

# Innovation of the Educational Process in Early Childhood Education Institutions

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## Abstract

Nowadays, the introduction of the latest means of development of early childhood education institutions is connected with the general trends of innovation processes in the economy and new social standards. The publication of new textbooks, and manuals, as well as equipping higher pedagogical education institutions with computer technology should meet the requirements of the development of new material bases and the challenges of professional development of early childhood teachers. Under such requirements, the goals, content, conditions, and expected consequences of the innovative development of the educational process in early childhood education institutions are being developed. The article aims to characterize the main directions and features of scientific research in the field of innovative development of the educational process carried out in early childhood education institutions. In the course of organizing and conducting both theoretical and practical components of this study, the analytical and bibliographic method was applied to study the scientific literature on the educational process in early childhood education institutions. Analysis, synthesis, induction, and deduction were employed in the processing of scientific information. System-structural, comparative, logical, and linguistic methods, abstraction, and idealization were used to study and process data. Moreover, the questionnaire survey served in the practical establishment of certain aspects of innovative processes in the field of education in preschool institutions. Based on the results of the study, the theoretical aspects of innovating the process of upbringing in preschool education have been studied. Moreover, the most essential factors, stages, and components of this process from the standpoint of its subjects have been clarified.

**Keywords:** components of pedagogical innovation, innovative development, professional training of preschool specialists, an algorithm of pedagogical innovation, innovative educational processes, improving the quality of education in preschool education

## 1. Introduction

The modern level of development of pedagogical science is characterized by innovations covering all aspects of the educational system, and reform processes aimed at creating conditions for the formation and development of a holistic, creative personality of the child. This leads to a child's successful further socialization and self-realization in society.

The theoretical part of this study substantiates the concept, components, main stages, and consequences of innovating the educational process in early childhood education institutions.

The practical part of the study includes the establishment of organizational foundations for the introduction of innovative approaches to the process of education in preschool institutions. It also examines the most effective

approaches in the implementation of modern scientific and pedagogical research on the introduction of innovations in the process of education, the main external socio-cultural and geopolitical factors influencing the innovative development of the educational process in preschool institutions. Moreover, the most promising directions of scientific research in the field of innovation in education have been outlined. It was also possible to obtain the results that are expected to be achieved as a result of the introduction of new approaches to the organization of the educational process in preschool institutions.

Based on the results of the study, conclusions were made on the issues raised. In particular, it is noted that the main organizational aspects that contribute to the introduction of innovative approaches to the process of education in environmental institutions are the creation of an effective educational environment in preschool institutions, the use of innovative educational technologies, and the focus on the individual creative development of the personality of the teacher of the preschool educational institution. Among the most effective approaches in the implementation of modern scientific and pedagogical research on the introduction of innovations in the process of education, the survey participants identified the conceptual and organizational-operational approaches. The main factors influencing the innovative development of the educational process in the institutions of general education are the inter-integration and development of the latest communication technologies. As for the most promising areas of the scientific study of education innovation, the respondents named the modeling of transformation of pedagogical educational practice, theoretical, methodological, and psychological training of participants in the educational process, and the choice of didactic, material, informational, and organizational means of education. According to the survey participants, these areas will be especially in demand in the practice of organizing the educational process in the coming years. It is expected to achieve a higher level of openness of educational institutions of the regions to pedagogical innovations and training of a new generation of pedagogical and managerial staff of preschool institutions, raising their professional and cultural level as a result of the use of the latest means of education.

## 2. Literature Review

Innovation in the educational system has become the subject of scientific research by many scientists in recent years. A thorough study and analysis of pedagogical and educational technologies allow us to identify the main structural elements, and processes of their formation and functioning, to understand the patterns of their formation and development (Forsling, 2021). The formation and influence of a positive learning environment in the educational sphere and its consequences on the main participants of the process (Stepanenko, Ohrimenko, Shaforost, Pasichnyk, & Pochynok, 2022). Study of the social content of the professional activity of psychologists in the educational process (Bosniuk, Ostopolets, Svitlychna, Miroshnichenko, Tsipan, & Kubitskyi, 2021). A system of formation and its diagnosis at all levels of innovative and entrepreneurial competence for future managers of education in the conditions of the knowledge economy has been developed (Bazeliuk, Kubitskyi, Rudyk, Ryabova, & Novak, 2021).

