theoretical foundations in comparison with formal and non-formal forms.
-   The study of the theory of this issue reveals a new vision of the problem of developing the quality of teacher education through the integration of non-formal forms of research into the practice of pedagogical universities.
-   Non-formal forms of research influence not only the quality of education but also the personal and professional development of teachers.

Non-formal forms of research contribute to the creation of a collaborative research environment and scientific communities that bring together like-minded researchers.

In the UK, Fox and Wilson [11] (pp. 93–107) refer to the value of building research communities and stress the importance of building supportive relationships with mentors, colleagues, trainees, and many others, and gaining good opportunities to develop as a professional. In non-formal pedagogical research, a prerequisite for success is a collaborative research environment, the support of like-minded people, and a shared commitment to change practice.

Teacher educators have introduced action research into their programmes in many global contexts. In the USA and The Netherlands, Ponte [12] found that action research programmes have the best chance of success when there is commitment, continuity, and communication within the education team. They also found that it was not only the institutes or only the schools that had a say over the education of teachers but rather a shared contribution that created better conditions for programmes based on action research. Ax [13] also found that action research provided a professional approach, as well as the skills needed to make the connection between knowing that and knowing why, and as a way of improving practice by systematically building up practice-based knowledge.

Kitchen and Stevens [14] reported that action research encourages inquiry and reflection, connects theory to practice, and creates links between preservice and in-service teaching. In the Canadian programme investigated, the teacher-educators integrated preservice curricula and modelling of enriched teaching and learning. A significant number of preservice teachers indicated that engaging in action research expanded their conceptions of teaching.

More recent work in Chile [15] shows that action research methodology is commonly used in initial teacher education programmes as a pedagogical strategy to enhance student–teacher learning. In Finland [16], action research is most often used in tandem with school-based practicum components in the latter stage of programmes as a means of bridging the theory-practice divide. It is also frequently used as a capstone assessment to assure prospective teachers' capability for reflective inquiry [17].

1.2. The Theoretical Underpinning of Pedagogical Study in the Kazakhstan Setting

To substantiate the theoretical background of this study, the authors also analysed literary sources from CIS countries to clarify basic terms and concepts, the methodology of the research process, teacher research culture, and the connection between pedagogical science and pedagogical practice.

In teacher education, there are a huge range of scientific works devoted to the study of the research process.

In pedagogical theory, a significant step in the improvement of pedagogical research is the development of the theory and methodology of pedagogical research development, which has been actively explored since the early 1970s. The theoretical background for this research was provided by works on the methodology and methods of psychological and pedagogical research and pedagogical methodology.

These works have served as the basis for many studies in teacher education in the countries of the former Soviet Union. There is an extensive fund of research on various aspects of the formation of the research culture of teachers.

The Kazakh methodologist Taubayeva [18] (p. 242) analyses the concepts of "research culture", "research activity" and "research work", the meanings of which are very important for a detailed study of the problems of increasing the research activity of teachers. According to Taubaeva, the research culture of a teacher is a part of the professional and pedagogical culture, and teachers' research should be conducted in close connection with and taking into account the professional and pedagogical features of the teaching profession.

In a later study, Taubayeva [19] (p. 175) states that "in the system of pedagogical education in Kazakhstan at the end of the 1990s, positive changes have taken place, but qualitatively, it has not changed much". The majority of pedagogical high schools are still focused on the preparation of the teacher-subject, the translator of bases of scientific knowledge, and that most of the innovative searches in the field of the maintenance and technology of training do not go beyond the established system of the preparation of teachers and do not lead to its radical reform.

In order to theoretically justify the importance of pedagogical research for the development of teachers' research potential, we used the valuable works of Krayevsky [20], Kuzmina [21], Davydov [22], and other CIS scientists who laid the foundations for pedagogical research methodology.

A significant place in the analysis of literary sources on the problems of the modernisation of pedagogical research in Kazakhstan is occupied by the integration of pedagogical science and pedagogical practice. The analysis in this area of research reveals a number of problems in linking theory and practice in scientific research. It is paradoxical that some applied research in pedagogy has positive momentum at the moment of experimentation, and subsequently the phenomenon under study returns to its original level. That is, the research focuses on short-term results and does not ensure the sustainability of the results to improve pedagogical practice.

According to Boziev [23] (p. 7), "this was characteristic of the traditional results of "scientific research" in pedagogy. They described and explained the existing pedagogical practice but could not "break away" from it or "get ahead" of it, i.e., make science necessary for practice and a reference point for its development. This problem requires pedagogical research to be ahead of the curve and forward-looking in relation to improving educational practice.

It seems to be the case from this research evidence that the introduction of non-formal forms of research in a university provides an opportunity for the scientific, personal, and professional development of teachers. The process of engaging in research activities develops the research competencies of teacher educators. Furthermore, through the internal scientific collaboration of like-minded researchers at the university, the research space of the university is created. Additionally, teacher educators are better equipped to shape their own students' research skills and also become better mentors.

1.3. Introducing New Ways of Working: Non-Formal or Close-to-Practice Research

This research work is conducted within the framework of a grant project (AR14872311) funded by the Ministry of Science and Higher Education of the Republic of Kazakhstan, which aims to develop theoretical foundations and scientific and methodological support for increasing the research activity of university teachers based on the integration of close-to-practice forms of research such as action research into the professional education programmes in university courses. We are defining non-formal research as close-to-practice research. That is research that focuses on aspects defined by practitioners as relevant to their practice and often involves collaborative work between practitioners and researchers. A high quality of close-to-practice research requires the robust use of research design, theory, and methods to address clearly defined research questions through an iterative process of research and application that includes reflections on practice, research, and context [24].

In this article, the authors present their conceptualisation of evidence of the effectiveness and potential mechanisms for implementing close-to-practice forms of research alongside the teaching of subject and disciplinary knowledge. Furthermore, we have carried out surveys of Abai Kazakh National Pedagogical University (Abai KazNPU) academic staff to understand what might motivate them to change their practice and to establish a baseline for their existing knowledge of pedagogy and research methods and capacity to reflect on practice. This information will help design the next stage of the change process to help overcome dissonance in the development of teachers' research activity in the "university–future teacher–school" system.

1.4. Clarifying the Rationale for Change

The need to increase the action research of university teachers and the quality of training of scientific personnel is confirmed by the Concept of Science Development of the Republic of Kazakhstan for 2022–2026 [25], which indicates the importance of increasing the role of science in the university as a key factor in the competitiveness of the university and its sustainable development. In addition, an important confirmation of the relevance of the development of action research activity by teachers at pedagogical universities are the results of the scientific potential of the university, reflected in the Development Strategy of Abai KazNPU for 2022–2025 [26], where "weak action research activity by teaching staff and doctoral students" and "weak implementation of research results in practice", are noted as areas for development.

For our study, the results of the assessment of the effectiveness of research in the pedagogical university of Kazakhstan [27], Buribayev et al., were also important. The authors indicate that the majority of university teachers are oriented to theoretical research, and only 6–11% of surveyed teachers possess empirical methods of analysis. Studying the motivation of teachers to engage in research activities, Buribayev et al. found that the main motivation for teachers to engage in science is the desire for self-development (70%). These data substantiate the need to create incentives for more active involvement of teachers in practice-oriented research, which is action research as an effective mechanism for changing and improving the professional practice of a pedagogical university.

The need to increase the research activity of teachers at pedagogical universities is also obvious, as it is a crucial factor in reforming the educational process, introducing innovative ideas into teaching practice, and developing the scientific and intellectual potential of the university.

The imbalance between the high requirements for research activity of teachers at pedagogical universities and the insufficient level of their scientific and methodological support, as well as the limited opportunities for achieving a scientific career, has increased interest in the combination of formal and non-formal forms of research organisation in professional practice.

The relevance of studying the problems of increasing the research activity of teachers at pedagogical universities is also linked to understanding what might motivate teachers to undertake research activities. We want to clarify if the resistance to change is due to a lack of knowledge of how to combine formal disciplinary research knowledge with close-to-practice forms of research. Or is it the culture and environment that lack the opportunity for collaborative research? How can we persuade teacher educators of the need to extend the research competencies of future teachers who could also continue research while in school?

