Motivational Readiness of Future Teachers-Philologists to Use the Gamification with Elements of Augmented Reality in Education

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Abstract—The article analyzes the students-philologists' motivations to use the gamification with elements of augmented reality (AR) in education. The domestic and foreign experience of implementation of gamification with elements of AR into current educational practices is generalized. The aspects of implementation of gamification with elements of AR into the educational process of Mykhailo Stelmakh Faculty of Philology and Journalism are highlighted. In particular, the features of creating the board game "Fantaziarium (Imaginarium)" with elements of AR during the study of "Methodic of teaching literature" and "Methodic of teaching the Ukrainian language" are described. The methodological tools to diagnose the level of future teachers' motivational readiness for the use of gamification with elements of AR are selected, and their indicators are defined. 47 students of the 4th year study of the specialty 014 "Secondary Education" (Ukrainian language and literature) of Vinnytsia Mykhailo Kotsiubynskyi State Pedagogical University took part in the survey. The results of the survey convince of the relevance and effectiveness of organization in studying with the usage of the methods of creative practice-oriented project activities. A certain sequence of steps to increase the motivational readiness of students-philologists in the use of gamification with elements of AR is provided.

Keywords—gamification, augmented reality, motivational readiness, board game, students-philologists

1 Introduction

1.1 Problem statement

Technologies of gamification and AR are among the trends of modern education. These innovative tools are aimed at modernizing education, forming the modern system of its organization, taking into account the digitalization of education. They activate students' motives for creative self-expression, ability to take reasonable risks, help

them to realize their own creative ideas, to form comprehensively developed students' creative personalities, promote future teachers' self-education and self-improvement.

Foreign experience of researchers from the United States and Europe has shown that gamification and AR in learning are the advanced technologies that increase the effectiveness of education, because there is a need to capture the students-philologists' attention and inspire them to work from the first minute of a lecture or workshop. An important factor in the successful and effective implementation of gamification and AR in education is the right choice of ways to integrate them into various forms of learning.

The use of gamification in the educational practice of higher educational institution allows to solve a number of problems related to the use of AR, the implementation of the principles of difficulties and accessibility of learning, individual approach, optimization of the educational process, and to increase the level of interest in studying disciplines, form the ability to work in a team, etc.

There is a connection between the usage of gamification and increase the motivation and perseverance of students-philologists to professional activities. In our work we create and use the board games in the educational process based on technologies of gamification and AR, so it is worth noting that there is a lack of examples of such board games in linguistic and literary field.

The use of gamification with elements of AR as a means of forming the professional competence of students-philologists, and the impact of these technologies on the motivational readiness of future teachers of Ukrainian language and literature for active participation in the educational process is quite relevant and requires more researches.

1.2 Literature review

Various aspects of the problem of implementation of gamification in various spheres of human life, including education, are researched by Sebastian Deterding et al. [1, 2], Robert W. Songer and Kazunori Miyata [3], Zachary Fitz-Walter et al. [4], Ana Manzano Leon [5], Dimitrios N. Karagiorgas and Shari Niemann [6]. The use of AR games for educational purposes is researched by Sylvie Barma et al. [7], Hendrys Tobar-Munoz, Silvia Baldiris and Ramon Fabregat [8], Juhee Lee [9], Gwo-Jen Hwang [10].

Several researchers emphasize that the newest technologies can be used to improve a lot of aspects of everyday life, especially education. Marius Noreikis et al. [11] examined the potential effects of gamified AR in public places. They developed an AR-based quiz game for a public exhibition space, which was regarded as a possible platform for improving visitors' learning. In their article such advantages of playing the ARQuiz game, were identified: visitors enjoyed the exhibition more, obtained better quiz results and felt more social after visiting the exhibition [11].

Robert Olszewski et al. [12] aver that gamification, fuzzy control and the use of augmented reality can solve many problems, in particular in managing the process of spatial planning by local and central authorities. The authors propose the concept of a game using augmented reality and fuzzy two-phase control system, define the psychological conditions of the players in that game, and present a model of the conditions to achieve the maximum effectiveness of the game [12].

