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The Use of Digital Tools for Mastering Practical Disciplines in the Distance Format of Training Bachelors of Preschool Education

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Abstract. The article examines the peculiarities of the use of digital tools (DT) in the education of students of the specialty 012 Preschool Education in the discipline «Art needlework». The authors identified the aspects of the study of the problem of using digital tools in the professional training of future teachers, carried out by modern scientists. The relevance of the application of DT for mastering practical disciplines by bachelors in the process of distance learning is determined. It was established: the lack of development of future bachelors in the field of preschool education competence regarding the application of DT for the organization of artistic and productive activities of preschool children. A model of the use of these digital tools in the process of teaching the discipline «Art needlework» has been developed. The experience of using various digital tools of visualization, collective interaction, game services, augmented reality in mastering disciplines is described, such as: Genially**,** Jamboard, Conceptboard, Kahoot, H5P, Craiyon, Deepdreamgenerator, Dreamstudio, Canva, Fotor, LightShot, Fanny Pho.to, Blippbuilder. The effectiveness of the use of digital tools for mastering practical disciplines in the distance format of the training of bachelors of preschool education has been proven.

Keywords: digital tools · ICT competence · higher education · educational process · artistic construction

1 Introduction

1.1 Problem Statement

The global challenges of recent years have strengthened the modern trends in the development and implementation of distance education. Distance learning has become a forced reality for the Ukrainian education system. Due to the full-scale invasion of the Russian occupation forces in Ukraine and the potential danger for students, education is carried out in a mixed format with a significant predominance of distance education. New approaches, means, methods and tools for organizing the educational process have

become extremely relevant. Digital tools have become the object of close attention from educators at all levels. The experience of their effective use has shown potential opportunities for solving the problems of youth education, training of qualified specialists, however, a large part of the issues needs further consideration.

Before the start of the coronavirus pandemic (2020), electronic training courses (ETC) were created at the Borys Grinchenko Kyiv University, and considerable experience of educational interaction using ICT in a distance format was accumulated.

ETC were developed on the Moodle platform and were filled in accordance with the educational program of the specialty 012 Preschool Education. The development of electronic training courses for the specialty 012 Preschool education was carried out taking into account the specifics of the specialty, the main difficulty of which is the social-communicative direction of the disciplines, which involves the formation of a set of student competencies related to interaction with people.

Comparing educational disciplines, it is worth noting that they have a different ratio of the amount of theoretical knowledge and practical skills that a student must master. This is important for filling electronic courses of academic disciplines and selecting digital tools for their provision. The most difficult is the development and implementation of practical direction disciplines, such as «Art needlework» (for students of the 1st year study, the first (bachelor) level of higher education of the educational and professional program 012 Preschool education), since they contain more than 80% of practical material and require the development of their own manual skills the ability of students, which is accompanied by the accumulation of methodical knowledge and skills in the use of various techniques and methods of creative activity in the educational process of a preschool education institution. The task of effective organization of practical classes in online and remote format is a real challenge for teaching practical disciplines. This is explained by the fact that practical activities in such a discipline are based on the interaction of the participants of the educational process and require, along with the acquisition of special professional competences, students to master a number of technical manual skills of making products.

1.2   Literature Review

Research related to distance learning of practical disciplines by means of ICT technologies allows us to note that the search for effective means of distance learning is particularly relevant. Many scientists and practitioners pay attention to the issue of integration of various forms of educational information, as well as combining methods of communication and interaction in university education: V. Bykov, O. Buynytska, S. Vasylenko, L. Varchenko-Trotsenko, N. Morse, O. Spirin, O. Pinchuk [4, 5, 15, 16].

In Ukrainian pedagogy, the problem of using digital tools in the process of professional training of future teachers is presented in the works of Bielienka G., Kovalenko O., Kozak, L., Nezhyva L., Miyer T., Palamar S., Ponomarenko T. [3, 10–12, 18, 22].