1.5. Setting Out the Context-Sensitive Rationale for Change

Due to globalisation processes and the integration of Kazakhstan into the world educational space, the boundaries of pedagogical science are expanding, the educational paradigms are changing, and new opportunities for the use of new educational and digital technologies continue to appear.

The problem considered in this project is related to the need to reduce the gap between pedagogical science and pedagogical practice and the need to improve the quality of research by integrating close-to-practice non-formal forms of research into teachers' activities. This problem is especially important when many higher education institutions are moving towards the status of research universities.

Although scientific research reveals the need for the use of close-to-practice, non-formal forms of education, officially in the normative documents of teacher education, the concept of non-formal education was used for the first time in the concept of development of higher education and science in the Republic of Kazakhstan for 2023–2029 [25], p. 13. This document justifies the possibility of the recognition of the results of close-to-practice, non-formal education based on competencies, providing validation of the results of formal and non-formal education. The content of the concept notes that, according to PIAAC (the Programme for the International Assessment of Adult Competencies), the level of education and participation in formal or non-formal education are important factors influencing the development of skills. All the skills assessed are formed during education at different levels (secondary education, TVET, higher education, and postgraduate education). However, their maintenance and further development can be directly linked to further non-formal learning".

This document provides an impetus for widening pedagogical knowledge regarding the improvement of the research process in education, using non-formal forms of research to change and improve the professional practice of educators.

The Council of the European Union defines formal learning as education that takes place in an organised environment specifically designed for education. Non-formal learning takes place through planned activities and may encompass skills development programs. Non-formal learning takes place in everyday activities related to work, family, or leisure [28].

The concept of non-formal education is considered by Coombs, P.H. and Ahmed, M. [29] as an organised, systematic activity that takes place outside the formal education system to provide specified types of education in relation to special subgroups of the population, including both adults and children.

Sidorov [30] considers the integration of formal, non-formal, and non-formal types of education in the process of forming a healthy lifestyle for students, while Gibadullina [31] considers the professional training of teachers in the process of integrating formal, non-formal, and non-formal education. As the analysis of literary sources shows, non-formal education is studied in connection with certain aspects of professional and pedagogical

education. However, the effectiveness and advantages of non-formal forms of organisation in scientific and pedagogical research have not been sufficiently studied.

1.6. Synthesising the Sources to Help Solve the Problem

The Kazakhstan-based authors piloted a project in theoretical and experimental form at the leading pedagogical university in Kazakhstan—Abai Kazakh National Pedagogical University. As stated in the law of Kazakhstan "On Science" for fundamental research, theoretical and/or experimental research should aim to obtain new scientific knowledge about the basic laws of nature, society, human development, and their relationships [26]. The new scientific knowledge on pedagogical theory and practice in Kazakhstan is provided in this review by the works of domestic and foreign scientists on the implementation into practice of non-formal practice-oriented forms of research, substantiating the relevance of increasing the research activity of university teachers on the basis of action research.

1.7. Clarifying the Mechanism for Change

The world is changing very rapidly, and so are the requirements and standards for the organisation of pedagogical research. The research process is the first and most important step in solving the emerging contradictions in all spheres of human activity. Rigorous research on pedagogical issues, especially those related to critical tasks such as learning, teaching, personal development, and the socialisation of learners, is crucial in Kazakhstan. Action research is a well-tested driver of change; indeed, Lewin argued that there is "no research without action, and no action without research" [32]. The very process of research requires constant inquiry, constant action, experimentation, changes, and improvements in practice.

The premise of our solution to our particular problem is that by increasing the research activity of teachers on the basis of integrating action research into their practice, this will actualise the need to transform pedagogical thinking. We believe that through the integration of practice-oriented science and knowledge-intensive practice, this will guide the role of pedagogical research and embed it in pedagogical practice. Through the creation of a collaborative research environment in universities and the involvement of motivated teachers and young scientists in action research, we can bring about the systemic transformation of the status of "teacher" into the status of "teacher–researcher" through action research.

2. Methods

Our research questions are:

- What changes need to take place so that university teachers themselves change in order to be competent enough to shape the identity of future teacher–researchers?
- How can we scientifically and methodologically implement the systemic transformation of the "teacher" into the status of a "teacher–researcher"?

Before attempting to implement new ways of working, it was agreed that it was important to understand the starting point of the university teachers' motivation and baseline knowledge levels. The aim of the survey was to determine the level of formation of teachers' research activity, assess the degree of readiness to integrate a non-formal form of action research into their teaching activities, and determine the target audience of teachers willing to master and implement action research.

Phases of the research:

1. Development of survey instruments for teaching staff.
2. Piloting of the questionnaire.
3. Select a sample and administer the survey.
4. Analysis of the data obtained and generalisation of the survey results.

Stage 1. Development of the questionnaire (November–December 2022).

An analysis of the literature on the problem of research activity and indicators necessary for successful implementation of action research and an analytical review of the practices of implementation of action research in the educational process in different countries.

Butler [33] published a study researching teachers' motivation, Target Orientations in Education, which concluded that teachers differ in their understanding of successful performance and personal goals of achievement in teaching. Teachers with a mastery achievement orientation have a positive attitude towards asking for help. Teachers who avoid demonstrating their low skills avoid asking for help, perceiving it as a threat. Butler argued that professional development is important for teachers to perceive themselves as successful professionals, and it is acceptable to seek help.

The questionnaire was developed based on the selection of components of the research activity of university teachers. A Likert ordinal response scale was chosen as a questionnaire instrument. Each block of questions focused on one topic according to the 4 components of the research activity model. Likert's scale of 5 items (2 extreme, 2 medium, and 1 neutral response options ranging from minimum to maximum) was used. Respondents rated the statements on a 5-point scale.

A pilot version of the questionnaire was created, which included 23 questions in 4 blocks as well as a preamble—passport part concerning information about the respondents' place of work, status, and length of service. The questions of the questionnaire were designed using a single choice (from 5 options). The structure of the questionnaire was built in accordance with the conceptual structure of the research problem: blocks of questions sequentially indicated the criteria of research activity components; thus, a block approach to questionnaire design was used.

The first block of the questionnaire (the motivational component) contained questions about interest and motivation in the research process (6 questions).

The second block (content component) concerned knowledge about the ethics and methodology of the research process (4 questions).

The third block (procedural component) included questions regarding knowledge of research methods, technologies, skills, and abilities of scientific inquiry (5 questions).

The fourth block (evaluation component) was aimed at studying reflexive skills (7 questions).

The questionnaire was analysed by an expert group consisting of 3 experts—PhD doctors with at least 10 years of experience in scientific and pedagogical activity. The expert group assessed the relevance of each question to the conceptual framework. To measure content validity, relevance, clarity, simplicity, and unambiguity were assessed on a scale of 1 to 4 points. The calculation of the Content Validity Index (CVI) was used to assess the relevance, clarity, and simplicity of the items and the overall content validity of the questionnaires. The CVI values range from 0 to 1. According to the results of the examination, 17 questions had a CVI > 0.80. An adjustment of 3 questions that needed revision was carried out (CVI—from 0.60 to 0.79). Three questions with low utility were deleted. A structural modification of the questionnaire was also made, with an equal number of questions in each block. As a result, the questionnaire included a passport part of 3 questions, a main part of 16 statement questions (4 in each block), and a final question to identify the target audience for the organisation of professional development courses, identifying the need for teachers to improve teaching practice and increase research activity based on action research.

An electronic form was developed in three languages—Kazakh, English, and Russian—containing an online questionnaire for teaching staff on the Google Forms platform.

Stage 2. Pilot questionnaire. Testing of the questionnaire (January 2023).

The pilot questionnaire was conducted on a sample of 100 participants in the seminar-training "action research as a basis for professional self-improvement of university teachers' practice" (15 December 2022). The questionnaire was conducted anonymously in online mode. Based on the results of the pilot questionnaire and repeated review, the questions

were adjusted. The value of internal reliability was determined using Cronbach's method. The Cronbach's alpha coefficient is 0.772, which allows us to consider the questionnaire reliable—the internal consistency of the questionnaire is acceptable.

Stage 3. Questionnaire survey (January–February 2023)—determining the sample of respondents and conducting the survey.