Diep Nguyen and Gerrit Meixner [13] point out the widespread use of AR and gamification in many areas like education, industrial training, marketing, and services. But, in authors' opinion [13], the idea of combining the two approaches is fairly new, especially in training. In their article, the authors present a gamified augmented reality training and investigate user engagement effect while training with the gamified and the nongamified system. The researchers sum up that people perform better and engage to a greater degree in the gamified design.

Nikolche Vasilevski and James Birt [14] describe the design and development process of a pervasive mobile application solution that replicates a human guide and narration experience in the exhibition of indigenous artworks in a university place by integrating augmented reality, micro location, audio and enhancement through gamification service to increase engagement and experience value.

A group of researchers proclaim that AR applications and games have a great potential to improve learning experiences. Athanasia Eleftheria Chantzi et al. decided to combine AR and gamification in the creation of an educational AR book [15]. The authors trace the improving of the effectiveness of education by the users' interactions with a virtual laboratory, performing the experiments and completing challenges in a game format that aimed to expand and test their knowledge [15].

Nurtihah Mohamed Noor et al. highlighted that the use of AR and gamification in various fields gained high popularity for its capability in engaging users [16]. The researchers gave the definition to the gamification as the use of game-based elements, such as game mechanics, aesthetics, dynamics, and game thinking in the non-game context environment. They point out the problem of the lack in discussing AR games and relating it to a gamified platform [16].

Maheshya Weerasinghe et al. [17] underline that AR games, in the education sector, have the potential to enable new forms of learning and transform the learning experience. A group of researchers [17] provided an analysis of game genres, learning paradigms, theories and models used in different AR games in the field of education.

Valentyna V. Kovalenko, Maiia V. Marienko and Alisa S. Sukhikh investigated the problem of the usage of augmented and virtual reality in the process of blended learning in general secondary education [18]. Such blocks of authors' model of using augmented and virtual reality in blended learning in general secondary education institutions were identified in their article: goal; teacher's activity; forms of education; teaching methods; teaching aids; organizational forms of education; pupil activity and results. The authors gave the methodology of using augmented and virtual reality in blended learning in general secondary education and its components: target component, content component, technological component and resultant component [18].

Chusnul Muali et al. [19] investigated the differences in students understanding level after using mobile AR and conventional learning based on their self-regulated learning levels. The authors [19] affirm that mobile AR learning has a considerable influence in improving students' understanding of concepts during the learning process.

Zhanat Nurbekova and Bayan Baigusheva [20] considered the positive impact of AR as a didactic teaching tool on the quality of education. The results of this studies specified the feasibility of AR with the observance of classical didactic principles: visibility, the connection of theory with practice, consciousness and activity, accessibility, strength, science, system and consistency [20].

Amany Ahmed Eldokhny and Amr Mohammed Drwish [21] examined the effectiveness of AR in online distance learning at the time of the COVID-19 pandemic. They [21] concluded that adjustment to this "new normal" and the practice of social distancing makes AR one of the most appropriate online distance learning tools designed and applied professionally and accurately.

Elena G. Fedorenko et al. [22] assure that simulation, virtualization and gamification require new knowledge in their application. One more important statement is that the problem of future teachers' training to use these technologies is an urgent and important part of students' education. The researchers considered the possibilities of using virtual worlds in education, developed the recommendations for the practical training of future teachers to use them, and tested the effectiveness of the use of virtual tools in education [22]. According to their article the authors summarized that Minecraft EDU is an optimal platform for interdisciplinary learning, simulating a complex, multifaceted world in the information and educational space [22].

Viktoriia L. Buzko, Alla V. Bonk and Vitaliy V. Tron researched the possibility of introducing the elements of augmented reality and gamification in a secondary school during the binary lessons [23]. The authors state that these technologies contribute to the formation and development of cognitive interest of students in Physics and English; and these technologies will promote the application of scientific and technical knowledge in real life [23].