Pedagogical and educational innovations are considered special forms of pedagogical action and thinking aimed at introducing new forms of education in the educational space, or as a process of creating, implementing, and disseminating innovations in education (Dong, 2018).

The innovation process in education is a set of consistent, purposeful actions aimed at its renewal, changing the purpose, content, organization, forms, and methods of education and upbringing, an adaptation of the educational process to new socio-historical conditions (Lindeman, Svensson, & Enochsson, 2021; Magen-Nagar & Firstater, 2019; Mertala, 2019).

From the above definitions, one can conclude that the main goal of pedagogical innovation is scientific substantiation and ensuring continuous changes in education in the interests of the student and the teacher as carriers of the cultural communication of generations.

The conceptual framework of professional training of preschool teachers with the use of innovative technologies is based on the ideological, methodological, and value assumptions that are the basis for reforming higher pedagogical education. The leading aspect in the field of building the concept of professional training of educators and teachers of primary school with the use of innovative technologies is the idea of humanization and humanization of professional training of the educator for the dissemination of cultural values in society and simultaneously the realization of the spiritual and creative potential of the educator-specialist (Turner, Cardinal, & Burton, 2017; Parker, 2022).

We see computerization as an important conceptual prerequisite for the effectiveness of professional training of future teachers in the field of pedagogical education with the use of innovative technologies. It should provide a sufficient level of information culture for a modern teacher, and intensification of the educational process based on

the introduction of modern educational information and communication technologies (Allee-Herndon & Roberts, 2020).

One of the main conditions for the success of increasing the efficiency of the quality of education is to provide education, training, and professional training of specialists to work in the information society. Therefore, information and communication technologies have become a distinctive feature of modern education, part of a common educational space of educational systems in many countries, and an integral part of the educational process. In modern conditions of social development, the computerization of professional and pedagogical training of future educators should ensure the proper level of their information culture, increase the efficiency of the educational process through the introduction of new information technologies and create conditions for improving the management of training of future specialists (Nilsson, Ferholt & Lecusay, 2018; Pyle, DeLuca & Danniels, 2017).

The innovative development of the educational process in early childhood education institutions is seen as a complex of created and implemented organizational and substantive innovations, the development of many factors and conditions necessary to increase the potential of professional and pedagogical education of teachers. Among the innovations both in pedagogical education in general and in the field of education in particular, we see innovations that quite effectively improve the quality of professional training of future teachers. In addition, they create new improved pedagogical, didactic, and pedagogical systems, applying new educational technologies, as well as methods, and forms that contribute to improving the level of personal development, organization of training, and education (Heijden, Beijgaard, Geldens, & Popeijus, 2018; Neuman & Powers, 2021).

An important conceptual condition for effective innovative development of the educational process in preschool is the continuity of pedagogical training of future educators. The continuity of professional and pedagogical training of educators allows them to meet the needs of society in highly qualified specialists, to provide multilevel pedagogical training, to increase the scientific level of pedagogical programs taking into account the requirements of modern life (Bruns et al., 2019; Crouch et al., 2020; Bailey et al., 2017).

The gradual training of future preschool teachers should be based on the logical connection, sequencing, and continuity of pedagogical training at each educational level.

The research aims to determine the position of scientists conducting research activities in the field of control and improvement of the quality of preschool education, as well as heads of early childhood education institutions on the peculiarities of the components of the innovation of the educational process in preschool institutions.