The respondents were the teaching staff of Abai Kazakh National Pedagogical University (Institute of Philology; Institute of History and Law; Institute of Pedagogy and Psychology; Institute of Mathematics, Physics, and Informatics; Institute of Arts, Culture, and Sports; Institute of Natural History and Geography; Sorbonne–Kazakhstan Institute), including 414 people working as lecturers and senior lecturers. When selecting participants, it was taken into account that leading professors undertake research activities, and thus they were not included in the respondents.

The respondents' years of teaching experience ranged from 1 year to 42 years. Of these, 14% had 30–40 years of teaching experience; 22.7% had 20–30 years of teaching experience; 14.5% had 15–20 years of teaching experience; 10% had 10–15 years of teaching experience; 10% had 5–10 years of teaching experience; and 24.4% had under 5 years of teaching experience.

Stage 4. (March–April 2023)—Analysis of the data obtained and summary of the questionnaire results.

The data were analysed according to the main four blocks of questions described above.

3. Results

3.1. A Preliminary Analysis of the Survey Results Is Set Out in Appendix A

In this section, we will present a detailed analysis of the 500 responses received, which is a 70% response rate analysis of stage 1 of the questionnaire (motivational).

The mathematical processing of the data was carried out using Microsoft Excel(2108) and IBM SPSS Statistics 28.0.1.0(142) data analysis software. The presence and peculiarities of the relationship between the studied variables were checked using the r-Spearman correlation coefficient.

A positive relationship at a high level of significance was found between the variables:

- Between motivation to carry out innovative activities and motivation to improve professional practice ($r = 739$ ** at $p = 0.001$).
- Between motivation to innovate and experience in integrating non-formal research methods ($r = 801$ ** at $p = 0.001$).
- Between motivation to carry out innovative activities and the need to master action research ($r = 744$ ** at $p = 0.001$).
- Between motivation to improve professional practice and the ability to reflect on the results of innovation ($r = 830$ ** at $p = 0.001$).
- Between motivation to improve professional practice and the need to master action research ($r = 629$ ** at $p = 0.001$).
- Between experience of integrating non-formal research methods and the ability to diagnose the state of professional practice ($r = 751$ ** at $p = 0.001$).
- Between the experience of integrating non-formal research methods and the ability to reflect on the results of innovation ($r = 889$ ** at $p = 0.001$).
- Between the ability to diagnose the state of professional practice and the ability to reflect on the results of innovation ($r = 746$ ** at $p = 0.001$).
- Between the ability to diagnose the state of professional practice and the ability to formulate a research question ($r = 724$ ** at $p = 0.001$).
- Between the ability to formulate a research question and the need to learn action research ($r = 610$ ** at $p = 0.001$).
- Between the ability to formulate a research question and the ability to reflect on the results of innovation ($r = 721$ ** at $p = 0.001$).

The generalisation of the questionnaire data showed that an important positive result was the high level of motivation to improve their own professional practice demonstrated by the majority of university teachers. However, at the same time, 20% of the teaching staff are not sufficiently motivated for professional self-improvement based on research activities. The vast majority (90%) acknowledge that ensuring the improvement of the quality of professional activity is largely possible through the integration of modern research approaches. A part of the teaching staff (16%) does not realise their creative potential sufficiently, but at the same time they realise the need for assistance in mastering innovative technologies.

The analysis of theoretical and methodological training has shown that about 40% of the teaching staff have only an intermediate level of scientific research methodology, which to a certain extent limits their choice and justification of basic paradigmatic and conceptual approaches and principles of research activity. In addition, there are difficulties in the organisation and planning of scientific research.

Almost half of the teaching staff demonstrate an intermediate level of knowledge of activity psychology as a basis for the implementation of innovative research approaches. Since the lack of this knowledge and skills is reflected in other components of research activity, it is necessary to improve theoretical training for research activities, which involves deepening knowledge of the psychology of activity and modern theories of personality, its leading properties underlying the improvement of personal-professional qualities, and the success of all areas of teaching activity (teaching, teaching-methodological, research).

The analysis of the procedural side of the research activity showed that one fifth of the teachers have poor skills in diagnosing their professional practice. About 40% are able to assess the relevance of pedagogical problems, formulate a research question on a pedagogical problem, and carry out theoretical analysis of pedagogical literature at an average or below-average level.

Generalisation of the data of the evaluation component of research activity allowed us to classify only 36% of teachers as reflective practitioners; the rest need to improve the skills of perception, analysis, and critical evaluation of their own activity (self-reflection) in order to improve it. Most of the teachers (87%) are aware of the need to develop the ability for self-reflection and self-correction of activities. Half of the teaching staff have predictive abilities at an average or below-average level of development. 46% of teachers are partially satisfied or completely dissatisfied with the level of development of their ability to ensure the sustainability of their results.

An important result of the study was the establishment of interconnection between all blocks of research activity, which provides creativity and initiates innovation in the learning process.

Regarding the degree of integration of non-formal methods in the activities of university teaching staff, it was found that 32.4% of teachers have experience with their application and recognise the effectiveness of action research; 20% of teachers have no experience or understand the lack of experience in integrating non-formal forms of research in their activities. These data were confirmed during the training seminars with a wider audience, including teachers at universities from all regions of the Republic of Kazakhstan. 80% of the teaching staff expressed their desire to improve the level of teaching subjects based on mastering and implementing action research.

3.2. Factor Analysis

Factor analysis was carried out using IBM SPSS Statistics 28.0.1.0(142) computer data analysis software using the principal component method. The interpretation of the data was based on the study of the factor loading matrix, i.e., standardised weighting coefficients for each variable of the components of teachers' research activity. Factor analysis revealed the presence of four significant factors explaining 72.4% of the total variance, (Table 1).

Table 1. Composition of factor 1: "skills for conducting pedagogical research".

No.	Variables Contained in the Factor	Factor Loads
1	ability to formulate a research question on a pedagogical problem	0.945
2	the ability to diagnose the actual state of their professional practice	0.899
3	the ability to assess the relevance of pedagogical issues	0.776
4	mastery of methodological approaches and principles of scientific research	0.700
5	level of satisfaction with the ability to ensure the sustainability of the research results	0.664
6	the ability to carry out a theoretical analysis of pedagogical literature	0.620

One factor, the most powerful one, was defined as "skills for carrying out pedagogical research". It included such variables with the highest factor loadings as the ability to formulate a research question on a pedagogical problem (0.945) and the ability to diagnose the real state of their professional practice (0.899). This factor describes the ability to plan, organise, and implement pedagogical research based on analysis and diagnosis of the problems of one's own professional practice.

Factor 2 was defined as "skills to analyse and evaluate one's professional practice" (Table 2). The variables with the highest loadings for this factor were such variables as the ability to reflect on the results of innovations implemented in professional practice (0.936) and the ability to predict the development and prospects of innovations implemented (0.899). This factor combines the reflexive, evaluative, and predictive abilities of a teacher in relation to his/her professional activity.

Table 2. Composition of factor 2: "skills of analysis and evaluation of professional practice".

No.	Variables Contained in the Factor	Factor Loads
1	ability to reflect on the results of implementing innovations in professional practice	0.936
2	the ability to predict the development and prospects of the innovations implemented	0.899
3	ability to self-reflect, self-evaluate, and self-correct professional practice	0.774

Factor 3 was defined as "motivation to improve professional practice" (Table 3) The variables with the highest loadings for this factor were to improve professional practice based on research approaches (0.935) and motivation to implement innovative activities (0.912). This factor characterises the degree of awareness and motivation to name and improve pedagogical activity.

Table 3. Composition of factor 3: "motivation to improve professional practice".

No.	Variables Contained in the Factor	Factor Loads
1	motivation to improve professional practice based on research approaches	0.935
2	motivation to carry out innovative activities	0.912
3	ambition to improve professional practice	0.880
4	creative approach to pedagogical activity	0.772

Factor 4—the semantic composition of this factor allows us to define it as "experience and need to master Action GeSearch" (Table 4). For this factor, the highest loadings were such variables as teachers' experience of integrating non-formal methods such as action research into their practice (0.899) and the need to develop professional practice of teaching courses based on action research (0.808). This factor describes the prospects of integrating action research methods into the professional practice of university teachers.

Table 4. Composition of factor 4: "experience and need for action research".