Oleksandr V. Prokhorov et al. have traced the digital competency level of the applicants and first-year students by 3D quest game [24]. In their research work they featured leveraged software tools, development stages, implementation challenges, and the gaming application scenario. The authors concluded that the applicants mostly preferred to take a 3D quest, as more up-to-date and attractive engagement [24].

Nataliia M. Rybka [25] attract the attention to the problem of the ambiguity of the perception of the phenomenon of gamification that caused by the difficulties of its understanding, modern historical conditions and social practices which strongly influence and distort ideas about gamification. The article [25] aimed to study the role of gamification on a specific example of using computer games for teaching philosophy in higher technical educational institutions. The author proclaim that game practices activate and educate students' emotional intelligence [25].

Svitlana V. Chybyrak, Tetiana M. Trofimuk-Kyrylova and Mykhailo A. Kyrylov [26] describe the experience of using computer games in the educational process of higher education institutions based on the example of "Minecraft", "Homescapes", "Designmyroom", "TheSims". Scholars draw our attention that during the preparatory stage of the project implementation it is extremely important to take into account the resources of the computer game chosen by the student and only then move on to the stage of development of the scientific concept of their projects [26]. The researchers affirm that this form of work stimulates the students' educational and cognitive activity, develops the creative skills necessary for their professional activities, promotes the introduction of an interdisciplinary approach in the system of their training and forms the ability to make their own decisions [26].

Olena V. Fedusenko, Iryna M. Domanetska and Daria Yu. Semeniuk [27] attempted to track the efficiency of usage of computer games to learn a foreign language in preschool education. They designed their own game with voice recognition methods based

on the Unity platform, in particular use the one of the classes of the UnityEngine. Windows.Speech module for the implementation of the voice interface [27]. The authors gave the detailed describe of developing a computer game: first, an analysis was carried out and requirements for the game software were determined, then the architecture was built, after which the software was developed and tested. According to the conducted work [27] the researchers state that such a game will increase the efficiency and quality of learning process by preschool children, enhance their interests and simplify the learning.

Nataliia V. Iaremenko [28] investigate the potentials of online games which teachers can use for their students' motivation, and summarize the positive effects of playing learning games on the example of Kahoot web resource. The researcher state that the use of online games in educational process shows the direct relationship between a high energy level of fun competition and increased students' motivation [28].

The analysis of the existing researches on the subject has shown that games affect the quality of our lives by creating positive emotions (optimism and curiosity), and strengthen social relationships. Thus, according to the analysis of scientific papers, the use of AR gamification has significant potential for the effective organization of the educational process of future teachers-philologists. Despite the interest of scientists in AR gamification, its role in formation the readiness of future teachers of Ukrainian language and literature for professional activity requires further researches.

1.3 The aim of the research

The aim of the article is to find out the motivational readiness of students-philologists to implement gamification with elements of AR in the system of language and literature education.

2 Discussion and results

2.1 Features of creating the board game with elements of AR in the professional training of students-philologists

Implementation of gamification with elements of AR into the educational process of Mykhailo Stelmakh Faculty of Philology and Journalism in Vinnytsia Mykhailo Kotsiubynskyi State Pedagogical University aims to form professional competencies in future teachers of Ukrainian language and literature, namely: pedagogical competence, critical thinking competence, competence of creative literacy and disclosure of person's potential opportunities, motivation of students' active involvement in educational process, their information and digital competence. Mastering the technologies of gamification with elements of AR took place during the study of disciplines "Methodic of teaching literature" and "Methodic of teaching the Ukrainian language" with the 4th year students-philologists. Students of one of the academic groups created the board game, developed tasks and design for this game, described its rules, and used UniteAR software to create AR tasks. A step-by-step algorithm for creating the AR in the mobile

application UniteAR and its subsequent content filling was described in our previous article [29].