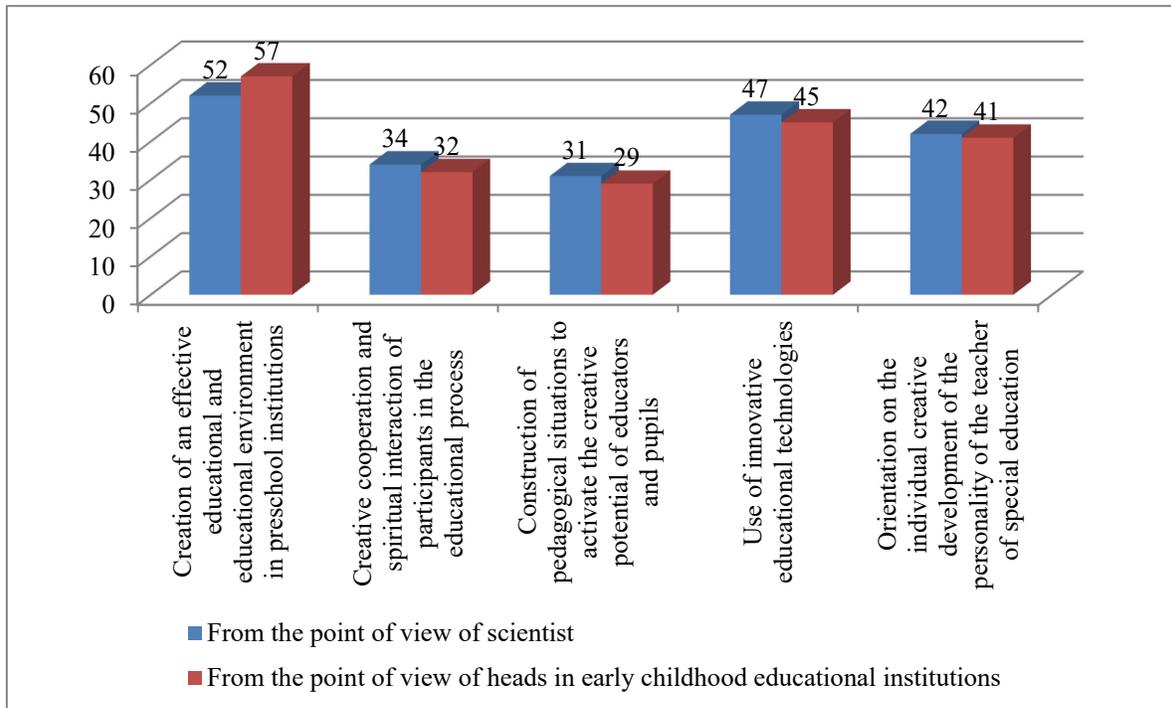
### **3. Methods and Materials**

A practical study of modern innovative trends in early childhood education institutions, which are carried out to optimize the educational process in this educational field, was conducted by surveying 173 scientists and 94 heads of early childhood education institutions working in preschool institutions of Cherkasy, Vinnytsia, Khmelnytsky and Kyiv oblasts of Ukraine. The study was conducted using the Survey Monkey service.

The Survey Monkey service allowed for the survey to be conducted efficiently and effectively, with data collection and analysis being done in real-time. The use of the Survey Monkey service also ensured that the survey results were accurate and reliable, with participants being able to provide their responses anonymously. Furthermore, the study's findings are significant as they provide valuable insights into the current state of early childhood education institutions in Ukraine and the trends that are shaping the field. The study's results can be used to inform policy and practice in early childhood education, as well as guide future research in the field. The practical study of modern innovative trends in early childhood education institutions using the Survey Monkey service provided valuable insights into the current state of early childhood education in Ukraine. The study's findings highlight the growing interest in incorporating modern tools and technologies into the educational process and the need for ongoing professional development programs and investments in technology infrastructure. The study's results can be used to inform policy and practice in early childhood education, as well as guide future research in the field.

### **4. Results**

During the survey, the participants identified the main most important organizational issues that contribute to the introduction of innovative approaches to the process of education in preschool institutions in the context of the general trend of improving the quality of all components of the educational process (Figure 1):