No.	Variables Contained in the Factor	Factor Loads
1	teachers' experience of integrating non-formal methods as action research in their practice	0.899
2	need to develop professional practice in teaching subjects based on action research	0.808
3	desire to master action research	0.800
4	level of knowledge in action psychology to develop research activities	0.772

Based on the synthesis of the data, a factor model of the research activity of university teachers was created (Table 5).

Table 5. Factor model of university teachers' research activity.

	Factors			
	1	**2**	**3**	**4**
the desire to improve professional practice			0.880	
motivation to carry out innovative activities			0.912	
creative approach to pedagogical activities			0.772	
motivation to improve professional practice on the basis of research approaches			0.935	
level of proficiency in methodological approaches and principles of scientific research	0.700			
level of knowledge in the psychology of activity to develop research activities				0.772
level of experience of teachers in integrating non-formal methods into their practice				0.899
need to develop professional practice in teaching the subjects they teach on the basis of action research				0.808
willingness to master action research				0.800
ability to diagnose the real state of their professional practice	0.899			
ability to assess the relevance of pedagogical issues	0.776			
the ability to carry out a theoretical analysis of pedagogical literature	0.620			
the ability to formulate a research question on a pedagogical problem	0.945			
the ability to reflect on the results of implementing innovations in professional practice		0.936		
ability to self-reflect, self-evaluate, and self-correct professional practice		0.774		
ability to predict the development and prospects of the innovations introduced		0.899		
the degree of satisfaction with the ability to ensure the sustainability of research results	0.664			

4. Discussion

The key findings from the teacher–educator participants in the study were positive about changing current practices. There was a very positive attitude towards developing research skills in pedagogical research, together with an identified requirement for increasing understanding of how to analyse and evaluate professional practice. The results also show very strong motivations to improve professional practice and a belief that becoming more familiar with action research methodology might become a driver for change.

The key role of preservice teacher education is to prepare new teachers for the very first stages of their lifelong career in the teaching profession. However, defining precisely what teachers need to know and what constitutes 'good' teaching is not straightforward. Indeed, the dominant method of measuring teacher quality used by many countries is in the domain of teacher effectiveness research. Teacher effectiveness research is based on an outcomes-oriented approach that measures teacher quality based on student exam achievement. Large-scale, whole-country-level approaches such as those used by the OECD in PISA and the IEA in PIRLS provide a relatively easy way to measure student

achievement. However, because school systems are complex, it can be difficult to isolate the impact of individual teachers from other factors that influence student achievement. The top-level data provided by such research is not helpful for new teachers as they learn how to become teachers.

Good teaching is much more complex. Good teaching starts with teachers who are clear about their professional purposes, those of their schools, parents, and the Ministry of Education. Future teachers need to be willing and able to manage classrooms in which students are likely to exhibit the results of a variety of motivations, prior attainment, and dispositions, regardless of personal and professional circumstance. Good teaching may include, but continues to be more than, meeting sets of standards and is greater than the sum of competences; however, these may be defined. Narrowly framed competences are one part, but only one part, of the necessary toolkit that teachers need in order to be consistent in teaching students well. Standards are less useful when used as sticks to ensure compliance. Fundamentally, teachers need to have extended knowledge of pedagogical practices and subject knowledge. More importantly, they need to be able to 'read' and understand the classroom, school, pupil, and policy contexts in which they work, to exercise 'considered' judgements, and to manage the emotional dynamics of classroom lives [32].

To achieve all of this, one needs a deep understanding of how children learn, how teachers can best teach students, and how they can measure if learning has taken place. All of these skills and knowledge require ongoing professional development courses for teacher educators and school-based teachers. Action research methodology could provide such a scaffold by situating teacher learning in complex classroom settings. The development of the reflection needed to carry out rigorous action research could increase teacher educators' and new teachers' understanding of the complexity of classrooms in Kazakhstan through integrating such approaches into the professional practice of the university staff.

The data suggests that university staff are motivated to change and are willing to work alongside schools and other colleagues in networks beyond the university. This willingness to try new approaches is especially relevant at the stage of transformation of a university into a research university, which implies the introduction of research and research into the practice of teaching all disciplines, the involvement of all subjects of the educational process in research programmes and projects, and opening research laboratories and centres. In this respect, action research corresponds to the set objectives as one of the most effective and modern non-formal methods with great potential for increasing the research activity of teachers.

This key finding points to the need for professional development courses for the teaching staff on the development of research activities based on the global best practices of action research integration into the professional practice of the university. The data suggests that university staff are motivated to change and willing to work alongside experts in networks beyond the university. This trend is especially relevant at the stage of transformation of a university into a research university, which implies the introduction of research and research into the practice of teaching all disciplines, the involvement of all subjects of the educational process in research programmes and projects, and opening research laboratories and centres.

Increased research activity by teachers will have a positive impact on the quality of professional training of students—future teachers—through the formation of research competence already at the stage of university education through their involvement in research educational activities. Subject to inclusion in research in action as a subject of research activity, the synergy of efforts of research group participants will also form in students an active research position, readiness for innovative activities, and the need to implement internal resources of the educational process in the context of professional training.

Research activity should be promoted both in theoretical training and in the formation of practical research skills and abilities.

Theoretical training will aim to deepen knowledge of classical and modern psychological theories of personal activity and its personal (internal) and situational (external)

determinants. This knowledge will contribute to unlocking the potential of the research process for personal development. Mastering action research aims at understanding that the research process will only be successful if each individual researcher and the team as a whole are active, relying on personal attributes such as motivation, value orientations, self-awareness, etc.

Methodological training will deepen knowledge of research principles and methods and strengthen skills in the organisation, planning, and implementation of all stages of research. In order to successfully carry out research activities, the teacher should acquire specific knowledge and skills, develop a certain attitude towards this type of activity, and acquire a methodological culture.

Methodological training will aim at mastering methods and techniques that will enable the research activity to be implemented directly in the workplace in everyday practice in order to bring about positive changes in it. These may include professional cases, development cases, focus groups, projects, etc. The methodological support for enhancing teachers' research activity implies mastering the entire arsenal of formal and substantive methods used in psychological and pedagogical research as a prerequisite. As a result, the necessary competencies will be formed—the ability to diagnose and systematically generalise educational experience; to identify the problem and research objectives; to put forward hypotheses; to effectively plan research; to build predictive models of the transformation of educational practice; to qualitatively conduct research; to analyse and evaluate research results; and to anticipate the possible consequences and risks of decisions taken.

The work in this direction will contribute to the formation of university teachers-researchers of a new formation, the implementation of the transformation of the teacher's activity from pedagogical to scientific-pedagogical, and the development of his/her research activity.

The key findings from the teacher-educator participants in the study were positive about changing current practices. There was a very positive attitude towards developing research skills in pedagogical research, together with an identified requirement for increasing understanding of how to analyse and evaluate professional practice. The results also show very strong motivations to improve professional practice and a belief that becoming more familiar with action research methodology might become a driver for change.

5. Limitations of Action Research

Despite the obvious advantages of introducing action research into practice in the course of this project study, several types of limitations were identified, which allow us to specify the subject, object, and methods of the research.

(1) In the theoretical and methodological aspects of the study, a limiting factor of the research is the lack of foreign literature on action research in Kazakh and Russian languages, which is reflected in the ignorance of many older teachers compared to younger teachers who speak English.

(2) In the psychological aspect, barriers and uncertainty in introducing innovation in their professional activities, as well as the low motivation of teachers to research activities, serve as limiting mechanisms.

(3) The scientific interests and preferences of teachers may not always coincide with the research goal, which requires strengthening the motivational component, developing a mentoring system, and creating a collaborative research environment.

(4) In organisational terms, the constraint is the lack of knowledge of time management and the lack of time for teachers to engage in research activities in parallel with teaching activities.

(5) Methodologically, constraints will be related to the fact that not all faculty members are familiar with the methods and tools of action research.

(6) Limiting factors may also be related to the age and experience of the participating teachers.

The analysis of preliminary studies was limited by their small number, which suggests that the problem of implementing action research in the practice of university teachers is underdeveloped.

The boundaries of the research subject are clearly labelled by the components of action research, defined and justified in the model, and disclosed in the questionnaire.

The sample is representative, reflecting the general population of teachers at pedagogical universities, but was limited to the teaching staff of Abai KazNPU. In the future, teachers from different regions of the country will take part in the study.