We briefly describe the algorithm of creating a board game.

1. To define the theme and aim of the game. Students-philologists have chosen to create a game to section "Folk and literary tales", which is studied on the lessons of Ukrainian literature in 5th grade. This game needs to meet the triune goal of the lesson and be aimed at the educational needs of students. That is, students can not only have fun, but also develop specific skills, abilities and competencies with the help of a board game. Learning the material and formation of these skills is due to the achievement of the game goal. The board game "Fantaziarium (Imaginarium)", which was created by future teachers-philologists, was aimed at consolidating knowledge and skills to distinguish between features of folk and literary tales, determining the features of this genre variety, features of fairy tales, elements of real and fantastic in them; motivating students to express their own feelings, impressions caused by the studied fairy tales, their attitude to the people depicted in the tales, events, situations, phenomena, etc.; effectively usage of information resources to meet the reading needs and interests of students and solve game tasks by them; characterizing the emotional state of fairy tales characters, their behavior and actions, with showing tolerance at the same time; forming the ability to solve any educational task creatively, the ability to apply the acquired knowledge in nonstandard situations; promoting the development of skills of cooperation in the classroom, involving the whole class in joint work, promoting the formation of analytical skills and critical thinking, saturation of the lesson with relevant visual material.
2. To identify the subjects of learning, i.e., age and number of players. Future teachers-philologists have chosen 5th grade students as their subjects of learning. At this stage, students-philologists paid their attention to the need to take into account the individual and age characteristics of students when creating game tasks.
3. To create the game mechanics. Any board game consists of related elements, tools and mechanisms of interaction with players. At this stage, it is worth thinking about the means by which we can realize our idea and achieve the goal. Students-philologists became active co-creators of the board game and thought about how to improve the mechanics of this game. The created game includes the rules of this game, the playing field, task cards, money "Books", chips and dices. Game mechanics was based on Bloom's taxonomy, so task cards were developed according to the following levels of cognitive activity: knowledge ("All-Knowing"), comprehension ("Paths of comprehension"), application ("Time to act"), analysis ("Erudite"), evaluation ("Walking Encyclopedia"), creation ("Flight of Fantasy"). One more group of cards was also created as bonus ("Chance"). During the game, teachers can complicate the task by limiting the response time. Thus, with the help of the created board game, future teachers-philologists are able to measure students' learning outcomes in the form of games and make sure in the students' thinking developing.

4. To make the rules of the game. The mechanics of the game should be based on short, concise and unambiguous rules. The gameplay starts with them. Students-philologists indicated in the rules the duration of the game (45–90 minutes), age of players: 10–11 years, number of teams: 2–6, number of team members: 3–6, game props, goal, algorithm of player's actions, conditions of the game completion. In each category of this game there are 6 one-level tasks. Each game player throws a dice that determines the number of steps. As the step varies from 1 to 6, we give the maximum number of tasks – 6, so that each team can pass all levels.

Cards with the image, as in Figure 1, denote encrypted information in the form of AR. A player needs to use the UniteAR mobile application to read it.

Fig. 1. Graphic image on the game card to denote AR

During the creation of tasks with elements of AR, the peculiarities of their reading depending on the phone model were revealed. So, Xiomi phones instantly recognize encrypted AR effects, while Oppo phones do not recognize any of the cards with these effects at all.

Here are some examples of the game cards with AR. One of the cards gives the task "The Shortest Transition", which involved students tracing interdisciplinary links with foreign literature, particularly between the tales "Painted Fox" by Ivan Franko and the Indian folk tale "Painted Jackal" (Figure 2). Students were asked to start and end the story, and to come up with a short but interesting story.