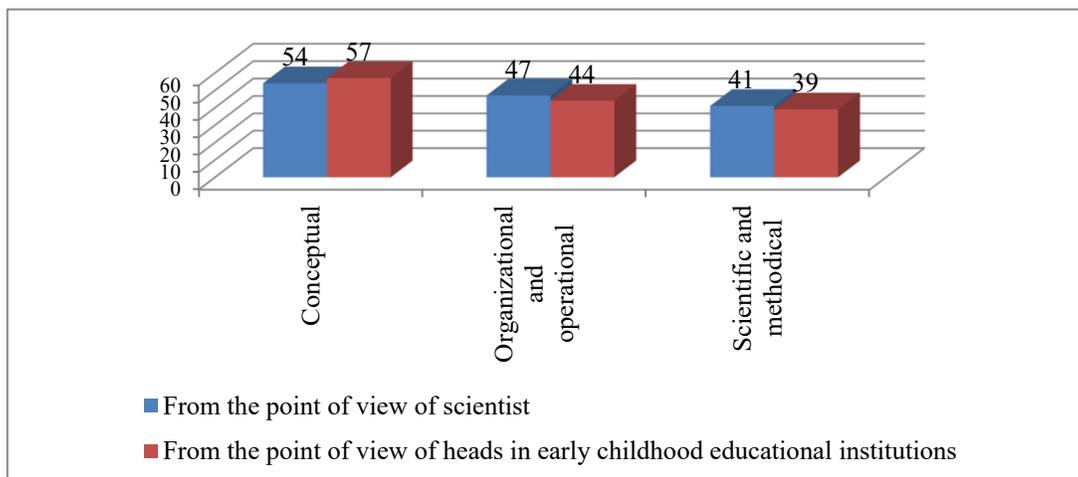


**Figure 1.** The Organizational Framework That Promotes the Introduction of Innovative Approaches to the Process of Education in Early Childhood Education Institutions, %

Source: built by the authors.

According to the survey, the most important elements of the organizational process from this point of view are the creation of an effective educational environment in preschool institutions, the use of innovative educational technologies, and the focus on the individual creative development of the personality of the preschool teacher.

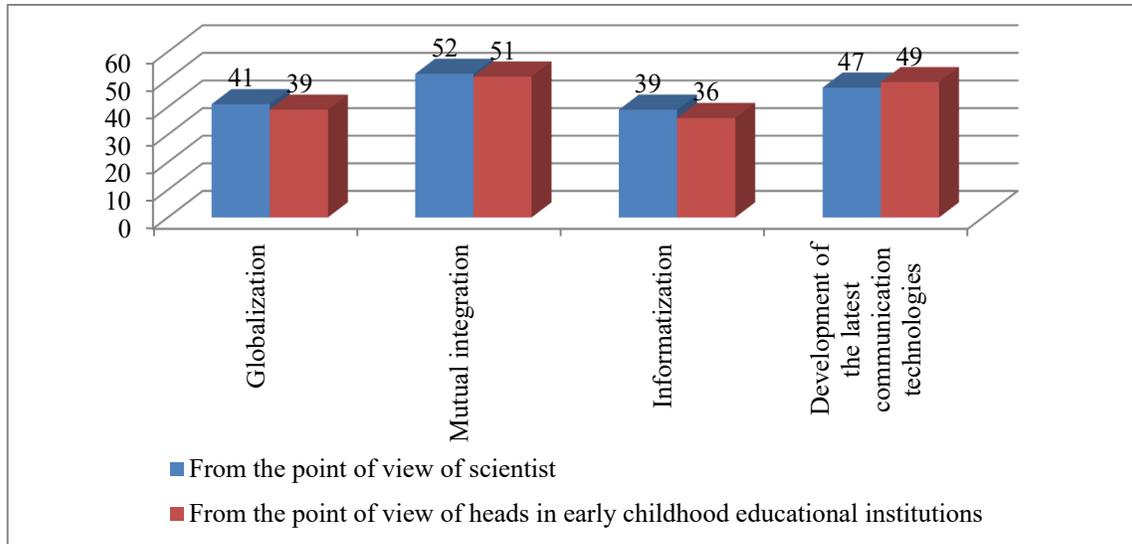
During the survey, the participants expressed their opinion on the most effective approaches to the implementation of modern scientific and pedagogical research on the introduction of innovations in the process of education (Figure 2):



**Figure 2.** The Most Effective Approaches in the Implementation of Modern Scientific and Pedagogical Research Introduction of Innovations in the Process of Education, %