The publications of Ukrainian scientists consider a variety of digital tools for organizing various forms of educational interaction, in particular the use of cloud technologies (Korobeinikova T. [13], Proshkin, V. [21]), word cloud services for the students development of thinking functions (Nezhyva, L., Palamar, S., Marienko, M. [18]), AR technologies - 2D and 3D modeling in the educational process (Kozak L, Kozlitin D. [11]), creation of open resources for practice (Velychko V., Fedorenko E., Soloviev V.

Dolinska L. [6]). The question of the necessity of forming ICT competence among educators, since media literacy of preschool children is an integral component of the content of modern preschool education, was analyzed by Yankovych, O., Chaika, V., Ivanova, T., Binytska, K., Kuzma, I., Pysarchuk, O. Falfushynska, H. Arguing the need to modernize the training of young specialists Yaroshenko O. Samborska O., Kiv A. suggest using a comprehensive approach to the digital training of future teachers [13]. The experience of teaching the disciplines of the specialty 012 Preschool education in the online format is revealed in the study of Bielienka, A., Polovina, O., Kondratets, I., Shynkar, T., Brovko, K [3].

Modern foreign authors investigate various aspects of the problem of the digital tools introduction in the educational process of higher education institutions, in particular the integration of digital technologies into teaching and learning of students (Wan Ng [19]), which prove the effectiveness of using digital tools for learning in higher education, attention is focused on the importance searches for effective means of distance and online education, because, according to scientists, this is what awaits us in the future (Kim J. [9]; Pérez-Jorge D. [20]).

On the other hand, the study of the students preferences from different countries of the world testifies to the importance of educational communication in the process of studying creative disciplines (Akinci M. [2]), because students feel a strong need for live communication in order to master creative and socially oriented professional subjects (Jalongo M. [8]). The problem of conducting creative workshops in which direct physical contact with materials in higher education is important is highlighted in the work of Davidaviciene V., Zvirble V., Daveiko J. [7]. This problem is relevant for us as well. Therefore, when developing the content of the discipline, we focus on online interaction with students; this form has a number of advantages for practical educational subjects [14].

According to the professional standard of «Educator of a preschool education institution», (https://mon.gov.ua/ua/npa/pro-zatverdzhennya-profesijnogo-standartu-vihovatel-zakladu-doshkilnoyi-osviti) (the main document that regulates professional (job) duties) information and communication competence is included in the list of professional skills of an educator. It includes the ability to use ICT and electronic educational resources to organize the educational process in a preschool education institution. In accordance with these requirements, educational programs for students of the specialty 012 Preschool education are being built. Therefore, educational disciplines, along with professional tasks, include mastering ICT and creating educational content for children of early (1–2 years) and preschool (3–6 years) age.

1.3   The Aim of the Research

In view of the above, the purpose of the article is to substantiate the expediency of using DT in disciplines of a practical direction and highlight the experience of forming the professional competences of future teachers of preschool education using digital tools in the process of teaching the educational course «Art needlework» on the Moodle platform.

To achieve this goal, it is necessary to solve the following tasks: to analyze scientific sources on the problem of DT application in pedagogical education; to develop criteria,

indicators and levels of formation of ICT competence in the process of learning the educational discipline «Art needlework»; to investigate the state of formation of ICT competence while studying the discipline «Art needlework»; to consider the possibilities of using DT in interaction with students in the process of studying the discipline «Art needlework».

The following theoretical and empirical methods were used in the research process: analysis of electronic resources and educational programs, methodological manuals; observation method, student questionnaires, diagnostic tasks with the aim of identifying the level of ICT competence of future specialists in the specialty 012 Preschool education.

2   Results of the Research

In order to verify the results obtained during the theoretical study, an empirical study was conducted. A group of students of the first and second year of the bachelor's degree in specialty 012 «Preschool education» (132 full-time and part-time students) of the Faculty of Pedagogical Education of the Borys Grinchenko Kyiv University participated in the research.

At the first stage of the research, we determined the level of students' ICT competence based on the «Description of Digital Competence of a Pedagogical Worker» (2019) proposed by N. Morse, O. Bazelyuk, I. Vorotnikova [17], adapted in accordance with the professional standard «Preschool Teacher» (2021) [1].