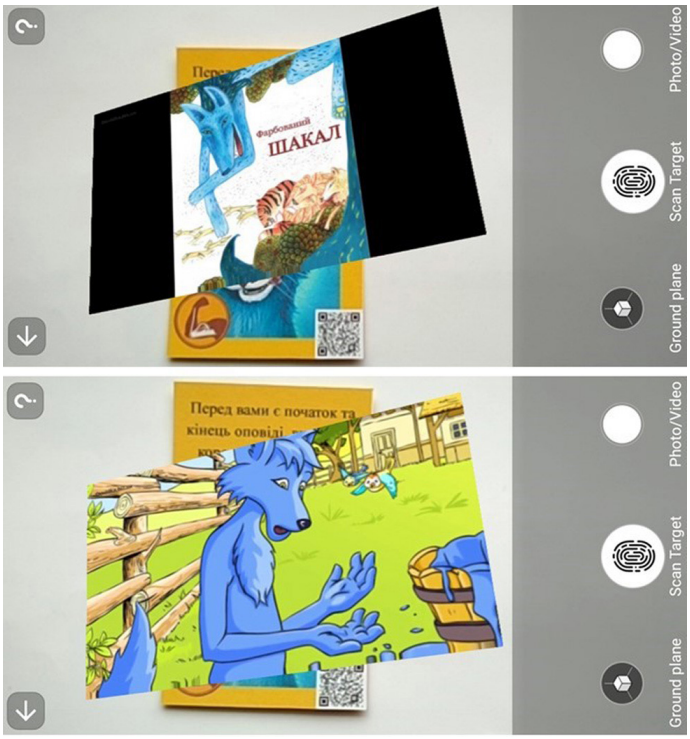

Fig. 2. The game card "The Shortest Transition" with AR

The student needs to solve the task "Superfluous Figure" according to the next card. The student had to watch a video in Tik Tok about the fairy tale "Eggraytse" and determine which of the animals depicted there wasn't the hero of this tale (Figure 3).

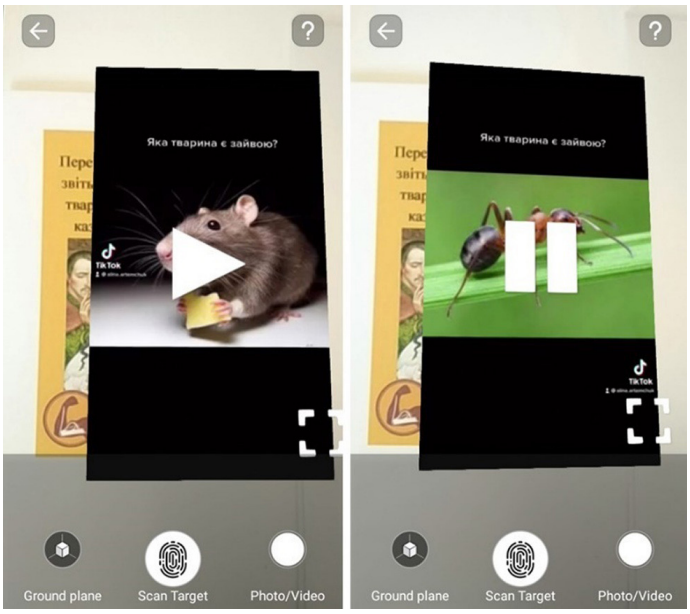

Fig. 3. The game card "Superfluous Figure" with AR

Solving the next task "Lost Link" (according to fairy tale "Leliia" by Lesya Ukrainka), student should to watch the video and find a logical connection between the citation material (Figure 4).

Fig. 4. The game card "Lost Link" with AR

According to the next card, a student was asked to find a superfluous image among the illustrations and explain their choice (Figure 5).

Fig. 5. The game card "The Superfluous Image" with AR

And one more game task for students was to recognize the illustration to the fairy tale and match it with a quote from the correlating tale (Figure 6).

