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Development of the Professional Competence of Bachelors in Preschool Education Through Online Interaction

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Abstract. The article discusses the issue of pre-service professional training of preschool teachers on the example of the course Workshop on Children's Play Activities for students of the first (Bachelor's) level of higher education of the educational and professional program 012.00.01 Preschool Education. This paper focuses on the ways of developing the professional competence of Bachelors of Preschool Education through online interaction. The place of the course Workshop on Children's Play Activities in the e-learning system of Borys Grinchenko Kyiv University is presented. The article describes the structure of the electronic online training course, the logic of thematic unit mapping of the course. Authors suggest effective services and resources for online interaction of participants of the educational process, namely: during lectures (Google Meet, Google Chat, Google Hangouts, Google Classroom, Webex, Zoom, Lucidspark, Agile, Canva, Mentimeter, Kahoot, Piktochart); seminar sessions (Hangouts, Zoom, Easel.ly Padlet, Piktochart, AnswerGarden, Slides, Prezi, Learningapps, Socratic); and practical classes (Microsoft Teams, Migo, Whiteboard, Agile Workflows, Class Dojo, Mural, GoAnimate, GIFAnimate, Slasstools, Learningapps, Triventy, Yumpu, Emaze, Genially, Flippity, Wordwall, Kahoot). Authors claim that usage of information and communication technologies is effective for facilitating online interaction, increasing students' engagement with theoretical material, and making the preparation to seminars and practical classes easier for students. Using the suggested services and resources will allow the organization of dynamic and engaging classes, as well as promoting active interaction with students even in online setting.

Keywords: Online Interaction · Professional Competence · Information and Communication Technologies · Play Activities · Forms

1 Introduction

The experience of organizing the educational process in a distance form during the COVID-19 pandemic assisted higher education institutions in adapting to new realities – the introduction of Martial Law in Ukraine. The period of dynamic digital transformation, and the availability of digital technologies and tools allow professionals to

discover new ways of developing distance learning. However, completing tasks in the online format and the summative assessment in the form of an online test is expected to lead to difficulties for students of specialty 012 Preschool Education during direct interaction with children. According to the educational and professional program 012.00.01 Preschool Education of the first (Bachelor's) level of higher education for students at Borys Grinchenko Kyiv University (Ukraine), a graduate should develop a number of professional competencies, including the ability to support the play activities of young children during early childhood. This competence is primarily formed on the content of the course Workshop on Children's Play Activities and is also integrated into the study of other courses on teaching methods. Therefore, preparing students of the first (Bachelor's) level of specialty 012 Preschool Education for organizing the leading activity (play) of preschool children in an online setting is a considerable challenge.

2   Analysis of Publications

The analysis of psychological and pedagogical literature on play activities of preschool children gives grounds for concluding that this issue is relevant and important. The study of didactic principles and methodological approaches, which were developed in the course of historical development on the issue of play activities of preschool children, emphasizes their theoretical significance and is the basis for further justification of psychological and pedagogical support of the child's play.

The theoretical and methodological foundations of supporting the play activities of preschool children are presented in the works of contemporary scholars O. Bezsonova, H. Bielienka, N. Havrysh, N. Kudykina, T. Ponimanska, T. Pirozhenko, K. Karasova, O. Kornieieva, K. Krutii, O. Staienna and others.

Further study of the research problem requires identification of the main mechanisms of formation of professional competence of Bachelors of Preschool Education in online setting. The results of the literature analysis indicate that raising the quality of training of future educators is a priority for the system of higher education. Much research on the issue of using information and communication technologies in the educational process of higher education institutions has been done.

Psychological and pedagogical aspects of the use of information technologies in the educational process are discussed in the research of V. Bykov, O. Buinytska, S. Vasylenko, L. Varchenko-Trotsenko, A. Hurzhii, V. Lapinskyi, N. Morze, O. Spirin and others. Researchers of the issue of effective use of information and communication technologies in the educational process of higher education institutions S. Vasylenko and N. Morze studied common innovative technologies, ICT, and best pedagogical practices, and did comparative research of digitalization across EU universities [1].