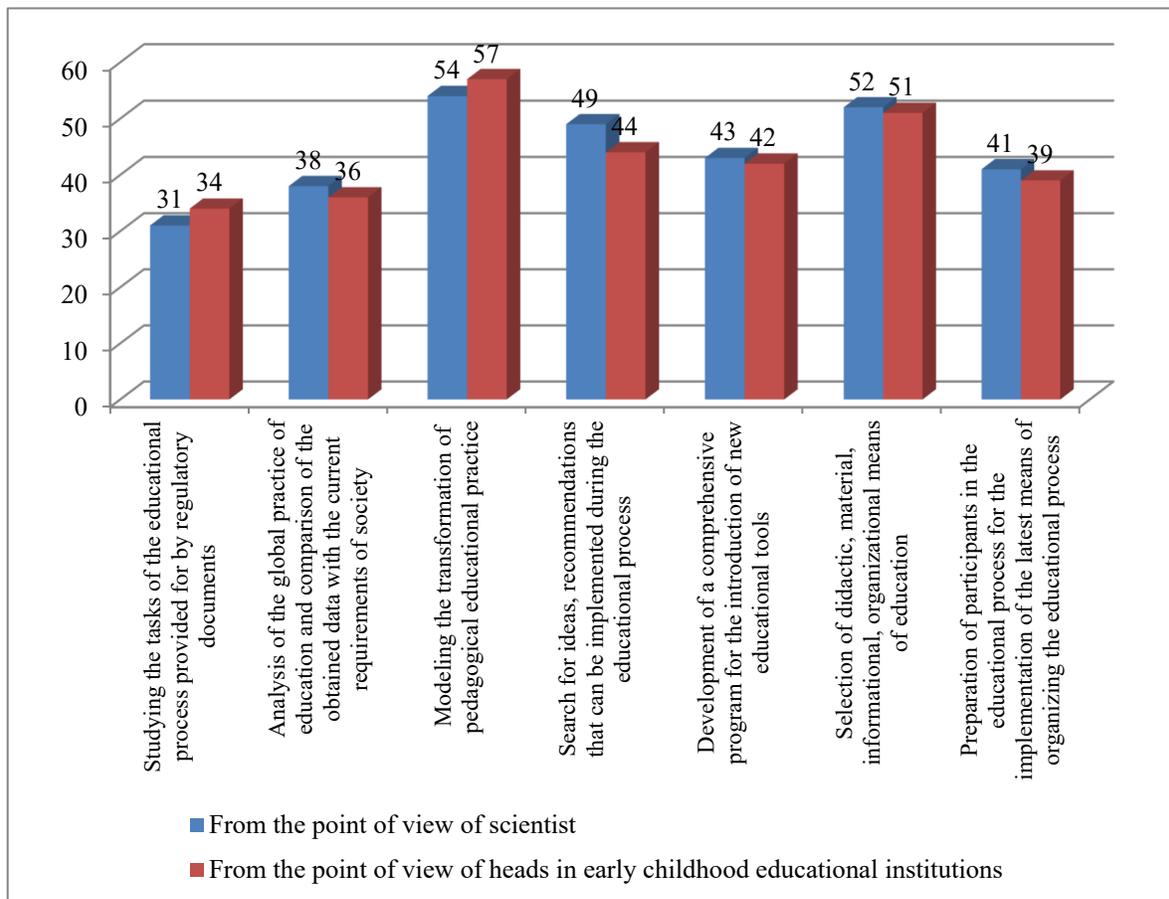
Source: built by the authors.

As can be seen from Figure 2, the most important from the point of view of scientific research in this area are the conceptual and organizational-operational approaches.



**Figure 3.** The Main External Socio-Cultural and Geopolitical Factors Influencing the Innovative Development of the Educational Process in Early Childhood Education Institutions, %

Source: built by the authors.



**Figure 4.** The Most Promising Areas of Scientific Research in the Field of Innovations in Education, %

Source: built by the authors.

During the survey, the main aspects influencing the innovative development of the educational process in early

childhood education institutions were identified (Figure 3).

According to the survey participants, such aspects are inter-integration and development of the latest communication technologies.