According to the «Description of Digital Competence of a Pedagogical Worker» (2019) adapted in accordance with the professional standard «Educator of a Preschool Education Institution» (2021), criteria and indicators for evaluating the level of ICT competence formation in the process of mastering the practical discipline «Art needlework» among students of specialty 012 Preschool education were determined (Table 1).

The levels of formation of ICT competence of education seekers were also determined. We set ourselves the goal of forming ICT competence at the «Beginner» and «Integrator» levels, since the discipline «Art needlework» is studied by students in the 1st year study and in the first semester of the 2nd year study. Further improvement of skills to the «Expert» level takes place in senior courses in the process of studying the disciplines of the specialty 012 Preschool Education.

To conduct the research, we added the level «Elementary» to indicate students who have a low level of digital literacy formation.

Elementary – has general ideas about the use of modern gadgets, Internet resources, knows about different ways of obtaining information, orients himself in the use of digital services, uses services of an entertainment nature, does not have experience in using and creating various services and resources for education.

Beginner - observes safety techniques in handling digital means, knows about safe behavior in the digital space, adheres to the principles of academic integrity. Consciously uses digital services for collaboration in the process of educational activity. Uses Internet resources to acquire knowledge and skills. Uses digital educational resources offered by the teacher in class. Creates text and digital presentations for educational purposes. Stores and organizes digital educational resources for personal use. Uses digital services in the organization of artistic and productive activities with preschool children (visualization,

Table 1. Criteria and indicators for assessing the level of formation of students' ICT competence in the process of mastering the practical discipline «Art needlework»

Criteria	Indicators
Digital literacy	understanding the importance of safe behavior in the digital space; understanding the role of digital tools and resources in educational activities; avoiding risks to health (physical and psychological) in the digital space; assessment of data reliability and reliability of digital sources and resources; distribution and joint use of digital educational resources using links or attachments, letters, joint documents; creation of electronic documents (text and multimedia) for training; creation and collective use of digital educational resources
The use of digital tools and applications for educational activities	use, editing, modification, combination of digital resources and services in accordance with the educational goal and task; independent monitoring and analysis of effective digital technologies that can be used for training; use of digital educational environments; creation of text and multimedia educational products
The use of digital tools for organizing interaction with children	selection of digital resources necessary for educational interaction with parents and children, taking into account the purpose, conditions, age and needs of pupils; evaluation of their effectiveness in interaction with preschool and early-age children; creation of digital educational resources (clips of cartoons, presentations, games, tasks), use of cartoons together with children; selection of educational content for children in accordance with the didactic requirements of video content, digital environment, augmented reality for the development of children's artistic and creative competence; using digital services to create interest and present interesting material to engage children in artistic and productive activities

selection and use of ready-made educational resources). Uses digital services to create simple educational products (presentation, video).

Integrator – uses digital services to jointly create new digital educational resources. Demonstrates independence in finding learning sources for the development of ICT competence. Confidently uses digital services for own educational activities. Exchanges educational materials with classmates. Methodically competently uses digital technologies in interaction with pupils and parents. Creates educational products using various digital tools and services. Effectively uses self-created digital educational resources. Combines and adapts digital services for use in joint activities with children of preschool age. The study of students' readiness to use digital tools in educational and professional activities shows that 78.78% of respondents feel the need to improve their own digital competence level, 84.84% of respondents noted that learning requires mastering (acquiring skills) of various digital services. 91% of students want to acquire the ability to use digital services to organize the artistic and productive activities of preschool children.

At this stage of the experiment, we offered students to perform practical tasks on creating educational content (cartoons, games, video tasks) using DT. Students were unable to complete the proposed tasks (100%), which indicates a lack of knowledge and skills in using DT.

The analysis of the results of the answers to the questions made it possible to determine the level of formation of the ICT competence of the education seekers at the ascertainment stage of the research. 86 respondents (65.15% of those interviewed) were assigned to the elementary level, 34.84% of the students were elementary level.