The issue of forming digital competence was studied by O. Buinytska and S. Vasylenko, who have developed a corporate standard for the digital competence of a university instructor and mapped detailed skills of instructors in accordance with the levels of digital competence formation and areas of its application [2]. Recently, a group of researchers from Borys Grinchenko Kyiv University conducted research on the use of digital technologies for formative assessment [3]. The issue of developing methodological approaches to research of various types of tools used in online setting raises

scholarly discussions. O. Torubara and E. Kleino made a classification of the issues of using ICT in higher education [4]. M. Miastkovska, I. Kobylianska and N. Vasazhenko analyzed the shortcomings of the use of information and communication technologies in higher education institutions [5]. The issues of using ICT in higher education are a certain focal point combining the personal and social aspects of choosing a teaching career.

The results of the analysis of theory and practice show that scientific and practical conferences are systematically held at various levels on the implementation of e-learning and distance learning in higher education institutions. In particular, CEUR. Workshop Proceedings and ICTERI: International Conference on ICT in Research, Education and Industrial Applications provides an opportunity for scholars and practitioners to get acquainted with high-quality developments, innovations in the field of ICT and use them in their professional activities [6–8].

International research on the integration of digital technologies in preschools shows that ICT is used in various ways: to enrich and transform existing curriculum and practices; to enhance children's cultural literacy and narrow the gap for young immigrant children; to keep children busy; to communicate and document preschool practices [9]. As Hernwall argues, it is important for preschool teachers to have a high level of digital proficiency and know how to support the child's development by means of ICT [10]. At the same time, it is also important for instructors to know how preschoolers use technology in their families to bridge the gap between various patterns used by children in different settings. According to Zevenbergen and Logan, the majority of preschool children use technology for some educational activities under the supervision of adults (79.54%), non-educational activities (59.90%), and drawing (48.92%) [11]. As a result, it is important for preschool teachers to develop a diverse repertoire of gamified activities using ICT for their learners. Authors believe that ICT has the potential not only for overall child development but to transform children's play activities in particular.

The purpose of the study is to prove the feasibility and positive impact of using ICT in online interaction to form students' competence in supporting the play activities of children of early and preschool age on the example of the Workshop on Play Activities course.

3   Discussion

We designed a multi-stage experiment on the research issue. The first step was administering a pre-test. We were guided by the following research questions: 1) identifying student readiness to develop the play competence of preschool children and 2) identifying the attitude of students to incorporating various tools of online interaction, as well as finding out which services students usually use during online interaction.

3.1   Students' Readiness to Develop the Play Competence of Preschool Children

The authors have identified the following criteria and indicators of students' preparedness for the formation of play competence in preschool children:

– motivational and emotional criteria (indicators: motivation to use play as the main type of activity of children; tolerance to the child's opinion and replicating lived experiences in games; emotionally correct reaction to changes in the rules of the game and behaviour of the child; motivation to demonstrate values of group solidarity while playing games (humanity, responsibility, justice, self-control, friendliness, positive communication, tolerance); emotional support of game activities, using expressive means during the game (emotional and expressive movements, facial expressions, pantomimic, the timbre of voice, role-playing, etc.); responsible attitude to children's choice and performance of the role; readiness to reflect on the game);
– cognitive criteria (indicators: knowledge about various types, names of games and their content; understanding actions in creative games and rule-based games; ability to involve children in a common game; the formation of role-based ways of behaviour in games; following the rules and etiquette of communication while playing games; understanding the possibilities of the game environment; identifying reasons and consequences of successful and unsuccessful games);
– action-based criteria (indicators: the ability to apply methodological tools of supporting game activities of preschool children; demonstrating creativity, critical and logical thinking, ability to make non-standard decisions in various situations in games; following the rules of a role-play (admitting, decision-making, equity, support, etc.); creative usage of the game environment and designing the game field).

The authors used observations, individual interviews, analysis of student artefacts, and surveying. While conducting the pre-test to study students' preparedness to form the play competence of preschool children, observation was used as the main research method. We observed students during their practical training in kindergartens. In particular, we focused on how students supported children's play. The data obtained from the observation indicate that 85% of students know the types of children's plays, characteristics of children's plays in different ages (78%), methods and techniques of supporting children's play activities (64%), recommendations of educational programs for children's play in a different age (74%), etc. However, not all students can apply their theoretical knowledge into practice (36%).