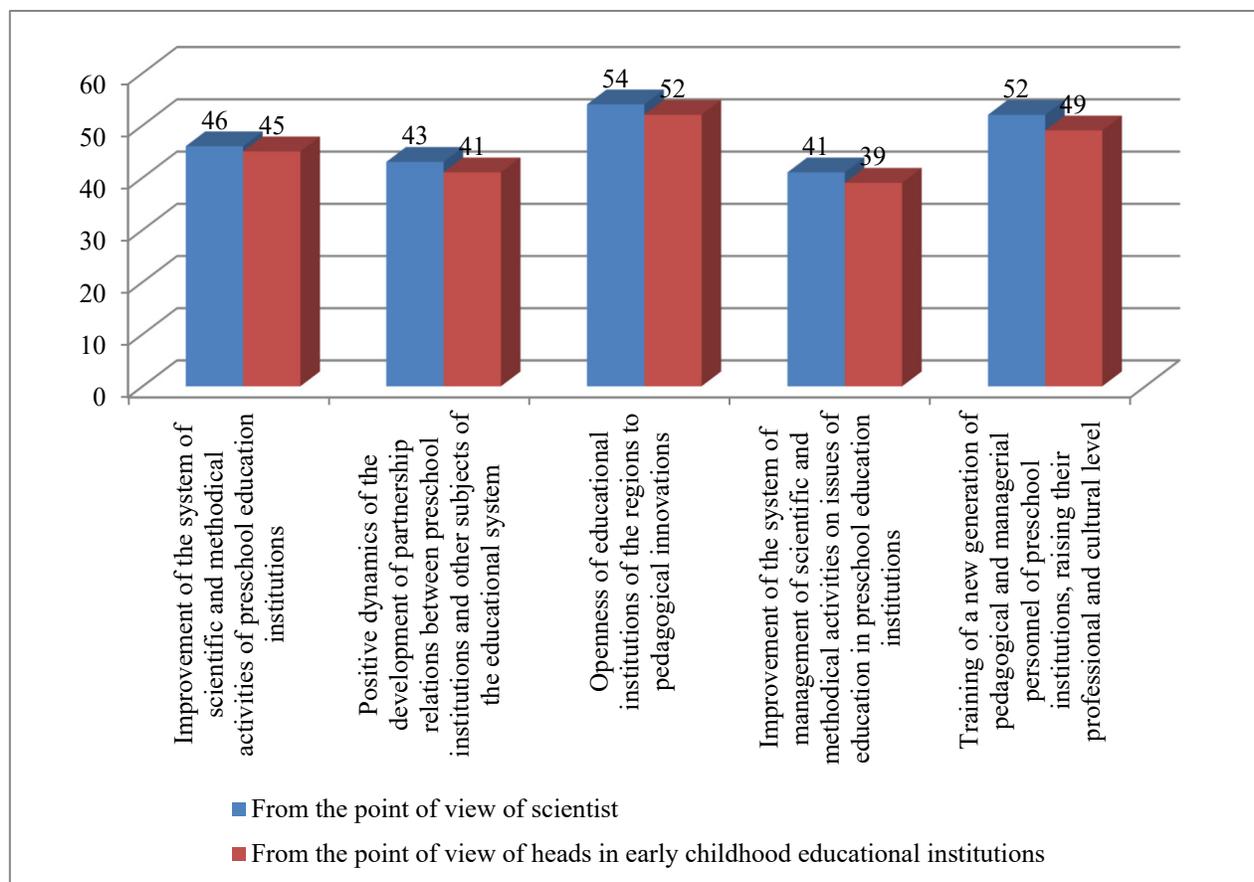
The respondents named the most promising areas of the scientific study of education innovation, which, according to the survey participants, will be especially in demand in the practice of organizing the educational process in the coming years (Figure 4).

- modeling the transformation of pedagogical educational practice based on the results of innovations in education;
- theoretical, methodological, and psychological preparation of participants of the educational process for the introduction of the latest means of organizing the educational process;
- selection of didactic, material, informational, and organizational means of education.

An important issue that was clarified in the course of the study is the outline of the results expected to be achieved as a result of the introduction of new approaches to the organization of the educational process in preschool institutions today (Figure 5).

As can be seen from Figure 5, resulting from the use of the latest means of education, it is expected to achieve a higher level of openness of educational institutions in the regions to pedagogical innovations and training of a new generation of pedagogical and managerial staff of preschool institutions, raising their professional and cultural level.

### 5. Discussion



**Figure 5.** The Results Expected to Be Achieved as a Result of the Introduction of New Approaches to the Organization of the Educational Process in Early Childhood Education Institutions, %

Source: built by the authors.

The modern educational process is impossible without constant innovative updating, application of new technologies, and adaptation to modern requirements of social development.