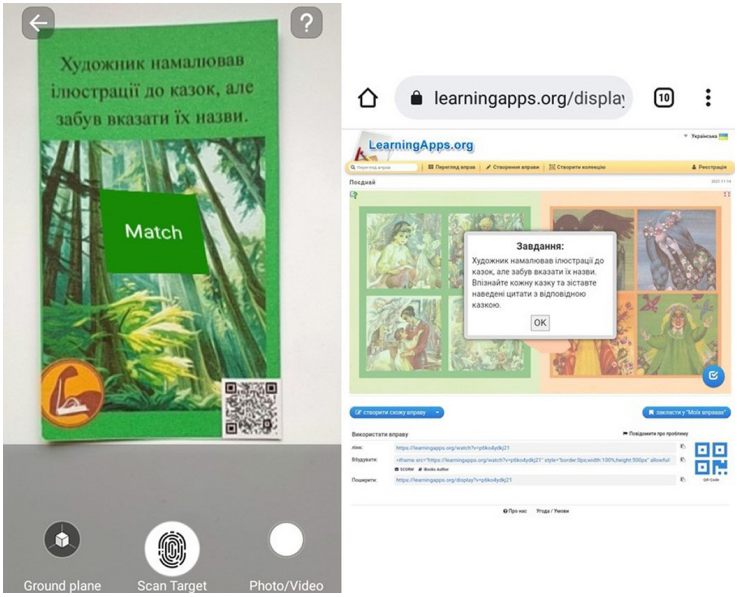

Fig. 6. The game card "Recognize the Fairy Tale" with AR

During the creation of the game tasks, future teachers-philologists took into account and adhered to the permissible norms of the usage of technical means by 5th grade students.

Thus, the creation of board games with elements of AR by the joint efforts of the future teachers-philologists became a kind of success situation, i.e., it was aimed at combining a set of conditions for success of each participant in educational activities, students-philologists' awareness of their abilities, creative potential, faith in their own strength for further development, the desire to learn, to overcome difficulties. The peculiarity of interaction in the system "tutor-student" is the desire of both parties to positive cooperation, its harmony, students-philologists' adequate self-esteem of their own strengths and achievements, the state of emotional satisfaction with the results of educational activities. This has led to our interest in researching the motivation of future teachers-philologists in the use of gamification with elements of AR.

2.2 Diagnostics of students-philologists' motivation to the implementation of gamification with elements of AR in education

The need to determine the motivational readiness of students-philologists is due to the fact that educational process is characterized not only by actions but also by the motives that cause them and with the help of which the student's needs are met. Therefore, to diagnose the level of future teachers' readiness for the use of gamification with elements of AR, it is important to research the students' motivation for its implementation.

Methodics for diagnosing the motivation of future teachers of Ukrainian language and literature to the implementation of gamification with elements of AR in educational process is based on the methodics "Motivation of studying in higher education" by T. Ilyina.

Students-philologists were acquainted with the instructions for filling out the survey. They had to read each statement and determine their own attitude to the learning of basics of gamification with elements of AR and the acquisition of skills and abilities to use these technologies. So, they've stated their answer opposite to each statement and used the following symbols:

- yes (+);
- probably yes (+);
- probably no (−);
- no (−).

The survey provided answers to the following statements:

1. The study of gamification and AR technologies enables the demonstration of my creative abilities, and helps for the quality implementation of my professional ideas.
2. Gamification with the use of AR is a very important and exciting activity, I want to deepen my knowledge about these technologies as much as possible and improve my skills and abilities in their implementation.