Students demonstrated good skills of organizing and conducting outdoor games with various levels of activity for children, didactic games, and activities from different sections of the curriculum during organized forms of interaction with children. A majority of students (63%) suggested children playing games that they themselves played in childhood, which raised the interest of children, causing sympathy and establishing a certain level of affinity.

The most difficult thing for students was to support story-based role-playing and creative games of children. Young children suggested some students (43%) to play the roles of «dad», «grandmother», «dog», «parrot» etc. The unwillingness and reluctance of a number of students to play along with the children and to take on the offered roles have actually led to stopping the game at this stage. Students explain their reluctance in playing along with children at their request by noticing that «… you have to be an actor».

Another issue raising our concern during the observations was the inability of students to apply techniques to support children's play into practice. These techniques

include conversations with children about a new literary work (video, excursion, walk, something seen on weekends, etc.); making an attribute for games and introducing it to the group for further use; showing children and directly using substitute items, etc.

The results of our observations give grounds to the conclusion that most children, when left without the guidance of an adult, are not able to organize independent activities and make meaning of it: they wander, push, sort and throw toys, etc. Thus, supporting children's play, directing it, developing it by introducing a new attribute, substituting items, and introducing new characters is important for young children, yet difficult for students (43%). In individual interviews and reflections, students admit that they are not ready to «rise to the level of children» and «completely immerse themselves in the play with children», because «we are adults, and they are little children».

The pre-test aiming at identifying the students' preparedness to form the play competence of preschool children has also comprised administering an anonymous survey of students. It included the following questions: «What approaches to classifying children's games do you know?», «What is common and different in the structure and support of didactic games and didactic activities?», «Name and characterize the methods and techniques of supporting children's play», «Choose the games that you know how to support», and «Personally for you, what is the most difficult thing when supporting children's plays?».

The analysis of the results of an anonymous survey of students in numerical data has coincided with the results of our observations. When answering the question «What approaches to classifying children's games do you know?», 85% of students gave correct answers, 12% of respondents gave incorrect answers, and 3% of respondents refused to answer. When answering the question «What is common and different in the structure and support of didactic games and didactic activities?», 64% of students gave correct answers, 23% of respondents gave incorrect answers and 13% of respondents did not give an answer. When answering the question «Name and characterize the methods and techniques of supporting children's play», 79% of students gave correct answers to a theoretical question, and 15% of respondents made mistakes.

Students' answers to the question «Choose the games that you know how to support» actually mirrored our observations during pedagogical practice: 43% of students chose role-plays and indicated specific difficulties they have in supporting them; more than 30% of students indicated that they do not know how to support them but want to learn; 12% of respondents did not want to answer this question.

In the answer to the survey question «Personally for you, what is the most difficult thing when supporting children's plays?», the majority of students (64%) have chosen «Applying theoretical knowledge into the practice of working with children»; 18% of respondents reported it being an approach/method to support children's play; 10% of students noted that the most difficult thing for them is to adapt their language use to the level of child's language; 8% of respondents noted their unwillingness «to take the role of an actor» in children's games.

Overall, the results of the ability of students to form play competence of preschool children during the pre-test are the following: 43% of participants demonstrated insufficient level, 46 respondents demonstrated sufficient level, and 11 pre-service teachers demonstrated high level.

Due to Russian full-scale invasion in Ukraine, we have been living and studying under a state of «delayed danger» for two consecutive years, being continuously exposed to the possibility of bombing and shelling. As a result, the educational process at Grinchenko University is being conducted online. The scope of the pre-test was also guided by our attempt to identify the attitude of students toward incorporating various tools of online interaction, as well as finding out which services students usually use during online interaction. To answer this research question, we used such research methods as interview, survey, and analysis of student artefacts.

