

A.E. BERIKKHANOVA^{1*}, L.O. SARSENBAYEBA²,

B.O. SAPARGALIYEVA¹, ZH.K. IBRAIMOVA¹

¹Abai Kazakh National Pedagogical University (Almaty, Kazakhstan)

²Almaty Branch of St. Petersburg Humanitarian University of Trade Unions (Almaty, Kazakhstan)

email: a.berikhanova@abaiuniversity.edu.kz

METHODOLOGICAL APPROACH AND PRINCIPLES OF RESEARCH ACTIVITY DEVELOPMENT OF UNIVERSITY TEACHERS BASED ON ACTION RESEARCH

Abstract

The article is devoted to the problem of developing the research activity of University teachers based on the integration of the Action Research into their professional practice. The article presents the substantiation of methodological approaches and principles of Action Research implementation as non-formal method of developing research activity of university teachers.

The analysis of the results of foreign and domestic studies revealing modern technologies for the formation of research competencies of teachers is given. The possibilities and advantages of non-formal forms of research as Action Research as an effective mechanism for personal and professional growth of university teachers are considered. The substantiation of Action Research methodology and conceptual foundations of the method in relation to the educational system of the Republic of Kazakhstan are given. The principles for the development of research activity (proactivity, self-reflection, creativity, self-development and self-realization, continuity, integration of all types of educational activities, actualization of learning resources, synergy of efforts of the subjects of the educational process) are determined. There are shown prospects for integrating Action Research approach into the educational practice of Universities.

The article reveals the intermediate results of a study conducted within the scientific project on Grant of the Ministry of Education and Science of the Republic of Kazakhstan IRN: AR14872311 “Theory and technology for the development of research activity of University teachers based on the integration into practice of non-formal forms of research as Action Research”.

Keywords: methodology, methodological approaches, principles, scientific research methods, research activity, Action Research, research culture, research competencies, proactivity, self-reflection.

Introduction. The implementation of innovative approach and technologies based on the idea to increase the level of science-intensive education is recognized as a priority of the system of modern strategies for the development of science and education. Currently, the success and competitiveness of countries is ensured by integrating science into all spheres of society, supporting research-rich educational programs, involving scientific personnel in the analysis and problem solving. World experience shows the effectiveness of research universities that integrate theoretical training and direct research activities.

For the Republic of Kazakhstan, a priority strategy is recognized as the implementation of quality research and ensuring the continuity of research activities at all levels of teacher

training and after graduation during professional teaching practice.

Kazakhstan scientists are developing models for the formation of teachers' research skills, formation of motivation, mastering the methodology and methods of scientific research, design skills and the ability to carry out team research (Abdigapbarova et al., 2021). Currently, teachers with the necessary level of research competence are in demand, which is presented as a pedagogical value reflecting a holistic, integral characteristic of a teacher's personality, manifested in their readiness to form their active research position in relation to himself as its subject (Artamonova, 2017). Also, an important condition for the success of professional practice is methodological culture, including special knowledge and skills, value attitude to this type

of activity (Makarova, 2016). In this regard, the search for approaches, technologies and methods to increase the research activity of teachers and thus improve the quality of education at all levels becomes a relevant direction in education.

In the global educational area, one of the modern approaches to improving the effectiveness of the educational process through the research of educators themselves is recognized as Action Research, which is known in different countries as: “participatory research”, “co-operative research”, “emancipatory research”, “action research”, “contextualized action research”. The essence of this approach is to conduct research in practice, directly in the course of the learning process in order to improve its quality. The successful integration of this approach in many countries is due to the complex of problems solved with its help, the possibility of application at different levels of the educational system and the cost-effectiveness of implementation through the involvement of internal resources of the organization or the teacher, acting as an interested group of subjects of the educational process. This method allows transforming the teacher’s activity from pedagogical to scientific and pedagogical, developing their research activity to a great extent.

