An Innovative Approach To The Formation Of Linguistic Competence In Students Using Virtual Technologies

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ABSTRACT

Virtual reality grabs people's attention. This technology is used in many sectors such as medicine, industry, education, video games or tourism. Perhaps the biggest area of interest is leisure and entertainment. Regardless of the sector, the adoption of virtual or augmented technology had several limitations: it was expensive, had poor ergonomics, or it took too much work to create content. Recent technological innovations, including the rapid introduction of smartphones into society, have made it easier for anyone to access virtual and augmented technology and use it in many ways. In addition, several large companies such as Apple, Facebook, Samsung and Magic Leap, among others, have increased their investments to make these technologies more affordable in the sphere of education over the next few years. Educational institutions will benefit from the increased availability of virtual technologies; this will allow teaching in virtual environments that cannot be visualized in physical classrooms, such as access to virtual labs, visualization of machines, industrial plants, or even medical scenarios. The vast possibilities of available virtual technologies will allow teachers and students to go beyond formal education.

| Keywords: | Innovative approach, virtual technology, linguistic competence, availability, virtual environment, visualization, educational principles. |

Introduction.

Today, technology is everywhere. We seem to like it, trust it, and depend on it – if not, we could never enjoy air travel, use an ATM machine, or call a friend on the phone. Technology has changed how we live, and the truth is it has come to stay. To fight it is to fight a battle you cannot win. Eventually, literacy will not be just about going to school alone, but about knowing how to use basic technology. We see technology affecting every other sphere of life – banking, marketing, health, corporate organizations, logistics and transport, communication, etc. Almost everything we use and do now is built around technology. The world has changed because of it and this is for the better. However, the education industry seems to be slow in seeing this and adopting it; we are coming last to the game. We seem to be really skeptical...We're hearing the news: It's failing everywhere. Why is this happening? What is the solution? Ban technology? Put up posters that say "Please switch off your phones"? An older colleague of mine used this great illustration. What do you think of when you see a knife? "Useful"? "Dangerous"? Sure, there have been several stories of people being stabbed with a knife (and sometimes over and over, all over the world), but will the solution be to ban all knives in your house? Think about it (or maybe try): Put away all knives and see if you'll survive a week. The problem is not the

knife; the problem is what you do with the knife and, most importantly, how you use the knife!

Nowadays in students' lives technology is everywhere, from interactive games to the growing plethora of digital devices. All this exposure to technology means that their learning expectations are likely to be very different from previous generations where technology was not widespread [1]. This scenario makes the traditional teaching techniques sometimes fail when it comes to engaging the contemporary students and, consecutively, creates an inability to motivate them to learn [2].

Methods And Principles.
The process of forming students' linguistic competence should be carried out in several stages, including the pedagogical course, methods of teaching subjects and pedagogical practice. The organization of competency-based education in higher education is based on the following educational principles:

1) The principle of science guarantees the study of theoretical knowledge, facts, concepts, rules and scientific competencies that are of practical importance.

2) The principle of systematization implies the purpose, tasks, content, methods, tools and forms of teaching, the imagination and use of language itself as a whole system, as well as the achievement of consistent, systematic, logical formation of texts created by students.

3) The principle of consistency requires the gradual acquisition of language concepts by students, the gradual formation of verbal competencies, the targeted use of language opportunities based on the requirements of the topic.

4) The principle of demonstration is the effective use of natural, pictorial, distributive, didactic, audio-video materials, multimedia, Internet and e-learning tools in the creation of independent text by students.

5) The principle of continuity of education and upbringing implies the content, consistency and logical connection of education, ensuring interdependence in the process of text creation by students, the formation and development of cultural dialogue in students.

6) The principle of awareness requires the ability to consciously increase the level of competence that corresponds to the age characteristics of students in the acquisition of competencies to create independent text.

7) The principle of comprehensibility is the use of terms and concepts that facilitate the acquisition of new knowledge, the understanding of the main idea.

8) The principle of unity of theory and practice - students are required to assimilate theoretical and practical knowledge in harmony, to acquire professional competencies, as well as to get used to their correct application in different situations.

9) The principle of continuity is the preservation of inter-level connections between previously acquired knowledge of students and newly studied topics, as well as the improvement of knowledge of spelling, punctuation and methodology through the creation of text.

Listening comprehension, especially in foreign language learners, requires the listener to observe attentively as much visual and auditory clues as possible inserted in an audio, in order to have a real idea of what is going on in the given narrative. Since in most basic and language schools the listening exercises are mostly supported by audio streaming, an immersive VR application was developed to help teachers explain a particular scenario in a listening session. Four from the seven teachers who participated in the pilot study were not only responsible for the dialogue script for the VR application but also gave voice to Non-Player Characters (NPCs). The methodology adopted consists of a quasi-experimental design, cross-sectional study with a quantitative focus. The sampling technique used was the non-probabilistic convenience sampling procedure.