The following questions were used to conduct an anonymous survey: «What are the digital tools that you use most often when learning our course and why?»; «What are the digital tools that you think are most helpful for learning our course and why?»; «What are the digital tools that you think are unnecessary in learning our course, and why?»; «Give your suggestions for adding new digital tools to our e-learning course».

In the response to the first question of the survey «What are the digital tools that you use most often when learning our course and why?», 92% of students indicated Google Meet, Zoom, Padlet; 5% of students chose AnswerGarden, Slides, Google Chat, and 3% of students did not answer.

In the response to the first question of the survey «What are the digital tools that you think are most helpful for learning our course and why?», 86% of respondents mentioned Learningapps, Genially, Flippity, Padlet, Kahoot; 15% of students replied with GoAnimate, Genially, Flippity. When justifying their answers, students prioritized the user-friendliness of the interface and free-of-charge usage of tools, the availability, and scope of useful material, as well as bright photos and videos provided to incorporate in children's games.

Students' answers to the third question «What are the digital tools that you think are most helpful for learning our course and why?» were distributed as follows: 88% of respondents indicated there were no such tools in the e-learning course, 15% of students named Genially, Canva, Kahoot; Flippity, 7% of respondents refused to give an answer. Explaining their answers, students mentioned the difficulties with logging in, limited time to use (trial period), and numerous explanations in English, etc.

When answering the fourth question «Give your suggestions for adding new digital tools to our e-learning course», 89% of students indicated that no changes to the e-learning course are needed. In their opinion, the most important thing is a fast victory over enemies and a return to the offline educational process in brick-and-mortar classrooms; 11% of students suggested incorporating the following online tools in the e-learning course: Class Dojo, modifications of mBot, VR-zone, Lucidspark, and Agile; 2% of students refused to suggest anything.

The analysis of the results of the pre-test of the experiment became the basis for conducting the intervention stage of the experiment.

3.2 Syllabus Outline to Teach Using ICT within the Course Workshop on Children's Play Activities

We The educational and professional program 012.00.01 Preschool Education for the first (Bachelor's) level of higher education at Borys Grinchenko Kyiv University (Ukraine) [12] provides for the study of the Workshop on Children's Play Activities course. This

is a 180-h (6 credits) course. According to the structural and logical scheme of the educational and professional program, students study the educational component during the 7th and 8th semesters. The summative control is in the form of a credit.

The purpose of the Workshop on Children's Play Activities course is to develop the professional competence of future specialists in the field of preschool education through the study of theoretical and methodological foundations of play-based activities of preschool children at an educational institution and in the family.

Main objectives of the course:

– formation of students' skills in developing basic personality traits in children of early and preschool age through play activities;
– formation of knowledge about the peculiarities of organizing play activities for children of early and preschool age;
– formation of skills to provide pedagogical support for the play activities of preschool children using pedagogical methods and approaches.

The objectives of the course provide for the formation of the integral competence. Integral competence is the ability to solve complex specialized tasks and practical problems in the field of Preschool Education aiming at the development, teaching and fostering children of early and preschool age. It provides for the use of general psychological and pedagogical theories and professional methods of Preschool Education, and is characterized by complexity and uncertainty of conditions;

General competence (GC)-5. Ability to ensure the quality of work performed: plan, make predictions and anticipate the consequences of personal professional and innovative activities;

Special competence (SC)-2. Ability to develop basic personality traits in children of early and preschool age (independence, creativity, initiative, freedom of behaviour, self-awareness, self-esteem, and self-respect);

SC-6. Ability to teach children of early and preschool age the skills of conscious compliance with socially recognized moral, ethical norms and rules of behaviour;

SC-13. Ability to organize and manage play activities of children of early and preschool age.

This course is taught using online resources provided by the University. Each student has their personal student account at Borys Grinchenko Kyiv University. The e-learning system on the Moodle platform hosts a developed e-learning course Workshop on Children's Play Activities. The developed mobile application to the system allows you to do and submit the tasks offline. Online classes are organized using the services Google Meet (for Education), Google Chat, Google Hangouts, Google Classroom, Webex (Enterprise), and Zoom. To enhance the user experience and educational experience of students with the course, the information block of the e-learning course contains a syllabus, assessment criteria for each type of task, a course map, a glossary, and recommended sources, including internet resources. Taking into account the results of the pre-test of the experiment, we improved the content of the educational component Workshop on Children's Play Activities by enhancing it with a greater variety of digital ICT tools.