3. I have enough knowledge and skills about the technologies of gamification with elements of AR, which I receive during the study of disciplines "Methodic of teaching literature" and "Methodic of teaching the Ukrainian language".
4. I am not interested in educational tasks on the use of gamification with elements of AR, I do them only for passing the disciplines.
5. The difficulties that arise in studying the features of gamification with elements of AR, contribute to my even greater interest in this activity.
6. I independently study the additional literature sources besides the recommended literature for preparation to classes and for the use of gamification with elements of AR.
7. I consider that practical classes on the use of gamification with elements of AR are a waste of time.
8. If something does not work out when I implement gamification with elements of AR, I try to find reasons and work hard on self-improvement.
9. On the classes I often have a state where I don't want to learn the technologies of gamification with elements of AR.
10. For active study the above-mentioned technologies and doing the educational tasks I need constant control of my activity by the tutor.
11. I discuss with interest the learned material on the creation of a board game with elements of AR in my spare time with my friends and students of my group.
12. I try to perform tasks independently while studying the technologies of gamification with elements of AR, and I attempt to be creative in creating a board game, and to be original in it.
13. I don't want to spend my time on tasks related to the use of gamification with elements of AR and if possible, I try to copy other students' decisions or ask someone to do the task for me.
14. I aver that the acquired knowledge, skills and abilities in the implementation of gamification with elements of AR are valuable and I want to improve them in the future and I'll do my best for it.
15. It's more important to me the assessment for preparedness to the lesson than the acquired knowledge, skills and abilities in using gamification with elements of AR.
16. If I am poorly prepared for the lesson, I don't really care.
17. I am interested in finding a new information about the technology of gamification with elements of AR in my free time, and in selecting materials for the implementation of these technologies on lessons of Ukrainian language and literature.
18. Mastering the technologies of gamification with elements of AR is difficult for me and requires considerable efforts for quality performance of tasks.
19. I enjoy considering current issues of gamification and AR during the study of disciplines "Methodic of teaching literature" and "Methodic of teaching the Ukrainian language".
20. I don't see the point in most of what we do for learning gamification and AR on the lessons of methodics of teaching Ukrainian language and literature. If I could, I would exclude the study of these technologies from the curriculum.

Processing of the results consisted in calculating the indicators of the survey according to the key, where "yes" means positive answers (yes; probably yes), and "no" means negative ones (probably no; no).

Key: 1, 2, 5, 6, 8, 11, 12, 14, 17, 19 – yes; 3, 4, 7, 9, 10, 13, 15, 16, 18, 20 – no.

One point is awarded for each match of the answer with the key. The higher the total number of points scored, the higher the intrinsic motivation of students-philologists to study gamification with elements of AR and, accordingly, the better formed motivational component of the readiness of future teachers-philologists to use these technologies in their future profession. At low total scores, external motivation predominates.

To determine the level of formation of motivational readiness of future teachers-philologists to use gamification with elements of AR, the following normative limits can be used:

- 0–5 points – reproductive level;
- 6–14 points – productive and modelling level;
- 15–20 points – creative and innovative level.

Thus, on the one hand, it is expedient to determine and characterize the levels of motivational readiness of future teachers of Ukrainian language and literature to use gamification with elements of AR, on the other hand, their selection is relative because they interact with each other. Therefore, the graduate student-philologist may be at an intermediate stage of formation of a particular level. The most important thing in this process is the positive dynamics of the transition of future professionals from lower to higher levels. Let's characterize these levels.

Reproductive level of motivational readiness is characterized by insufficient or partial motivational basis for the use of gamification with elements of AR (indifferent or formal attitude, lack of interest and need to master the knowledge, skills and abilities to use these technologies, misunderstanding of these technologies importance in education, trying to avoid them, low level of activity and focus on its success, partial development of volitional qualities).

Productive and modelling level is marked by a sufficient level of motivation to the use of gamification with elements of AR (availability student's interest in mastering his/her knowledge, skills and abilities in these technologies and a clear awareness of their importance and necessity in the modern educational process, but future teachers-philologists may not feel the need for self-improvement, lack of endurance, partial or sufficient curiosity, persistence, activity, initiative, desire for independence).

Creative and innovative level is characterized by clearly defined motivation to the use of gamification with elements of AR (a strong desire to learn the basics of these technologies, based on conscious understanding and deep conviction in the importance of gamification with elements of AR, priority, availability of active position, initiative, creative attitude, high interest and a clear need to master the knowledge, practical skills and abilities of their organization, motivation to achieve high results in implementation of gamification with elements of AR, persistent need to form their own style of creative professional activity, developed volitional sphere).