Such trends in the development of pedagogical science and practice as the combination of innovative changes with educational reforms, the development of international innovation and communication networks, state infrastructure for the coordination of innovation processes, and support of non-governmental organizations have played a significant role in the implementation of innovation processes in the last decade. Innovative activities of educators and their results provide an opportunity to substantiate the alternative pedagogical systems, overcome stereotypes of pedagogical and managerial activities concerning new goals and strategies in education, expand the use of networks of information sources, strengthen the social and educational role of the initiative of educators (Crouch & Merseeth, 2017; Crouch et al., 2020).

In the current conditions of preschool education development, the process of introducing innovations in all spheres of life of early childhood education institutions, regardless of their subordination, type, and form of ownership, is gaining momentum. As of today, the content of preschool education is being updated, and new programs are being developed. Moreover, a new system of interaction between early childhood education institutions with the external educational environment is being developed (Brock & Beaman-Diglia, 2018).

Educational innovations involve updating the content of education, methods, forms of education, and development and implementation of new and dissemination of existing pedagogical methods and systems. They are aimed at changing and updating all components of education and have a systemic nature. Innovative activities in early childhood education institutions are carried out in the following main areas: the development of new content of education, the introduction of new systems, methods, technologies, methods, techniques, means of teaching and education of children, creation of preschool institutions with priority areas of development and application of optimal management mechanisms of institutions, etc (Bryant, 2018; Li, Tan, & Yi, 2020).

The basis and content of innovative educational processes are innovative activities. Its essence lies in updating the pedagogical process and introducing innovations into the traditional system, which requires the highest level of pedagogical creativity.

Teachers engaged in innovative activities today can usually be divided into three groups. The first group includes teachers-inventors who develop new things as a result of their research. The second group represents teachers-modernizers who improve the elements of the created systems and use them in a new way to obtain a positive result. The third group consists of master teachers who quickly recognize both traditional and new approaches and methods and apply them thoroughly (Ozokcu, 2018).

The result of innovative educational processes is the use of theoretical and practical innovations. Educational innovations involve updating the content of education, methods, forms of education and upbringing, development, implementation of new and dissemination of existing pedagogical systems, comprehension, and support of changes by educational teams aimed at updating all components of education and having a systemic nature. Creating conditions for improving the quality of preschool education, taking into account the multidimensionality of the interaction of a modern child with the outside world, gives grounds to realize the need and expediency of a versatile construction of educational activities, stimulating innovative processes in the educational space and shaping the diversity of modern educational reality. This was most clearly manifested in the formation of innovative types of early childhood education institutions, the formation of a humanistic paradigm of preschool education, the introduction of various types of personality-oriented educational models into the practice of early childhood education institutions (Vujicic & Tambolas, 2017).

## 6. Conclusions

The analysis of the scientific literature on the topic of the study and the results of the survey showed that the social demand for an independent, creative, healthy, inquisitive personality is the main guideline in the design and content of modern preschool education. The successful application of the latest technologies in the development of the educational process and the implementation of innovative processes of personal and professional development of educators meet the current trends in the development of the European educational paradigm and will contribute to the efficiency of higher education. Additionally, it was found that the effective use of modern tools and technologies in distance education is essential for achieving positive learning outcomes. These tools, such as video conferencing, online collaboration platforms, and multimedia content, can enhance student engagement and interaction, provide flexible learning opportunities, and enable personalized learning experiences.

So, the integration of modern tools and technologies in distance education is a crucial step towards meeting the demands of the modern education system. The implementation of innovative personal and professional development programs for educators and the use of sophisticated tools and pedagogical strategies will contribute to the efficiency of higher education and enhance student learning outcomes. For an independent, creative, healthy, inquisitive personality is the main guideline in the design and content of modern preschool education. The successful application of the latest technologies in the development of the educational process and the implementation of innovative processes of personal and professional development of educators meet the current trends in the development of the European educational paradigm and will contribute to the efficiency of higher education.

Future research directions in the field of modern tools for distance education should focus on the development of more sophisticated and innovative tools and pedagogical strategies. Research should also explore the impact of these tools and strategies on student learning outcomes and assess their effectiveness in meeting the social demand for independent, creative, healthy, and inquisitive individuals.

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