When developing the scope of material for lectures, seminars and practical classes, we took into account a number of characteristic features of plays of preschool children, namely: the shallowness and simplicity of plots; copying plots of popular movies and

cartoons; unwillingness of children to stick to the rules of the game; the inability and unwillingness of children to use role-playing speech and act out role-plays; enacting roles of fictional television characters (Spider-Man, ghosts, etc.). The enormous gap between the children's play and the lives of their close circle of adults may indicate that social life and gradual transition into the adult world are no longer the content of children's plays, as it was envisioned by the classical psychological concept of children's play. As a result, the development of the plot of games in preschool age affects the overall mental and personal development of children.

The research results prove that modern children are not able to organize meaningful independent activities without an adult's support. Most children lack imagination, creativity, and independent thinking. And since preschool age is a sensitive period for the formation of these important qualities, it is highly unlikely they will be formed at a more mature age. Lack of imagination and creativity also affects the communicative development of children. Preschoolers, who do not know how to play, are not able to participate in meaningful communication, collaboration, and lack conflict resolution skills. As a result, children become more aggressive, alienated, and hostile towards their peers.

Due to the above-mentioned, in this course we focus the attention of our students on the importance of «pedagogical support» of preschool children's games, as opposed to the outdated concept of «leadership» in children's games. Pedagogical support is aligned with the person-oriented approach in organizing educational interaction with children.

The e-learning course provides theoretical material for each lecture, a visual aid in the form of presentation, and a list of additional resources. If absent, the student can work with these materials independently. If necessary, they can get an individual consultation using the Forum resource in the e-learning course or by e-mail. It is effective to use such digital tools and resources as Lucidspark (a virtual whiteboard where you can create tasks, projects, collaborate and discuss the project), Agile (a resource for planning the study of the material); Canva, Mentimeter, Kahoot, Piktochart (creating presentations, demonstrating lectures, surveys, built-in templates, and animation to diversify the theoretical material). Implementing these resources and tools does not cause any trouble for students, aids better understanding of the content, and creates positive emotional attitudes in students towards the learning process.

The content of seminars and practical classes, recommended resources with active hyperlinks, recommendations for doing tasks and assessment criteria are available in the e-learning course. Seminars are held using such digital tools as: Hangouts, Zoom, Easel.ly, Padlet, Piktochart, AnswerGarden, Slides, Prezi, Learningapps, Socratic, etc. These services enhance students' experience with the e-learning course, raise their interest in studying theoretical material, and make the process of preparing for classes easier for students.

During the seminar classes, students learn the methodological foundations of the Play Theories; the structure of preschool children's play activities and stages of its development; classification of preschool children's games; program requirements for pedagogical support of preschool children's play activities; features of diagnostics, planning, and support of children's play activities. We engage all students in the group participation during the classes with the use of interactive teaching methods (such as Microphone,

World Cafe, Socrates Dialogue, Debate, Aquarium, Brainstorming, Six Pairs of Shoes, Vernissage, Take a position, etc.).

According to the Memorandum of Understanding between the Ministry of Education and Science of Ukraine and The LEGO Foundation On Cooperation in the Field of Education and Science [13], the special course Comprehensive Development of the Child Through Play is integrated into this course in two modules: Play in Contemporary Setting; Play as a Tool and Mechanism of Educational Activities in the Preschool Education System (60 h). The purpose of the special course is to prepare pre-service teachers to introducing the play as a universal approach to interacting with preschool children, ensure the comprehensive development of children and continuity between preschool and primary stages of education in the context of the implementation of the State Standard of Preschool Education and the Concept of the New Ukrainian School. These modules include only practical classes delivered in the form of trainings organized using the Google Meet (for Education) and Webex (Enterprise). The usage of digital tools and resources, such as Microsoft Teams, Miro (used for teamwork, chatting and file sharing); Whiteboard (for visualizing ideas); Agile Workflows (easy project planning, clear definition of deadlines in projects); Class Dojo (a convenient tool for evaluating students in real time); Mural (allows you to visualize collaboration in the form of diagrams as a result improving the ability to make joint decisions and implement common ideas) proved its effectiveness in this course. These digital tools and resources do not require advanced skills of using the PC and can be easily integrated with meetings in Google Meet, Webex, or Zoom.