6. Conclusions for Further Research

A review of literature sources on the theory of action research and an analysis of the experience of its implementation in various countries that have achieved recognised world results is the basis for the development of the concept of increasing the research activity of teachers at pedagogical universities in Kazakhstan based on the use of informal forms of research as action research.

The analysis and generalisation of the results of the conducted questionnaire among the teachers of the university and discussion of them in the research team allowed for new insights for the development of the programme of professional development of teachers, taking into account the ideas of metacognitive learning in close connection with the theories of motivation Ellis [34], as a strategic use by teachers of the acquired knowledge for personal and professional growth, as well as improving and changing teaching practices.

A questionnaire will be prepared for teachers to collect feedback, which will undoubtedly contribute to the improvement of the concept of action research implementation in pedagogical universities in Kazakhstan. When organising feedback, it will be necessary to take into account the possibility of constraints that limit the independence of the research process of teachers.

Since the theory of action research in Kazakhstani pedagogical science is a new area of research, its role, classification of different types of action research, advantages for changing pedagogical practice, impact on the training of future teachers in pedagogical universities, and the possibility of transforming the status of teacher to the status of "teacher-researcher" will be studied.

Given the close relationship between the components of the triad "university—future teacher—school", in the future, mechanisms will be developed to train students and teachers to effectively integrate action research into professional practice in parallel with formal research methods to improve the quality of continuing teacher education in Kazakhstan.

Appendix A

1. Analysis of the first stage of the questionnaire (motivational).

1.1. In the question "To what extent do you strive to improve your professional practice?" 64.7% showed a high degree of motivation to improve (75–100%); 30.3% showed a degree above average (50–75%); and the remaining 5% showed a degree below average and low (Figure A1). Thus, the vast majority of teachers show a desire to improve their professional practice.
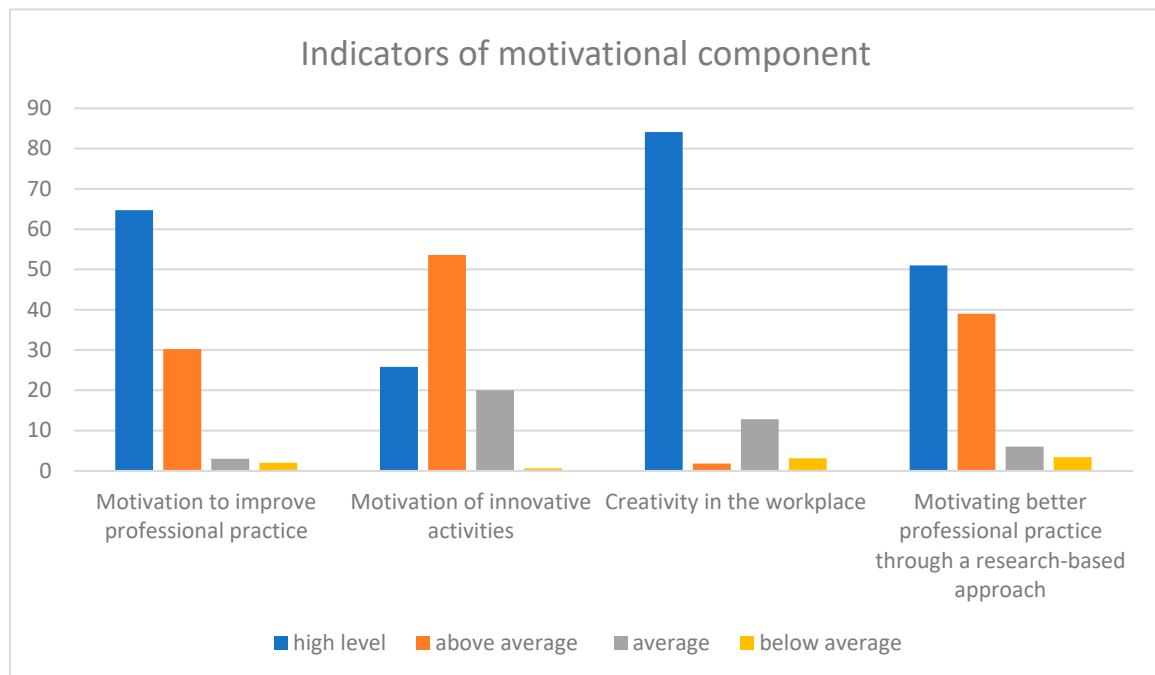

Figure A1. Indicators of the motivational component of the research activity of university teachers.

1.2. Self-assessment of the level of motivation to carry out innovative research activities showed that the vast majority of teachers have high (53.6%) and very high (25.8%) levels of motivation to carry out innovative activities; the medium level has 20% and the low level has 0.6% (Figure A1).

1.3. In addition, the majority of teachers (84.1%) believe that they implement a creative approach to pedagogical activity; the rest rarely use it (12.8%). A total of 3.1% responded that they would like to receive help in this respect (Figure A1).

1.4. Assessment of the level of motivation to improve professional activity based on the research approach showed that more than half (51%) have a high level of motivation; 39.6% have a level above average. The rest showed a level below average and a low level of 9.4% (Figure A1).

Thus, the majority of teachers have a high level of motivation to improve their professional practice, use creative approaches, and show willingness to improve their activities based on innovative research approaches.

2. Analysis of the second stage of the questionnaire (content).

2.1. Assessment of the level of knowledge of methodological approaches and principles of scientific research showed that more than half (61.1%) of the respondents believe that they have a high level of methodology, with the remaining 38.6% at an average level (Figure A2).
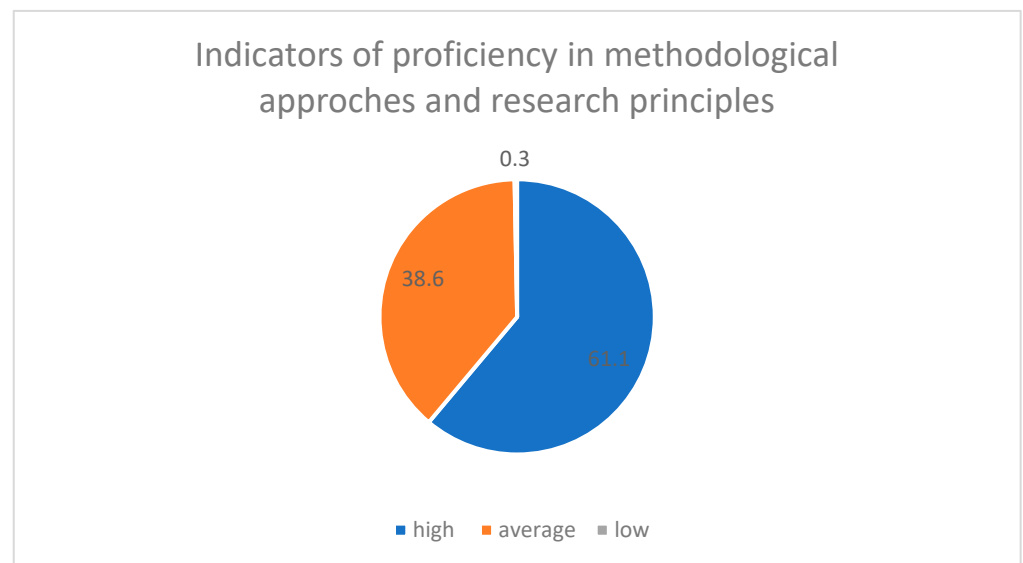
Figure A2. Indicators of proficiency in methodological approaches and research principles.