In the Republic of Kazakhstan, the starting point for the introduction of Action Research is considered to be the programs of the Higher School of Education of Nazarbayev University. It should be noted that so far this method has been more actively implemented in the system of school education. In all regions of the country, for professional development of teaching staff, developed by the Centre for Pedagogical Excellence together with the Faculty of Education of University of Cambridge, the level programs are being implemented. This experience was practically absent at the level of university education. In this regard, the research was initiated within the framework of the scientific project “Theory and technology of development of research activity of university teachers on the basis of integration of non-formal forms of research as Action Research”.

Main part. Mastering research competencies of specialists in the field of education is an important condition for their personal and professional

growth, improvement of professional practice and competitiveness. This article presents the results of analysis and substantiation of methodological approaches and principles of development of research activity on the basis of integration of Action Research into their professional practice of University teachers was carried out.

Materials and methods. Analysis of scientific, pedagogical, psychological, methodological literature on the research problem, comparative analysis, categorical analysis, and generalization of data were used as research methods.

The methodological basis of Action Research is the provisions put forward by the founders of this approach J. Dewey, K. Lewin, P. Freire, who called on teachers and students to take active actions and to learn on democratic principles. Developing these ideas, S. Edwards-Groves and K. Rönnerman named as the leading principles of Action Research: contextuality (inclusion in a holistic educational process), commitment (giving and believing in success), criticality in relation to results, communication based on co-operation, collegiality and common goals (Edwards-Groves & Rönnerman, 2022).

J. Aimers (Aimers, 1999), K. Seymour-Rolls, I. Hughes (Seymour-Rolls & Hughes, 1995) substantiate the methodology of Action Research and the conceptual foundations of Participatory action research (PAR), which is close to AR in its goals and focus. The authors call the principle of co-operation in a collegial environment the main principle.

A. Erro-Garces and J.A. Alfaro-Tanco consider Action Research as a meta-methodology, a multidisciplinary approach covering various methods of conducting empirical research in psychology, pedagogy, management and many other areas of social practice, based on the cooperation of researchers and practitioners (Erro-Garces & Alfaro-Tanco, 2020).

R. O’Brien reveals Action Research as a research interpretive paradigm that replaced pragmatism and meets the requirements of objectivity, as a methodological approach to solving social problems, as a means of coping in practice with a constantly changing and turbulent environment (O’Brien, 2001).

F. Quayson considers action research as one of the best (but not the only) ways to get an

answer to a research question, to understand and evaluate all its aspects, as this method is based on a deeply grounded theory of professional practice (Quayson, 2019).

B. Somekh's book *Action Research: A Methodology for Change and Development* (Somekh, 2005) presents a view of Action Research as a methodology uniquely suited to the study of innovation and change. Somekh's *Action Research: A Methodology for Change and Development* (Somekh, 2005) presents Action Research as a methodology uniquely suited to the study of innovation and change processes. The author argues that Action Research can be a powerful systematic intervention that goes beyond describing, analyzing and theorizing practices to reconstruct and transform these practices at all levels of the educational system, including universities. Methodological principles are described and key methodological issues are discussed. B. Somekh notes that Action Research is action to change and create actionable knowledge and action research from within.

J. Robertson (Robertson, 2000) presents Action Research methodology as a component of a professional development model, as a means of recognizing serious problems in education in the context of a collaborative culture of professionals. The author identifies three principles of action research: data collection about the professional development model, awareness of key problems arising in the course of professional practice; research of one's own practice and reality; and critical awareness of practice by a group of professionals. The realization of a set of principles creates the so-called 'ripple effect' of the unity of theory and practice for all members of the research community. To develop a teacher as a researcher it is necessary to master such skills as goal setting, development of an action plan, orientation in time perspective, skills of active observation, active listening, reflexive interviewing, organization of feedback, critical analysis of practice.

Modern Kazakhstani psychological and pedagogical science retains the traditions of Soviet scientific methodology, which is developed within the framework of the following methodological approaches - personal-activity,

synergetic, competence, axiological and others. All these approaches are optimally embedded in the methodology of Action Research, objectifying its main provisions and conditions of implementation.