The study of students' opinions regarding the forms of studying the discipline in distance and online formats shows that 84.84% of respondents consider online learning the most effective (lectures and practical classes are carried out in real time with the presence of a teacher), 20 respondents, i.e. 15.16%, consider it the most convenient distance format is considered for studying the discipline. This distribution of opinions in favor of online learning was argued by the respondents as follows: the information provided by the lecturer is easier to understand, there is an opportunity to clarify unclear things, in the discussion process it is possible to express one's own opinion and hear the opinion of fellow students, there is an opportunity to present one's practical work, to ask for advice on its implementation in if necessary. Also, among the advantages of synchronous online learning, students mention significantly less tiredness, the ability to collectively interact, communicate, and receive emotional contact, which increases the level of productivity and interest in the process of joint activities, and thus contributes to the memorization of information. Respondents were not asked the question of the desire to master the discipline in an offline format, due to the security situation in Ukraine and the impossibility of providing 100% security guarantees for students.

The analysis of the results of the tasks and the survey allowed us to come to the conclusion that distance tasks require concentration of attention, rational distribution of time and significant self-discipline from students, therefore this format is much more difficult. According to the respondents, the use of various digital services in the organization of educational interaction facilitates the perception of information in the distance format of obtaining education.

2.1 Results of the Formative Stage

The formation of professional competences in the organization of artistic and productive activities with children of early and preschool age in the process of studying the discipline «Art needlework» was combined with the acquisition by ICT students of competences related to future professional activities and was carried out in several directions: formation of digital literacy; development of skills in the use of digital tools and applications for educational activities; using digital tools to organize interaction with preschool children.

At the formative stage of the study, the success of tasks was systematically monitored and students surveyed about the effectiveness of using various digital services in the process of studying the discipline, with the aim of preventing difficulties and optimizing educational activities (https://elibrary.kubg.edu.ua/id/eprint/27905/1/digital%20comp%20teacher%20Morze.pdf).

Based on the results of the analysis of scientific sources on the problem of the application of DT in the educational field and the results of a diagnostic study, we have developed a model of the use of digital services in educational interaction with students in the discipline «Art needlework» (Fig. 1).
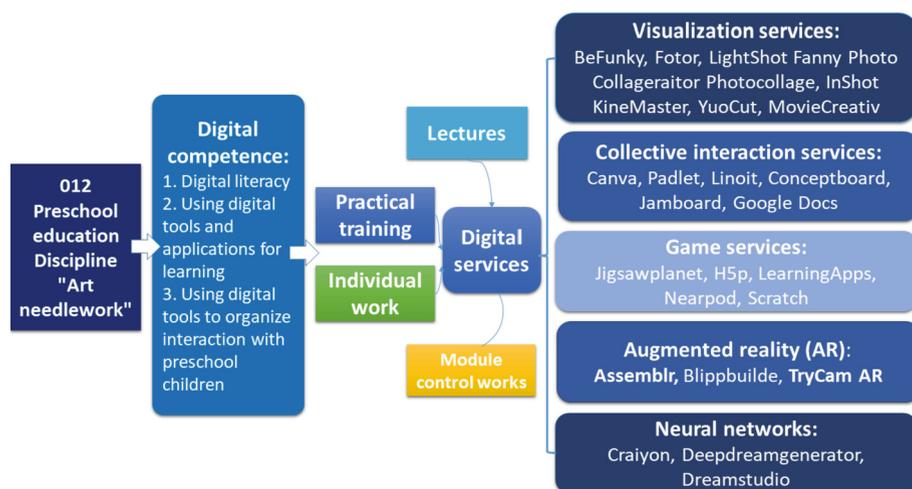
Fig. 1. The use of digital services in educational interaction with students in the discipline «Art needlework»

In our opinion, online training organized with the help of various video communication services is more rational, efficient and effective. In the course of work, the most convenient to use were Google Meet and Webex Meeting. These services were used not only for conducting lectures, but also for practical classes. The execution of products, the use of techniques was demonstrated with the help of a vertical camera attached to a tripod. This method is very convenient, because it happens in real time, there is an opportunity to work with the audience, answer questions and demonstrate work with the product.