2.2. They rated their level of knowledge of activity psychology for the development of research activities as follows: 51.7% as high level; 46.4% as medium level; and the rest 1.9% as low level (Figure A3).
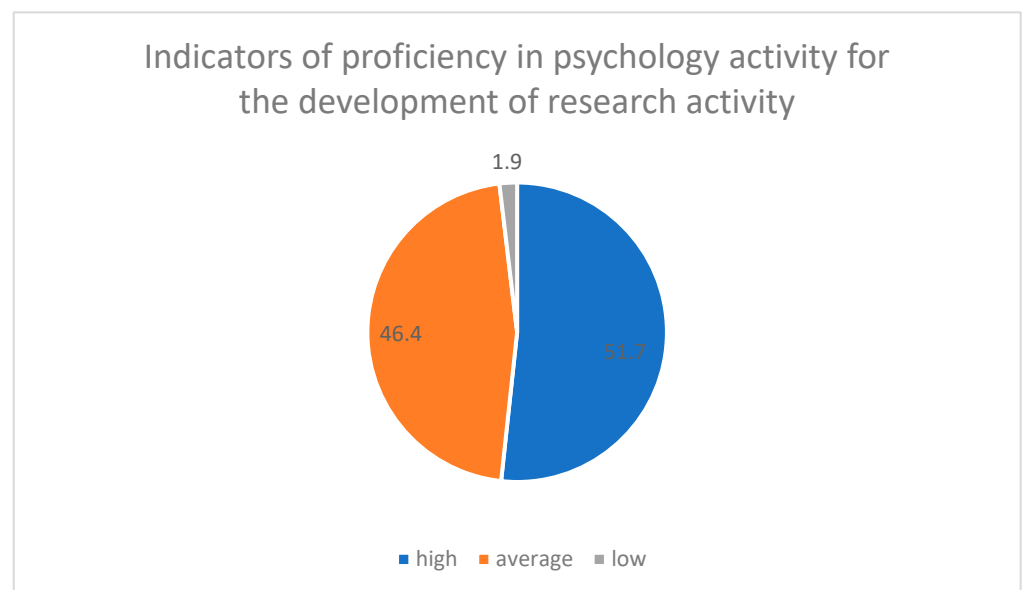

Figure A3. Indicators of proficiency in psychology activity for the development of research activity.

2.3. The question was about teachers' experience of integrating non-formal methods as action research into their practice. A total of 46.1% showed a willingness to learn and use it in the future. Moreover, 32.4% have experience applying non-formal research methods in their work.

A total of 19.3% have not used these methods and acknowledged a lack of experience. Moreover, 2.2% showed no interest in non-formal research approaches (Figure A4).

Figure A4. Indicators of experience and needs to improve professional practice based on action research.

2.4. The question asked about the willingness to develop the professional practice of teaching the disciplines taught on the basis of action research.

A total of 80.2% of respondents indicated a desire to learn action research. A total of 17.1% are not familiar with this method and are not sure if they need to study it. The remaining 2.7% do not think it is necessary to learn action research (Figure A4).

Thus, teachers assess their level of proficiency in the methodology of scientific research and knowledge of activity psychology as high or medium. A total of 46% need to master the action research method, and 32.4% already have experience using it. A total of 80.2% of teachers feel the need to improve the level of teaching their subjects based on action research.

3. Analysis of the third stage of the questionnaire (procedural).

3.1. The question concerned the possession of the skills to diagnose the real state of their professional practice. At a high level, 19.8% assessed their skills; at a sufficient (above average) level, 56.8%; at an average level, 21.7%; and the remaining 1.7% were at a low level.

3.2. The question aims at assessing the level of ability to assess the relevance of pedagogical problems. At a high level, 50.2% assessed themselves; at a medium level, 48.1%; and at a low level, 1.7%.

3.3. The question revealed the level of ability to carry out theoretical analysis of pedagogical literature. A total of 61.4% of respondents evaluated themselves as high level; 37.2% considered themselves as medium level; and the rest, 1.4%, considered themselves low level.

3.4. Respondents were asked to assess their ability to formulate a research question on a pedagogical problem. At a high level, 46.1% assessed themselves; at an average level, 44.2%; at a below-average level, 8.5%; and at a low level, 1.2% (Figure A5).
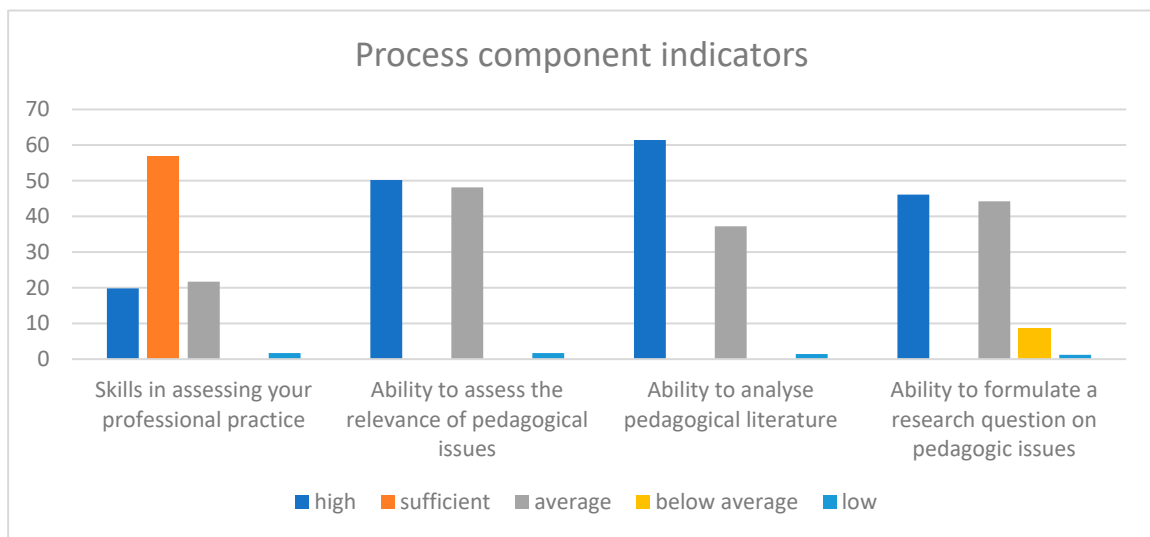
Figure A5. Process component indicators of the research activity of university teachers.

Thus, the analysis of the level of necessary skills of pedagogical research showed that the skills of diagnosing the state of professional practice are about 80%; the ability to assess the relevance of pedagogical problems—50%; to perform theoretical analysis of pedagogical literature—61.4%; to formulate a research question—46.1%.

4. Analysis of the fourth stage of the questionnaire (evaluation).

4.1. Assessment of the ability to reflect on the results of implementing innovations in professional practice. At a high level, 36.2% of teachers assessed the skills; at an average level, 61.1%; and at a low level, 2.7% (Figure A6).
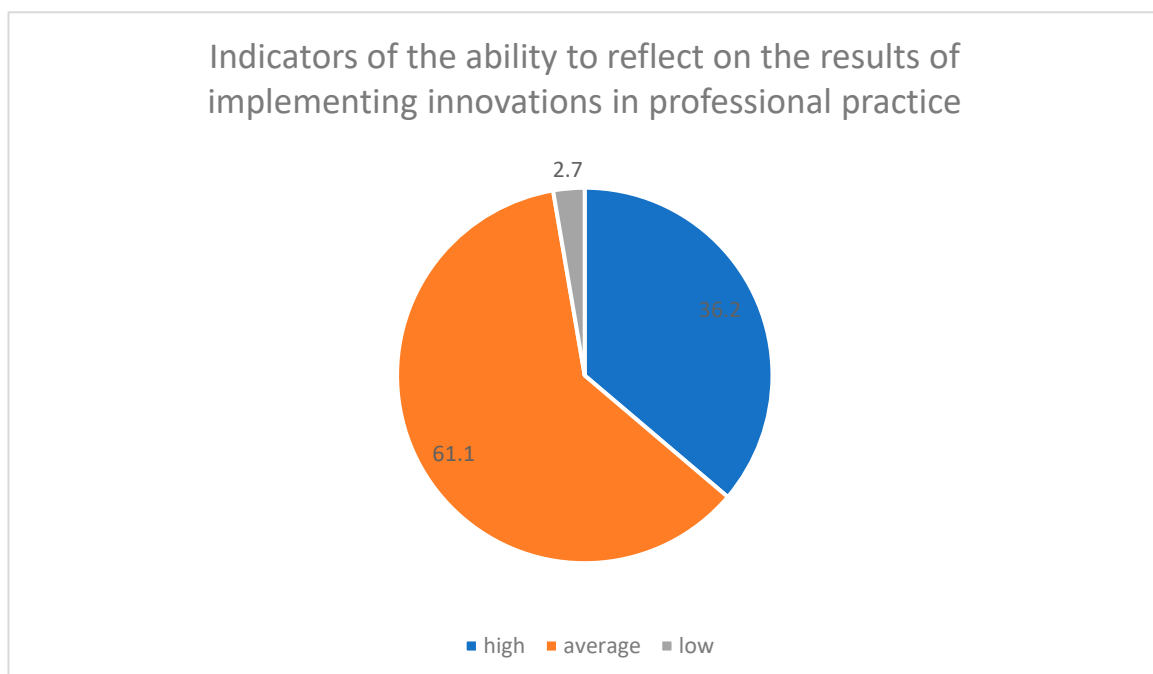

Figure A6. Indicators of the ability to reflect on the results of implementing innovations in professional practice.