The personality-activity approach, the foundations of which were laid by L.S. Vygotsky, S.L. Rubinstein, A.N. Leontiev, etc., allows us to consider a teacher as a worker, a practitioner, a researcher. In this case, in the structure of his personality, special emphasis is placed on the motivational component, i.e. on his aspiration to research, to reflection of his own practice, to change the paradigm of a teacher to a teacher-researcher. From the perspective of the personal-activity approach, the teacher's activity is determined by both social and personal factors. Thus, the social determination of activity is determined by the normativity of joint research activity, the need to conform to group goals, taking into account potential positive consequences and risks. Personal individual determination is determined by the personal meanings, goals and attitudes of each subject - participant of the research process, and the activity is manifested individually, but in accordance with common goals.

From the standpoint of this approach it is important to understand Action Research as a group collective activity of a team of teacher-researchers. S.M. Dzhakupov's concept reveals the joint-dialogue activity of the subjects of the educational process of the university. The fundamental idea of the scientist is the transformation of activities different in initial content and orientation into a single system, joint-dialogical in form and cognitive (cognitive) in content. The research activity is revealed as one of the sides of the integral professional activity of a teacher, assuming the activity of the subject, aiming at the transformation of the educational process, motivation, focus on mastering the ways of professional solution of practical problems, mastering professional thinking and creativity. S. M. Dzhakupov considers activity as a form of human activity manifestation, unfolded in time and spatially limited by the result expected and the result achieved (Dzhakupov, 2009).

Based on the action research approach, we can consider as basic for Action research provisions:

- Teacher-Researcher - an active worker;
- the unity of cognitive and motivational and value components of research activity;
- research activity - a process of active interaction with other members of the research group united by a common goal.

The synergetic approach organically fits into the methodology of action research, which is based on collaboration and joint efforts of the research team. This approach has an enormous potential to integrate the multifaceted directions of synergetic on the development of innovative didactics, which includes in its basis the assistance in self-development and self-education from the position of requirements and changes in education, as well as to justify the conceptual foundations of its new positions and the application of innovative technologies in the learning process of adult learners (Taubayeva, 2020). Synergetic approach reveals perspectives in the form of development of self-education, creativity, critical thinking and the possibility of implementing an interdisciplinary approach. At the same time, scholars recognize both the limitations of this approach and the possibilities of its integration with other approaches recognized as leading in the modern educational space (Biisova & Madaliyeva, 2020). When organizing Action research, group research allows to realize synergy of efforts, potentially increasing the role and contribution of each educator as a participant of the research process. In this case, the initiative comes from one of the teachers motivated to improve their professional practice, then a team is assembled to solve the problem by joint efforts.

Competence approach in the development of Teachers' research activity is defined as an important condition for teachers' competitiveness. It is the Teacher's research competencies that contribute to their self-realization and self-improvement, professional and personal growth. Researchers M. Itgel, O. Khajidmaa, O. Purev proposed a competence model for educational researcher: competence model for educational researcher (CMER), which includes 4 factors that unite the competences of an educational researcher. Among them, the leading ones are: knowledge of the subject and related subject areas; knowledge of research methodology;

language skills; critical thinking; ability to solve problems and multidimensional tasks; innovation and creativity; confidence in their own ideas and abilities in research activities; self-reflection; collaboration; teamwork, etc. (Itgel et al., 2023).

The axiological approach provides the value basis of research. In this regard, the value characteristic of the teacher's research work is widely disclosed, which can be disclosed from four angles: value for personal growth, value for the quality of teaching, value for students, value for improving the image of the University.

Action research is quite effectively integrated into the project technology, also aimed at the development of research activity of the subjects of the educational process. This trend has been firmly established in the educational environment in recent decades and corresponds to the priority direction of education and science development in Kazakhstan - building scientific and innovative potential by involving teachers in project research activities and its commercialization (Kenzhaliyev et al., 2021). Project research work allows to predict personal and organisational changes in the activity of a teacher under the condition of unity of implementation of problem and empirical components of the research, which, in the end, will ensure its objectivity, reproducibility, evidence and accuracy (Mamytbayeva et al., 2022). Researchers emphasize the importance of forming research competence already at the stage of university education through the involvement of future teachers in project-based educational activities (Kolesnikova & Pustovalova, 2020). Timely involvement in project activities contributes to the active adaptation of students and their inclusion in the professional pedagogical community. The authors name technologies and methods themselves, aspects of education management, innovative pedagogical activities, educational process and the education system as a whole as the subject of project research (Kelesuglu et al., 2023). In accordance with the social order for a teacher who is able to be active in the implementation of innovative processes regarding the design and organization of the educational process. The authors identify the formation of a set of socially important, professional, cognitive and personal motives and

values of the pedagogical activity as the leading condition for the successful realization of the set goals (Mamytbayeva et al., 2021).