At the first stage of mastering the discipline in the online format, considerable attention is paid to the formation of skills in using the resources of the electronic training course. Formation of skills to work synchronously in online services, completing educational tasks, to stick to the specified time, to rationally distribute responsibilities, to navigate in information resources, to communicate in a group and with a teacher, to draw up the results of completing tasks properly. For full-time students, this stage passes quickly enough, already during the second use of the service, the interaction is more harmonious and productive. Part-time students experience difficulties much longer. The results of the survey indicate that 80% of students experienced significant difficulties in using the Moodle platform and digital services. They need a detailed explanation and spend much more time during the couple on using services and working with electronic resources.

For coordinated and effective work, students are recommended to use a personal computer and a smartphone, as well as, taking into account the specifics of the discipline, a holder for a camera or phone. The use of these gadgets allows you to communicate and interact in class at the same time. Elements of gamification, augmented reality, and interactive interaction services are used in classes for the formation of relevant professional competences in the students of education, in the process of remote mastering of practical disciplines.

Interactive presentations, quizzes, quests, educational games were used in the process of studying theoretical material at online lectures. For example, at the lecture «Using natural and residual material in construction and modeling activities with preschool children», all the questions of the educational session were presented in the form of a quiz developed in the Kahoot service. When answering the questions, all students had the opportunity to express their own opinion, see the answers on the infographic, evaluate the correctness or falsity of the answer, discuss and get explanations from the lecturer on the issues under consideration. In this way, students: analyze the question, give an answer to it based on their own knowledge and experience, see the distribution of opinions on the question on the graph, hear the arguments of others, defend their own opinion, get closer to understanding the essence of the problem and its importance, understand the gaps in their own knowledge and have the opportunity to expand their knowledge. This way of presenting the material, namely, interest in the question, before its consideration and explanation, helps to deepen the interest and attention of students to the topic of the lecture. Kahoot, H5P, Poll-maker, Ranked List services were used to organize the quizzes.

Creating interactive elements of lectures with the help of Interacty and Genially services allows you to keep the attention of the audience by including them in various activities related to the subject of the lesson, reduces fatigue, maintains interest, and enriches the experience of students in using digital learning tools. The process of presenting theoretical material allows you to visualize what has been said, supplementing it with examples using various tools. For example, tools in the service Interacty Then&Now allows you to demonstrate children's products made for the first time and after 3–4 times of practice.

The Memory game offers to combine two identical pictures, helps memorization. The pictures contain images that illustrate the main positions of the practical lesson,

for example, «Safety techniques in the art work lesson for preschool children». Among the problems that students have in the process of preparing for the online class in the discipline «Art needlework» is the lack of a complete list of materials and tools for the class. In the face-to-face format of the meeting, students quickly solve such problems by sharing among themselves. However, improper preparation for practical classes in synchronous online mode does not allow the student to focus on practical activities, which leads to lagging behind the pace of work in the group, inattention and difficulties in completing the educational task. Such situations arise due to the inattentiveness of the applicants in the process of preparing for the lesson, therefore, at the end of the presentation, the students are offered a list of the necessary materials, as well as a Memory game, which contains the materials needed for the next pair in the images. They have the opportunity to play it while preparing for the next match. The survey shows that all students like this game, although students don't always play it, sometimes they use a normal list of materials.

«Bank of ideas» are created during the discussion in practical classes, and Jamboard, Padlet, Linoit, and Conceptboard are used to activate learning activities. At the beginning of the pair, while discussing the main theoretical questions of the lesson, students are invited to look at thematic pictures on the Internet for a few minutes and choose the most interesting ideas, place them on the board for further analysis. For example, during a practical lesson, students are asked to search for products made of natural material, review the options offered by the Internet and choose the one that will correspond to the older, middle and younger age groups of the kindergarten in terms of material requirements, aesthetics, and level of manufacturing complexity. Students mix the selected images on Jamboard pages, creating an «Bank of ideas». The selected pictures are discussed in the group, the proposed ideas are analyzed according to the criteria, and then the products are made according to the task, taking into account the discussed features of the product (Fig. 2).

An interesting tool for creating a discussion and checking the level of students' preparation for practical classes is the use of neural networks. During practical classes, we used services that quickly generate images Craiyon, Deepdreamgenerator, Dreamstudio. Each student is invited to generate his own image based on a reference word, for example «origami» and with the addition of concepts related to the topic. The students evaluate and discuss the generated images from the point of view of the features of the product in the specified technique, share interesting images, and give suggestions for improvement.