According to the State Standard of Preschool Education [14], plays of preschool children fall into two categories: games organized by an adult and free amateur game of a child. In the final two content modules of the course on Workshop on Children's Play Activities, students learn to create algorithms for various types of plays, engage with children during the playtime, and employ indirect methods and techniques to support and encourage children's plays. In this course, students develop team projects (Playbook, Playday, Day without Toys, Playdate, etc.), and learn how to create content for online games using digital tools and resources (GoAnimate, GIFAnimate, Slasstools, Learningapps, Triventy, Yumpu, Emaze, Genially, Flippity, Wordwall, Kahoot, etc.). Implementing these resources and tools creates favourable environment for developing logical and creative thinking; looking for feasible ways to support children's games even when this task is not explicitly given; developing an information culture.

When developing the content of seminars and practical classes for students, we incorporated materials developed as a result of the cooperation of the Ministry of Education and Science of Ukraine with The LEGO Foundation (LEGO construction program (2010) [15]; Curriculum for educating children of early and preschool age EDUCATION & CARE (2021) [16]; Curriculum for child development from 2 to 6 years, and methodological recommendations Infinite World of Play with LEGO (2016) [17]; Curriculum «Intellectual Mosaic» (2022) [18]; Supplemental curriculum Creators of the Future (2022) [19]). Students are asked to familiarize themselves with these programs, compare them, highlight life hacks, etc.

To develop information and digital, subject and methodological competencies of the participants of the educational process, the Center for Innovative Educational Technologies (ICR class) [20] was created based on the Faculty of Pedagogical Education. Students work there as a part of the study of the educational component Workshop on Children's Play Activities. The ICR class was created as part of the implementation of the international scientific project Modernization of Higher Education Using Innovative Teaching Tools (MoPED) funded by the Erasmus + program. Three working zones of the ICR class (STEM-Lab, IT-Lab, and VR-zone) create opportunities for the use of innovative teaching methods (IBL, PBL, and PrBL); integrated learning and competence approach in implementing elements of STEAM education in play activities for preschool children; digital tools for accompanying play activities; 5E research learning model; technologies of flipped classroom and blended learning; virtual and augmented reality software, etc. For example, when studying the topic Play of Young Children and its Pedagogical Support, we use VR-zone to teach pre-service teachers using virtual and augmented reality. While working with virtual and augmented reality students use textbooks and manuals with built-in mini lessons, explore the development of play activities of young children, and game attributes for young children. IT-Lab is a zone for working with information technologies, allowing you to create a team project Play Space for Young Children, develop a project plan and presentation materials about the project implementation. While studying the module Peculiarities of Organizing Various Types of Games for Preschool Children in the STEM-Lab zone, students create content of online games for preschool children in the digital space. Using the existing Makeblock laboratory (robotics) STEM Classroom Kit mBot, students create engaging and exciting games for direct interaction with preschoolers.

A majority of end-of-module assessments are in the form of practice-oriented questions (pedagogical scenarios) that require thorough knowledge of the methodology for organizing support for play activities of children of early and preschool age. For example: «A teacher saw in a neighbouring preschool institution how children were playing fishing games in an interesting way. To introduce this game in her group, she made her own fishing accessories and offered children the theme of the game. The game did not work out well and the teacher always had to tell the children what to do next. Why do you think the play didn't work out. How can you make sure that all children actively participate in the game and can perform both main and secondary roles? Suggest an algorithm of preparing the suggested game»; «Plan the preparatory stage of teacher's interaction (forms, methods, techniques) with children aiming to enrich the game experience by organizing a role-play «Theatre» for children of the senior group of kindergarten. Make sure to provide for educational interaction between the teacher and children on getting acquainted with theatre jobs and plan artistic activities to create sets, costumes, and posters» etc.