4.2. The question of how relevant the development of abilities to self-reflection is—self-assessment, self-correction of professional practice—answered that it was very relevant—87.2%; 10.9% found it difficult to answer; not relevant—1.9% (Figure A7).
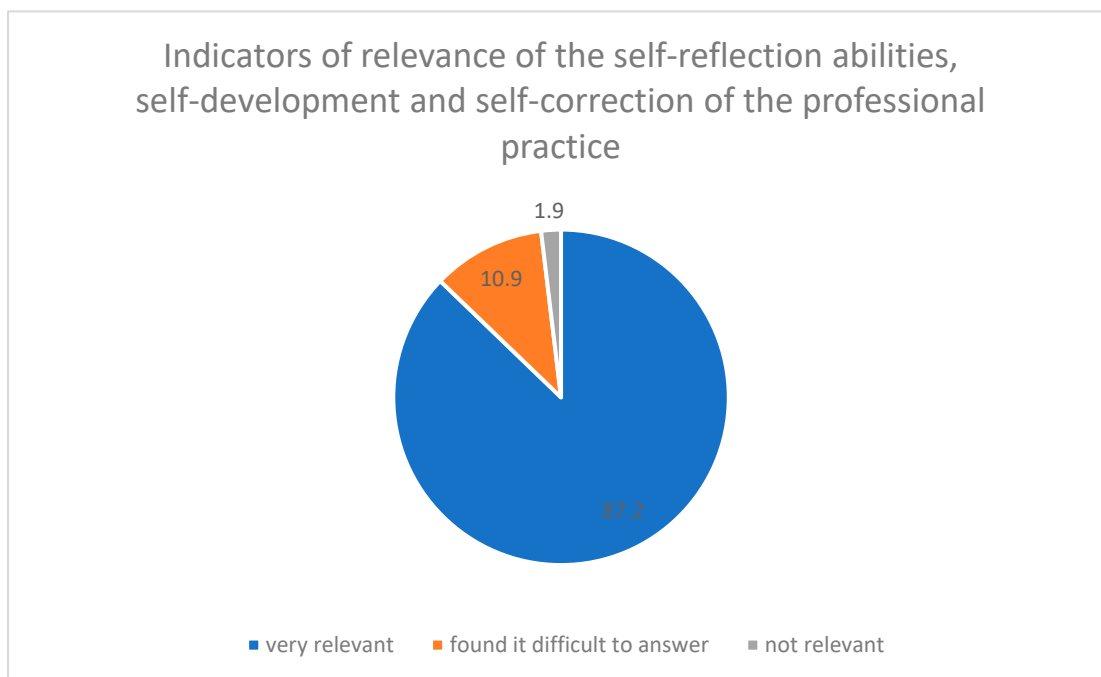
Indicators of relevance of the self-reflection abilities, self-development and self-correction of the professional practice

1.9

10.9

87.2

■ very relevant   ■ found it difficult to answer   ■ not relevant

Figure A7. Indicators of relevance for self-reflection abilities, self-development, and self-correction of professional practice.

4.3. The question of to what extent the ability to predict the development and prospects of innovations is developed—44.9% responded that to a high degree; to an average degree—52.9%; to a low degree—2.2% (Figure A8).
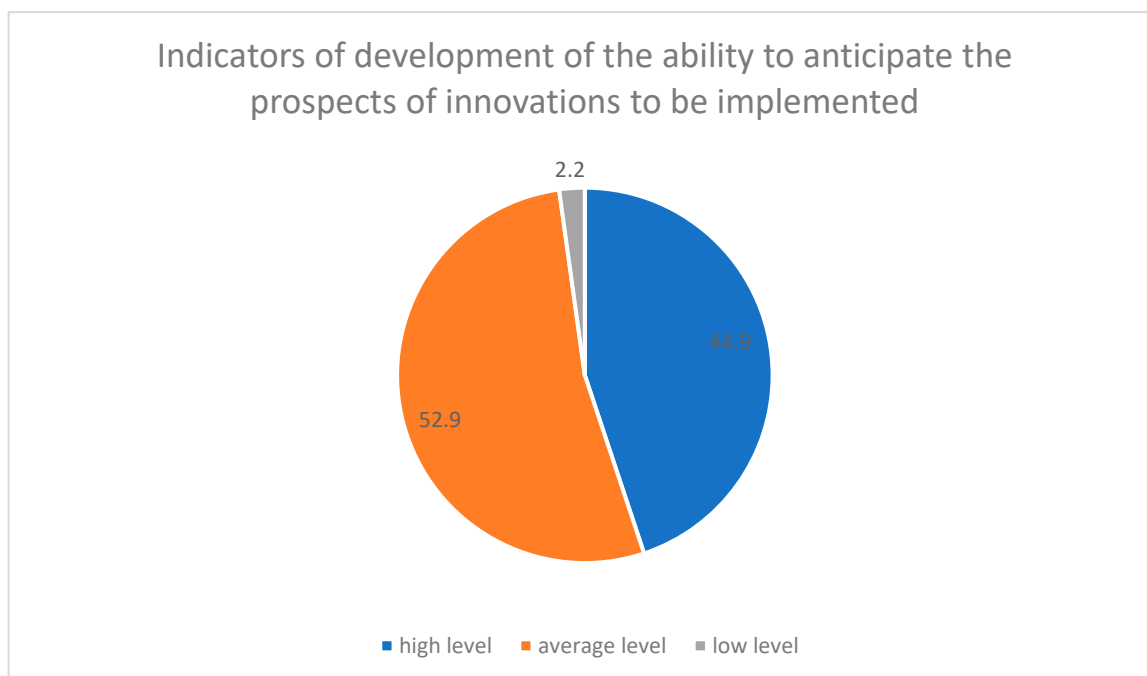
Indicators of development of the ability to anticipate the prospects of innovations to be implemented

2.2

44.9

52.9

■ high level   ■ average level   ■ low level

Figure A8. Indicators of the development of the ability to anticipate the prospects of innovations to be implemented.

4.4. When asked how satisfied they were with the ability to ensure the sustainability of research results, 44% responded that they were completely satisfied; 53.9% were partially satisfied; and 2.1% were completely unsatisfied (Figure A9).

Thus, 36.2% gave high marks to their reflective abilities, 44.9% to their predictive abilities, and 44% to their ability to ensure the sustainability of the results. The importance of self-reflection and self-correction abilities was highly evaluated by 87.2%.
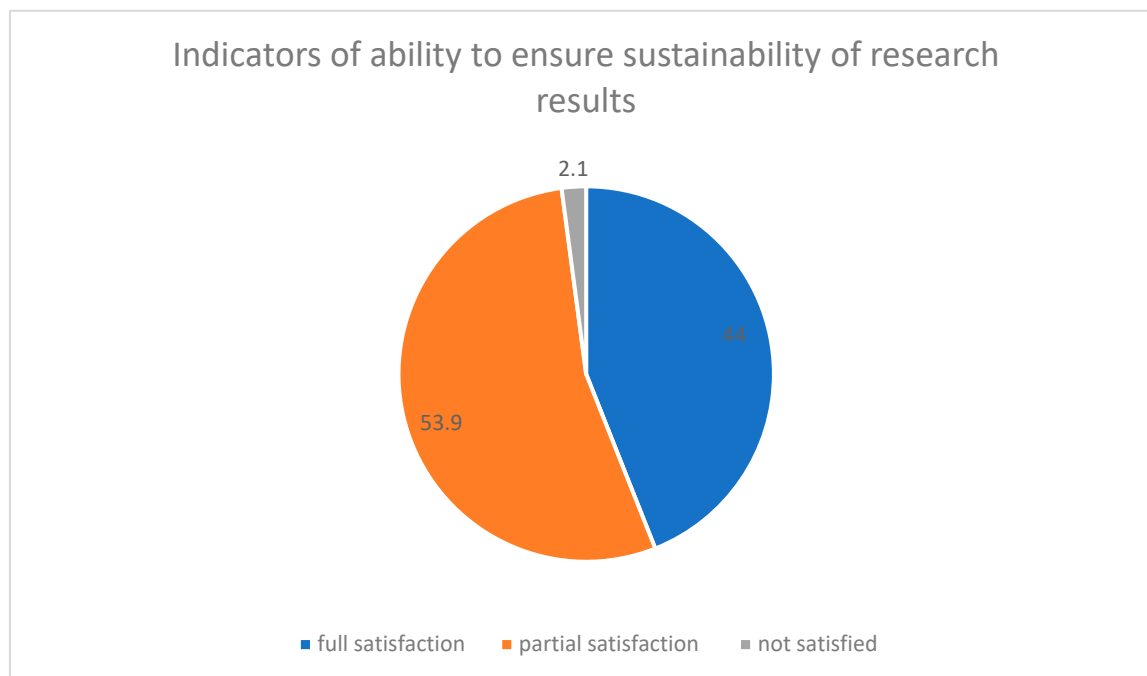