The acquisition by future teachers of the necessary practical skills and skills of manufacturing and artistic design of products, technological methods of processing various materials, working in various techniques requires practical training. Therefore, while making products, students record each stage of work by creating a technological map, video clip or slide show with the help of various services.

Students publish finished technological maps on online boards, with the aim of sharing experiences, successes and shortcomings, as well as evaluate each other's work, commenting and giving advice. The exchange of experience in the process of collective interaction, the analysis of successes and failures is an important component of educational activity, it allows you to easily remember the main theoretical propositions, supporting them with a direct example (Fig. 3).

Fig. 2. «Bank of ideas» was created during a practical session by students using the Jamboard service
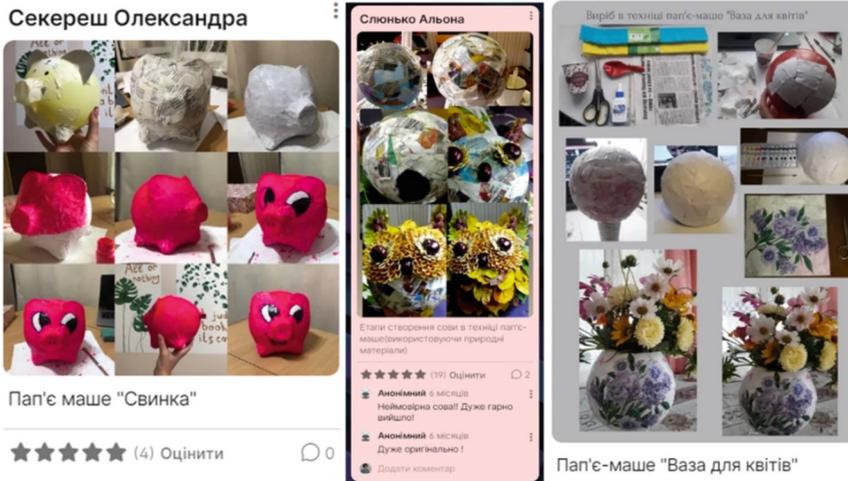

Fig. 3. Technological map of the product

To form students' ability to use educational resources, technically prepare works in various services, and collectively interact online, we used the most simple, easy-to-use and easy-to-use digital services. This is due to the fact that in one practical lesson, educational goals combine the formation of several professional competencies, and therefore the time allocated for each activity is clearly planned and executed.

Having formed the basic skills of digital literacy in students, we deepen their ability to effectively use various digital services to create new educational resources necessary for future professional activities. The creation of a digital pedagogical portfolio is an

important element of students' acquisition of professional competencies as a result of studying the discipline «Art needlework». It contains all the student's work, developments, notes, technological maps, schemes, descriptions, accumulated during the study of the discipline and are ready for use by students in pedagogical practice.

A technological map is an instruction with illustrations that demonstrates all stages of the product's execution (Fig. 4.). Methodical tips are added to it, commenting on the peculiarities of the product's manufacture at each stage. Services help to quickly and efficiently create technological maps of products, collages, photo instructions are Canva, BeFunky, Fotor, LightShot Fanny Photo Collageraitor, Photocollage. Among their various functionalities, such services help to attach a photo and create a text with an inscription or a small instruction. Ready-made templates significantly speed up the production of the technological map of the product, they can be made in just a few minutes.

Fig. 4. The technological map of the product was made in the Canva service

To check the accuracy and correctness of the instructions given in the technology map, students exchange them and make the proposed product. If deficiencies are found, the technological map is corrected. Students make simple technological maps, schemes and instructions for preschool children, since among the tasks of artistic construction there is a task - forming in preschool children the ability to understand graphic instructions and make products accordingly.