Ways of Implementing ICT in the Workshop on Children's Play Activities course is given in image. (Fig. 1).

Individual module assessments are in the form of tests. The test has 25 questions of different levels of difficulty. The tests are developed on the Moodle platform. We also use tools for implementing gamification elements, interactive activities (crosswords, puzzles, test tasks etc.) using H5P. Module tests include various types of tasks: multiple
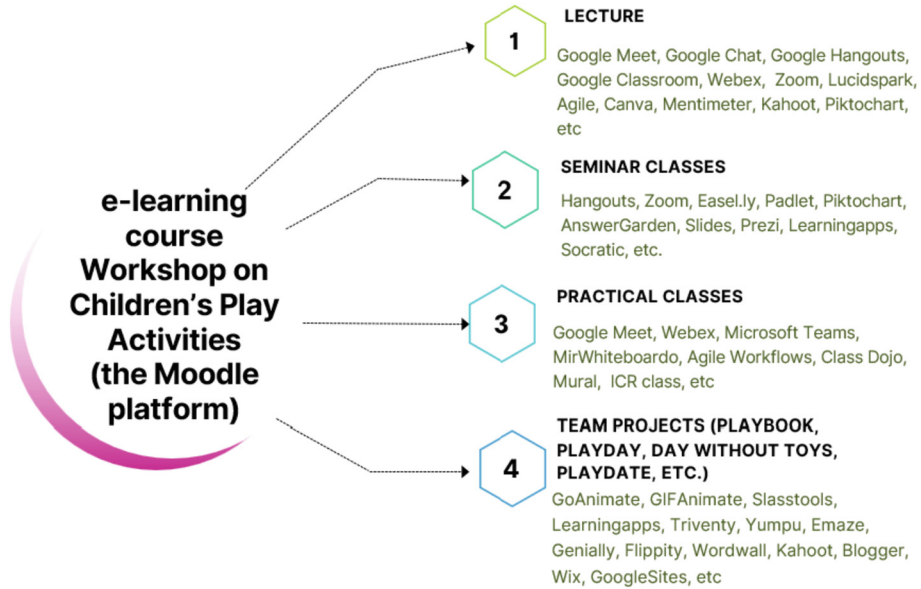
Fig. 1. The level of formation of artistic competence

choice questions, true/false questions, matching activity, providing a short answer, drag and drop, and labelling the image. Self-study work involves creating a Play-portfolio hosted on the Blogger, Wix, or GoogleSites platform.

3.3   Research Results

During the intervention stage of the experiment, the same set of methods of research as during the pre-test were used. They were tailored to research the peculiarities of using various digital tools and resources in the educational process. The results of the analysis of students' responses to the first question of the survey showed that when studying the course, all students (100% in contrast to 92% of students in the pre-test) who took part in the study, use such digital tools as Google Meet, Google Chat, Google Hangouts, Google Classroom, Webex (Enterprise), Zoom, and Padlet. Also, 100% of students indicated that they started using the following digital tools and resources: Lucidspark, Agile; Canva, Mentimeter, Kahoot, Piktochart, Easel.ly Piktochart, Prezi, Socratic, Microsoft Teams, Migos, Whiteboard, Agile Workflows, Class Dojo, Mural, GoAnimate, GIFAnimate, Slasstools, Learningapps, Triventy, Yumpu, Emaze, Genially, Flippity, Wordwall, Kahoot, etc. The number of students using AnswerGarden and Slides has increased to 9% (it was 5% in the pre-test). There were no students who did not wish to answer the question. Observations of students' activities during the study of this course confirmed the results of the survey.

In the answers to the second question of the survey, 92% of students (against 86% in the pre-test) indicated the following digital tools as the most effective services for mastering this course: Learningapps, Genially, Flippity, Padlet, Kahoot; and 21% of

respondents (versus 15% in the pre-test) named GoAnimate, Genially, and Flippity. At the same time, 96% of students ranked the following digital tools and resources as effective: Lucidspark, Agile; Canva, Mentimeter, Kahoot, Piktochart, Easel.ly Piktochart, Prezi, Socratic, Microsoft Teams, Migos, Whiteboard, Agile Workflows, Class Dojo, Mural, GoAnimate, GIFAnimate, Slasstools, Learningapps, Triventy, Yumpu, Emaze, Genially, Flippity, Wordwall, Kahoot, etc.