Methodological support for increasing the research activity of teachers implies as a necessary condition the mastery of the whole arsenal of methods used in psychological and pedagogical research. Formal methods are universal for all kinds of studied processes and phenomena. They include methods of mathematical statistics, correlation and factor analysis, which allows to establish relationships between the studied components of phenomena or to establish factors in the manifestation of the studied phenomena, as well as content analysis, modeling, analysis and synthesis, logical construction and others.

Empirical methods are aimed at studying the essential characteristic of pedagogical phenomena and processes. This group includes the so-called empirical methods - psychological and pedagogical experiment, observation, survey (written and oral), and analysis of products of activity, method of independent characteristics, expert analysis, and focus group. In pedagogical research, generalization, interpretation, qualitative analysis and formulation of recommendations for the development or correction of the studied properties or phenomena in practical educational activities are mandatory. It is important to form the researcher's understanding of the need to use both groups of methods in unity at different stages of psychological and pedagogical research in accordance with the purpose of the research work. At the same time, considering that substantive methods provide information about the degree or level of development of the phenomenon under study, its features and manifestations, essential characteristics, and formal methods allow these data to be presented in the form of indicator

variables, systematized, statistically tested and formally summarized, taking into account that in pedagogy and psychology the data are often latent and difficult to measure directly. Thus, productive in pedagogical research is the focus on a comprehensive in-depth study of a phenomenon based on the integration of research methods.

From a methodological point of view Action Research refers to qualitative applied methods of the research process legitimized as non-formal forms of research. In this regard, the study applies the full range of both formal and informal, non-formal empirical methods.

The analysis of the main methodological approaches allowed us to summarize a number of principles for the development of teachers' research activity on the bases of Action Research:

1. The principle of researcher's proactivity. Proactivity allows making anticipatory active transformations of activity based on continuous self-reflection of one's research activity. Proactivity implies setting proactive tasks by predicting the results of one's activity and putting forward strategic initiatives. A proactive teacher plans his/her actions to fulfill the most important goals and is able to prioritize them. The study of problems in his/her pedagogical activity and taking measures to solve them become important goals (Lebel & Patil, 2018).

2. The principle of reflection and self-reflection. As is known, an important component of Action research is reflection and self-reflection of professional practice. A teacher-practitioner, in parallel with teaching, is engaged in self-research of his/her activity. As soon as the means and methods of his/her own pedagogical activity become the subject of his/her research (i.e., reflection), we can say that research is already underway. This process is visualized in Figure 1.



Figure 1: Transformation of a practical teacher into a teacher-researcher

3. The principle of creativity and creativity. It reveals the teacher's predisposition to transform educational reality, to create socially significant work products, to be creative, to bring a new solution to the problem, based on research activity (Dubovicki, 2018).

4. The principle of self-development and mastering the ways of self-realization. The meaning of research in action is the possibility for the teacher to analyze and revise his work, to realize real communication with colleagues, to see the problems, to make a research report on the activity. The main question that an educator applying the Action Research approach asks himself is: "how can I improve what I do?", and the teacher shows both interest in changing his/her activity and in developing himself/herself as a person and a professional. Mastering the method of Action research allows to realize the personal potential of each teacher, relying on the components of personality orientation - value orientations, attitudes, motivation, and others.

5. The principle of continuity (continuity). Research has a continuous character, acting as a process of spiral unfolding with the realization of continuity of research levels. As a result, there is a constant improvement of activity and deepening and expansion of professional knowledge, i.e. with each turn of the spiral the research rises to a higher quality level (Coulange et al., 2021).