When studying the discipline, we give preference to visualization services, because it is impossible to replace the practical component with digital tools. With their help, practically completed tasks are recorded, as well as notes and blanks for the portfolio. For example, the topic «Construction from decorative wire with preschool children» includes the following tasks: get acquainted with the techniques of construction from wire, make 2 products for each age group, make a blank for manufacturing the product: according to the topic of choice (for example, «Crocodile»), choose a literary work, a
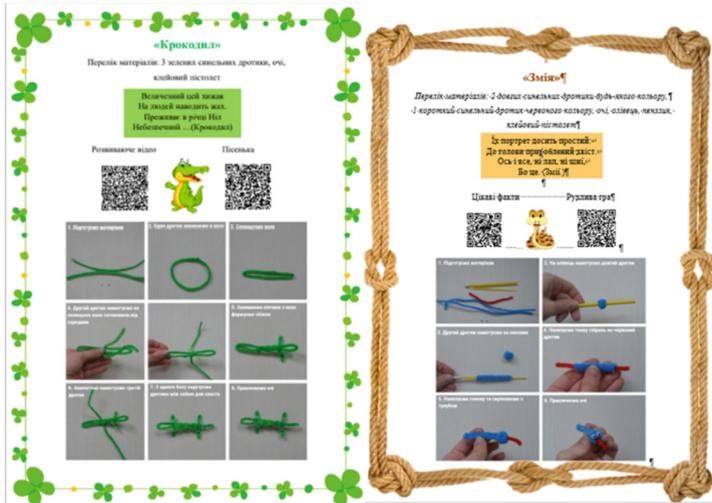
Fig. 5. Development of the manufacture of a product on the theme «Crocodile»

cartoon, a melody and place it in the form of a QR code, make a technological map of the product with instructions (service - at the student's choice), place the specified information on 1 page of A4 (Fig. 5).

The practical lesson «Design and decoration of a kindergarten group for festive events» (4 h) in the distance format consists in the execution of a subgroup project. From Internet resources, students select and model a sketch of a group room of a preschool education institution with holiday decoration elements (for example, «Spring Festival»). The sketch should contain products made by children, teachers together with children, and elements of decor, educational environment, made by teachers. In addition, students should think of forms of interaction with the parents of the pupils, with the aim of involving them in the production of interior items together with their own child. With the help of banks of images and clip-arts, students select decorative elements that should be used in the decoration of kindergarten groups, and students choose the service for making a sketch at their own discretion. The sketch is accompanied by instructions for the manufacture of each product proposed in the sketch with methodical recommendations.

Another task of forming ICT competence among future educators is the formation of the ability to create electronic content for children, as well as the use of digital services in the process of educational interaction together with preschool children. This task was implemented at the III stage of the study, as it requires the ability to freely use digital services in one's own educational activities. Having accumulated considerable experience in the use of digital tools, students are offered tasks aimed at forming their skills of educational interaction with preschool children.

Using image banks, students develop various projects, planning educational activities using digital tools. For example, creating and using interactive collages, photo layouts, schemes.

However, the use of images of one's own products is also interesting. Having processed photos of spring birds made using the origami technique and using augmented reality (AR) tools, for example, using the Blippbuilder application, the teacher can place them in a panoramic way and use them to maintain interest in the process of educational interaction with preschool children.

Module control works in the discipline «Art needlework» are creative projects that students perform independently or in a subgroup. For example, «Creating a cartoon for preschool children». There are various options for completing such a task, students independently choose the way to create a cartoon. It can be an individually completed task, a video recording of a fairy tale playing out with the help of self-made characters, a video clip from photos with sound overlay. It is interesting to implement such a project by a subgroup in the process of synchronous online work. In such a cartoon, digital images are combined, photos of manufactured products, for example, molded from clay and trimmed in Photoshop along the contour, recorded sound is superimposed. In future professional activities, students can create such a cartoon together with children and voice it.