47 students of the 4th year study of Mykhailo Stelmakh Faculty of Philology and Journalism of Vinnytsia Mykhailo Kotsiubynskyi State Pedagogical University took part in the survey. The experimental group (EG) included 21 students, the control group (CG) – 26. Both groups learnt the theoretical information on gamification and AR, but only the experimental group was involved in creating a board game with elements

of AR, i.e., only this group worked on a creative practice-oriented project with the usage of these technologies.

Generalized data of the levels of formation of future teachers-philologists' motivational readiness to the use of gamification with elements of AR is given in percent in Table 1.

Table 1. Levels of formation of future teachers-philologists' motivational readiness to use gamification with elements of AR

Levels of Formation	EG		CG	
	Number of Students	%	Number of Students	%
Reproductive	4	19	10	38.5
Productive and Modelling	9	42.9	11	42.3
Creative and Innovative	8	38.1	5	19.2

Comparing the indicators of the levels of formation of students-philologists' motivational readiness to the specified activity, we trace the tendency to a better formed level of motivation among students of EG. It should be noted that the reproductive level of students-philologists' motivation to the use of gamification and AR technologies is due to the fact that those students of EG and CG, which according to the survey are at this level, they work in parallel with studying and have absences on the lessons where these technologies were considered. They were also passive in acquiring basic knowledge and skills in using these technologies. In addition, it is occurred that the significant difference between the indicators of creative and innovative level of EG and CG is due to the methods and techniques used on the classes for studying the peculiarities of gamification and AR technologies. After all, in CG students studied only the theoretical information on this topic, and EG students were involved in creative practice-oriented project, namely into creation of a board game.

Thus, the results of the survey point out the positive indicators of motivational readiness formation of future teachers-philologists' in EG to the use of gamification with elements of AR. So, these results convince of the relevance and effectiveness of organization the studying with the usage of the methods of creative practice-oriented project activities. Therefore, mastering the technologies of gamification with elements of AR, based on the use of creative practice-oriented and project methods during the studying of disciplines "Methodic of teaching literature" and "Methodic of teaching Ukrainian language", contributes to the formation of future teachers-philologists' motivational readiness to implement these technologies in the educational process of secondary school, as well as helps to form students-philologists' digital and cognitive competencies, their skills of critical thinking, logical and creative thinking.

3 Conclusions and prospects for further research

According to the analysis of scientific papers and the results of survey, we can summarize a certain sequence of steps to increase the motivational readiness of students-philologists in the use of gamification with elements of AR:

- Removal of fears, overcoming the student-philologist's insecurity in his/her own strength.
- Advancing ultimate success. The tutor expresses his/her firm conviction that the student-philologist will be able to cope with the task, gives him/her confidence in his/her strengths and abilities.
- Clear instruction to the student-philologist about the methods and forms of implementation these technologies in educational process.
- The importance of the participation of each of the future professionals, the lack of competition between them, but the cooperation with each other, a sense of cohesion, team spirit.
- Mobilization of activity to perform specific actions, student-philologist's independence in studying.
- High evaluation of some individual actions.

We consider that the use of gamification with elements of AR allows to form a student-philologist's strategic vision, creativity, independence and determination in decision-making; to activate the future teacher-philologist's communication skills and ability to teamwork, to strengthen self-discipline and self-organization, to promote the formation of skills of targeted search and processing of information; to increase the level of student-philologist's motivation to study disciplines due to his/her sense of interest and passion, a clear understanding of the expediency of spending time on studying the disciplines, gaining the ability to use knowledge in practice, including in organizing and conducting effective lessons and extracurricular activities in Ukrainian language and literature. Achieving such a result is possible due to pedagogically appropriate combination of educational methods and technologies and their close interconnection and integration (gamification, augmented reality, project activities, practice-oriented activities).

A prospect area for further research is the study of the effectiveness of using the created board game "Fantaziarium (Imaginarium)" during the pedagogical practice in secondary schools.

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