6. The principle of integration of all types of educational activities in the educational space. Action Research allows to improve the skills of analyzing its activity and to realize the unity of all its directions and, as a result, to improve the quality of teaching. In this aspect Action research is close to non-formal methods in its characteristics, as it is carried out in the whole space of life activity, directly proceeding from the needs of everyday practice.

7. The principle of actualization of learning resources, ensuring the possibility of applying the acquired competences in practice "here and now". In order for a teacher's pedagogical findings to be used by him/herself and passed on to others, they must be conceptualized in the categories of pedagogical theory. Action research generates knowledge around research in practical educational contexts and allows teachers to learn through their actions, through

their experiences, through their research into their own professional activities.

The implementation of Action research into professional practice contributes to the actualization of resources of the educational process, the creation of experimental sites directly in the educational environment, becomes a potential incubator of new technologies, contributes to the creation of research laboratories for the professional development of teachers

Results and discussion. Analysis and generalization of the experience of teachers who have achieved specific successes in their professional activity shows that professional self-improvement should begin with a detailed analysis of the causes and consequences of achievements and shortcomings in their pedagogical activity. As the analysis of the best world practices shows, one of the approaches recognized as effective in the formation of research activity of university teachers is Action research. In the Republic of Kazakhstan, this approach has been spreading in recent years and is being integrated into educational practice for the development of teachers' research activity at different levels of the education system.

It should be noted that the idea of Action research in Kazakhstan has been actively researched since 2012 by the Centers of Pedagogical Excellence functioning in all regional centers of Kazakhstan. In schools of the republic, teachers used Lesson Study as an invariant of Action research. Teachers and head masters were trained in the concept of Lesson Study through professional development programs on updating the content of secondary education. By engaging in Lesson Study, teachers build their professional level, learn how to integrate scientific ideas into school practice. Also, since 2018, the centers of pedagogical excellence began to train research coaches who acted as facilitators and provided targeted assistance to teachers in solving real pedagogical problems directly in practice. The best research practices have been showcased in the world symposia on Lesson Study (Beijing (2018), Amsterdam (2019) and Macau (2021)).

Noting the relevance of Action research as an important mechanism for improving professional practice, the research team of the Ministry of

Science and Higher Education (MSHE) grant project is working to integrate this approach into the practice of university teachers in the country (Baydildinova et al., 2022). The importance of this study is also justified by the fact that the requirements for school teacher certification include the presentation of the results of non-formal forms of research such as Action Research or Lesson Study. In this context, the development of methodological approaches and principles of Action Research implementation will provide theoretical knowledge not only for university teachers but also for school teachers. The practice-oriented nature of Action Research allows teachers to integrate scientific knowledge in practical educational contexts and allows teachers to learn through their actions, through their experience, through their research into their own professional activities. A valuable experience in conducting this research is the professional collaboration of the research team with academics at the University of Cambridge and the research internship (2023) on the theoretical underpinnings of Action Research and its planning, supervised by Dr E. Wilson from Homerton College, University of Cambridge.

Action research has a great potential for the development of teachers' research activity. A research approach integrates different forms and types of research. The implementation of Action research contributes to the actualization

of resources of the educational process. In this regard, the analysis and generalization of the development of this approach at the level of professional activity of university teachers is currently becoming a relevant area of research. In order to successfully integrate Action research into the research process, teachers need to strengthen their theoretical training, master the methodology, innovative technologies and methods.

Conclusion. The world educational practice actively develops models and methods of teachers' research activity development. One of the effective methods is recognized as Action Research, which unites teachers aimed at ensuring the quality of professional activity through their own research activity directly at their workplace, which acts as a research platform. Based on the principles of researcher's proactivity, reflection and self-reflection, creativity and self-development and mastering the ways of self-actualization, continuity, actualization of learning resources, synergy of efforts of the subjects of the educational process, Action research integrates different forms and methods of research directly in the practical activity of teachers, which ensures its efficiency and effectiveness. The effectiveness of integrating Action research into professional practice is a necessary condition that ensures sustainable change in pedagogical practice in higher education organizations.

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