Figure A9. Indicators of the ability to ensure the sustainability of research results.

References

1. Law of the Republic of Kazakhstan Dated 27 July 2007, No. 319-III "On Education". Available online: https://online.zakon.kz/Document/?doc_id=30118747&show_di=1 (accessed on 1 May 2023).
2. Higher and Postgraduate Education. Ministry of Science and Higher Education of the Republic of Kazakhstan. Available online: https://www.gov.kz/memleket/entities/sci/activities/31809?lang=ru (accessed on 29 June 2023).
3. Secondary Education. Ministry of Science and Higher Education of the Republic of Kazakhstan. Available online: https://www.gov.kz/memleket/entities/edu/activities/31348?parentId=273 (accessed on 29 June 2023).
4. Independent Agency for Quality Assurance in Education. Available online: https://iqaa.kz/vysshee-obrazovanie/bolonskij-protsess/bolonskij-protsess-v-kazakhstane (accessed on 29 June 2023).
5. The Official Information Resource of the Prime Minister of the Republic of Kazakhstan. 2021. Available online: https://primeminister.kz/ru/news/reviews/novye-podhody-k-obucheniyu-i-podderzhka-molodyh-talantov-mon-rk-o-razvitii-otechestvennogo-obrazovaniya-i-nauki-9102812 (accessed on 29 June 2023).
6. O'Leary, Z. *The Essential Guide to Doing Your Research Project*, 2nd ed.; Sage Publications: London, UK, 2010.
7. Coghlan, D.; Brannick, T. *Doing Action Research in Your Own Organization*, 4th ed.; Sage: London, UK, 2014.
8. Timperley, H. *Realizing the Power of Professional Learning*; Open University Press: New York, NY, USA, 2011.
9. Wilson, E. Action Research. In *School—Based Research*; Wilson, E., Ed.; Sage: London, UK, 2017.
10. Wilson, E. *School-Based Research: A Guide for Education Students*, 3rd ed.; Sage: London, UK, 2017; p. 391.
11. Fox, A.; Wilson, E. Networking and the development of professionals: Beginning teachers building social capital. *Teach. Teach. Educ.* **2015**, *47*, 93–107. [CrossRef]
12. Ponte, P.; Beijard, D.; Ax, J. Don't wait till the cows come home: Action research and initial teacher education in three different countries. *Teach. Teach.* **2004**, *10*, 591–621. [CrossRef]
13. Ax, J.; Ponte, P.; Brouwer, N. Action research in initial teacher education: An explorative study. *Educ. Action Res.* **2008**, *16*, 55–72. [CrossRef]
14. Kitchen, J.; Stevens, D. Action research in teacher education: Two teacher-educators practice action research as they introduce action research to preservice teachers. *Action Res.* **2008**, *6*, 7–28. [CrossRef]
15. Darwin, S.; Barahona, M. Can an outsider become an insider? Analysing the effect of action research in initial EFL teacher education programs. *Educ. Action Res.* **2019**, *27*, 709–725. [CrossRef]
16. Bendtsen, M.; Eklund, G.; Forsman, L.; Pörn, M. Student teachers' experiences of action research-based projects: Two cases within pre-service teacher education in Finland. *Educ. Action Res.* **2021**, *29*, 707–721. [CrossRef]

17. Ginns, I.; Heirdsfield, A.; Atweh, B.; Watters, J.J. Beginning teachers becoming professionals through action research. *Educ. Action Res.* **2001**, *9*, 111–133. [CrossRef]
18. Taubaeva, S. *Research Culture of a Teacher: Methodology, Theory and Practice of Formation*; Alem: Almaty, Kazakhstan, 2000; Volume 381, p. 242.
19. Taubaeva, S. *Research Culture of the Teacher: From Theory to Practice: Monograph*; Kazak University: Almaty, Kazakhstan, 2016; p. 423. ISBN 978-601-04-2387-9.
20. Kraevsky, V.V. *Methodology of Pedagogy: A New Stage: Textbook for Students of Higher Education*; Publishing Center "Academia": Moscow, Russia, 2006; p. 400.
21. Kuzmina, N.V. *Methods of Acmeological Research*; Research Centre for Problems of Training Quality: Moscow, Russia, 2001.
22. Davydov, V.P. *Methodology and Methodology of Pedagogical Research*; Logos: Moscow, Russia, 2006; p. 128.
23. Boziev, R.S.; Pichugina, V.K.; Serikov, V.V. *Research Methodology in Pedagogy: Collective Monograph*; Planeta: Moscow, Russia, 2016.
24. Denzin, N.K.; Lincoln, Y.S. *The SAGE Handbook of Qualitative Research*; Sage: Thousand Oaks, CA, USA, 2011; 1050p.
25. Concept of Development of Higher Education and Science in the Republic of Kazakhstan for 2023–2029. 2022. Available online: https://adilet.zan.kz/rus/docs/P2300000248/history (accessed on 8 September 2023).
26. Abai KazNPU Development Strategy for 2022–2025. Available online: https://www.kaznpu.kz/ru/14/page (accessed on 8 September 2023).
27. Buribayev, Y.; Khamzina, Z.; Safronova, L.; Kilybayev, T.; Apendiyev, T. Evaluation of the effectiveness of scientific research at the pedagogical university of Kazakhstan. *Bulletin* **2023**, *1*, 104–121. [CrossRef]
28. Council Recommendation of 20 December 2012 on the Validation of Nonformal and Informal Learning/Council of the European Union//Official Journal of the European Union. 2012. Volume 55. Available online: http://eurlex.europa.Eu/LexUriServ/LexUriServ.do?uri=OJ:C:2012:398:0001:0005:EN:PDF (accessed on 8 September 2023).
29. Coombs, P.H.; Ahmed, M. *Attacking Rural Poverty*; How Non-Formal Education Can Help; John Hopkins University Press: Baltimore, MD, USA, 1974; ISBN 0-8018-1600-35.
30. Sidorov, D.G. Pedagogical Integration of Formal, Non-formal and Informal Types of Education in the Process of Formation of Healthy Lifestyle of Students. Ph.D. Thesis, Nizhny Novgorod State University of Architecture and Civil Engineering, Nizhny Novgorod, Russia, 2013; p. 357.
31. Gibadullina, Y.M. Professional training of teachers in the process of integration of formal, non-formal and informal education. *Fundam. Issled.* **2014**, *10*, 2253–2257.
32. Marrow, A.J. *The Practical Theorist the Life and Work of Kurt Lewin*; Basic Books: New York, NY, USA, 1969; p. 163.
33. Butler, R. Teachers' Achievement Goal Orientations and Associations with Teachers' Help Seeking: Examination of a Novel Approach to Teacher Motivation. *J. Educ. Psychol.* **2007**, *99*, 241–252. [CrossRef]
34. Ellis, E.S. The role of motivation and pedagogy on the generalization of cognitive strategy training. *J. Learn. Disabil.* **1986**, *19*, 66–70. [CrossRef]