In the answers to the third question of the survey, 100% of students (against 88% in the pre-test) indicated that no irrelevant services were found in the e-learning course, and 4% of students (against 15% in the pre-test) indicated the complexity of using such services as Genially, Canva, Kahoot, and Flippity, still mentioning difficulties with logging in, limited time to use (trial period), and numerous explanations in English, etc. On the fourth question, 96% of students indicated that no changes to the e-learning course are needed, and only 4% of students suggested adding such digital tools as: Class Dojo, modifications of mBot, and VR-zone.

Analysis of the results of the survey and observation of students during the practical training in preschool institutions allowed us to state that 96% of students (against 85% in the pre-test) know the types of children's games; 89% of students (against 78% in the pre-test) are aware of the features of games of early and preschool age; 87% of students (against 64% in the pre-test) know the methods and techniques of psychological and pedagogical support of children's games; 93% of students take into account the recommendations of educational programs when organizing games of children of different ages (against 74% in the pre-test), etc. The number of students who suggested children's games that they themselves played in childhood increased to 75% (against 63% in the pre-test). The unwillingness and reluctance of a number of students to perform certain roles in the game decreased from 43% (in the pre-test) to 29% (in the post-test). Thus,
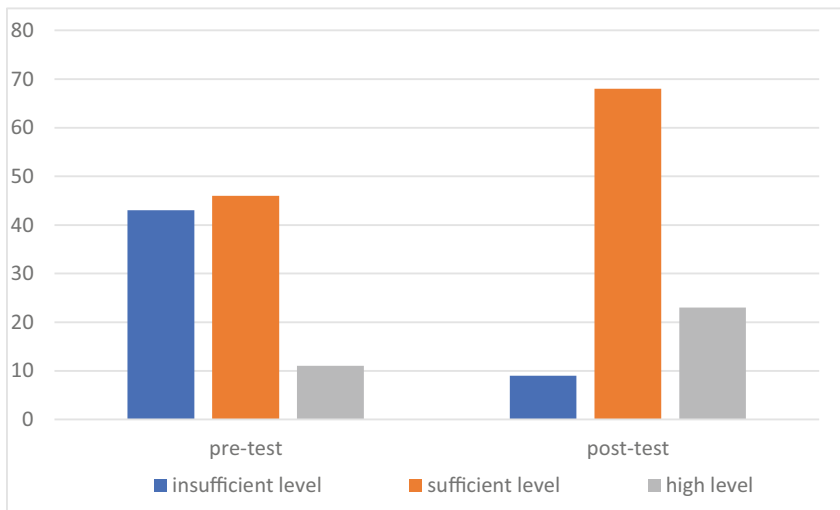

Fig. 2. The Results of Students' Preparedness for the Formation of Play Competence of Preschool and early-age children

the results of the post-test confirmed the effectiveness of the intervention stage of the experiment. Overall, the results on the ability of students to form play competence of preschool and early childhood children at the post-test were the following: insufficient level – 9% of students demonstrated insufficient level, 68% of respondents demonstrated sufficient level and 23% of pre-service teachers have demonstrated a high level. The data with the results of the pre-test and post-test is presented on Fig. 2.

4   Conclusion

The Teaching in the blended and distance form is necessary due to a number of reasons. Notwithstanding the situation in the country, the graduate should develop a complex of professional competencies. Therefore, universities should address the challenges of preparing students of the first (Bachelor's) level of specialty 012 Preschool Education in online setting. An effective tool in distance education is the use of information and communication technologies that help to raise the interest of students in studying theoretical material, make the process of preparing students for seminars and practical classes easier. Using the offered services and resources allows organizing interactive, interesting classes and promote active interaction with students even in online setting. The prospects for further research are researching the possibilities of using ICTs in the implementation of the educational process for future teachers of preschool educational institutions in the conditions of blended and distance learning.

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