At the stage of intermediate control to evaluate the effectiveness of the work performed, an evaluation and analysis of the effectiveness of the formative stage of the research was carried out. The evaluation included two blocks: 1) reflective analysis of impressions and achievements based on students' answers to questionnaire questions; 2) credit evaluation based on the performance of diagnostic tasks. The generalized results of the intermediate control of the study showed an increase in the level of formation of ICT competence among education seekers, 75% of respondents reached the level of integrator, 25% of respondents reached the level of beginner (Fig. 6).
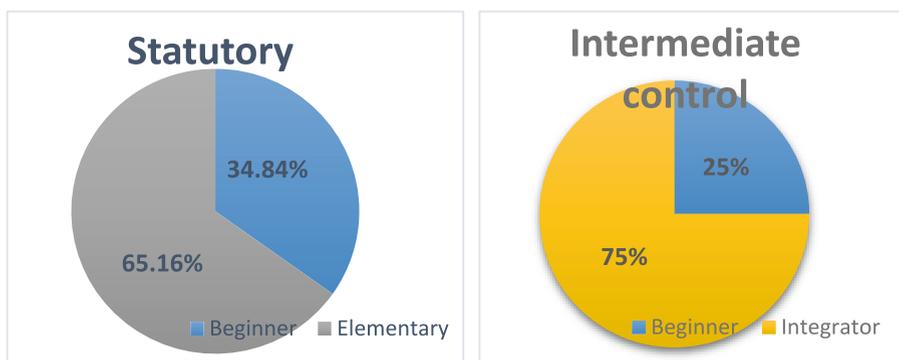

Fig. 6. Diagram of the levels of formation of ICT competence at the ascertainment stage and the stage of intermediate control of the research

3   Problems and Prospects

It is promising to further study the possibilities of using digital tools in the process of teaching students of the specialty 012 Preschool Education. Since the professional competence and ability of the teacher to organize effective educational interaction with the help of modern DT expands and diversifies the development opportunities of preschool children, since artistic activity is important for obtaining sensory experience and developing intellectual abilities of a person at the stage of preschool childhood. In the process of artistic work, children learn the properties of materials, accumulate constructive abilities and skills, develop thinking processes: analysis, generalization, isolation, combination, the ability to construct, understand and use schemes, solve various creative and logical tasks, develop creativity, the ability to construct and model products that contribute to the formation of the foundations of systemic, creative and constructive (engineering) thinking as opposed to superficial (clip) thinking. Another interesting aspect for further research is the study of the possibilities of using digital tools for the development of preschool children.

4   Conclusions

The issue of using digital tools for mastering practical disciplines in the remote format of training bachelors of preschool education is relevant and insufficiently studied. The conducted analysis of the study of the state of formation of students' ICT competence at the beginning of the course «Art needlework» revealed the problem of unformed digital competence of 1st year students (75% - elementary, 25% - beginners).

The organization of educational activities using DT in the process of studying the discipline «Art needlework» contributed to the formation of ICT competence among students. They mastered the system of knowledge, skills and abilities to:

- create, use, edit electronic documents (text and multimedia) for own educational activities;
- develop digital educational content in accordance with the educational program for preschool children and create digital products (cartoons, games, educational videos, collages, map schemes, interior decoration elements);
- analyze the potential possibilities of digital services, tools, Internet resources for creative use in interaction with preschool children and predict its effectiveness.

The use of digital tools for studying the course «Art needlework» ensures the student's transition from general digital competences to the acquisition of skills in the use of digital tools in educational and professional activities.

The results of the conducted research allow us to note that in the distance learning format for mastering practical disciplines of a creative nature, synchronous online learning has significant advantages. This is explained by the fact that students have the opportunity, with the help of various DT, to interact with the teacher and with each other, which improves the quality of the educational process. Digital services diversify the forms of providing material to students, allow them to demonstrate and jointly practice the technique of making products, support dialogue between all participants. New

opportunities for creating, systematizing and storing educational content in the form of technological maps, designs, projects, videos, sketches are important, which allows you to create a pedagogical portfolio with case studies for future professional activities. For applicants who enter a higher educational institution, the formation of ICT competence remains relevant not only in the use of DT for the organization of educational artistic and productive interaction with preschool children, but also in general digital culture and the ability to use DT for one's own learning. The use of DT by a teacher, encouraging students to use services to perform educational tasks, allows to form the professional competence of the teacher, and also improves the ICT competence of future teachers. This is relevant because the educational program of specialty 012 Preschool education lacks separate disciplines aimed at the formation of ICT competence.

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