The Use Of Virtual Technologies In Modern Methodology Of Teaching Languages.

One of the most important factors regarding foreign or second language learning is to be exposed to it, by talking or listening to it. Listening sessions can be defined as when listeners are able to convert visual and auditory clues into information about what is going on in any given situation [3]. They are part of most language courses and international proficiency tests as the Test of English as a Foreign Language (TOEFL) TOEFL and the International English Language Testing System (IELTS), in the case of English language. In addition, they are the hardest ones, as it requires the student the ability to carefully pay attention to understand in real time what is being said.

The use of multimedia content in education is considered to be quite productive. Videos, images, sounds, animations or simulations are just a few types of multimedia that can be used in a meaningful way due to its interactivity and flexibility [4]. Virtual Reality (VR) technology, described as the use of an immersive computer-simulated environment in which people can interact with [5], incorporates these traditional multimedia and significantly elevates the level of user immersion, particularly at the level of visual perception. It replaces interaction with immersion; it replaces the desktop metaphor with a world metaphor; and it replaces direct manipulation with symbiosis [6]. The high levels of immersion, authenticity and interaction provided by VR allow the user to believe that he is within the computer-simulated environment [7], which is called the sense of presence. This aspect gives the opportunity to help students comprehend complex or abstract concepts in situations that have cost or security constrains or even which may no longer exist [8]. Studies by the VIRART group [9] from (PAIS) concluded that VR applications are an asset in teaching, more specifically in especial communication languages.

Table 1. The system of organizing the process of formation of linguistic competence in students using virtual technologies

Stages	Aims
I. Preparation Stage (1st year and 2nd year students)	Initial psychological and pedagogical training of students. Conditions are created for the formation of students' readiness for a particular type of activity. This stage is based on the integration of English language sciences, as well as a special knowledge system. The preparation phase can be the same in terms of structure and content for future teachers in all subjects.
П. Methodological Stage (3rd year students)	Formation of linguistic competence in students using virtual technologies to ensure a minimum level of reproduction of training in a clear methodological way. The methodical stage is carried out in the 3rd year on the basis of materials on methods of teaching special subjects on a special program and the organization of educational practice.

III. Creative-Research Stage (4th year students)	The preparation of students for a particular activity is completed. At this stage, through the formation of linguistic competence in students with the help of virtual technologies, future teachers acquire the skills of independent research, identify effective methods of work, develop methods that will ensure their future professional development. In the third stage, the level of formation of students' readiness for pedagogical activity is diagnosed.

The use of virtual technologies in the formation of their pedagogical competence in the preparation of students is a priority. The purpose of our research is to identify the content, form and methods of innovative approaches to improving the effectiveness of the formation of the competence of future English teachers in Uzbekistan and their widespread application in practice through experimental work.

According to the above scientific analysis, the following features of the formation of the following linguistic competence in English in students using virtual technologies were identified:

- Awareness of the priority of improving the education system
- Knowledge of the structure and content of linguistic competence as an integral part of professional competence
- Organize and control the formation of linguistic competence in students with the help of virtual technologies, understanding the essence of the forms, methods and tools and their application in the learning process

- Identify ways to put virtual technologies into practice
- Be able to develop projects for the modern organization of education
- Ability to create and control the quality of e-learning modules
- Be able to organize the activities of moderators, tutors, caseologists
- Be able to control the updating of qualification practice bases and the improvement of programs
- Ability to effectively organize and develop educational and methodological activities in higher education.

In our educational process, the current state of formation of professional competencies of future teachers in the 2018-2019, 2019-2020, 2020-2021 academic years was studied. Based on the analysis of research aimed at the formation of linguistic competence in students using virtual technologies and the stages and levels of professional training of students, the levels and criteria for the formation of professional competence of a future English teacher through innovative educational content were developed (Table 2).

Table 2. Criteria for determining the level of linguistic competence in students using virtual technologies

№	Types	Content
1	Knowledge of the concept of linguistic competence by students	Knowledge of the content of increasing the effectiveness of the educational process with the help of virtual technologies Ability to know the technology of application of ICT in the classroom.
2	Has methodological knowledge on how to increase the efficiency of the educational process using virtual technologies	Be able to communicate their knowledge of increasing the effectiveness of the educational process with the help of virtual technologies to young people in an understandable, fluent language, effective use of educational technologies and methods

3	Has specialized knowledge to increase the efficiency of the educational process using virtual technologies	Ability to have in-depth and comprehensive knowledge in their field of science and subject in the process of increasing the effectiveness of the educational process with the help of virtual technologies, the ability to work on themselves
4	Ability to know how to increase the efficiency of the educational process using virtual technologies	In the process of teaching with the help of virtual technologies, a teacher with such abilities knows the subject not only in the scope of the course, but also more extensively, constantly observes discoveries in their field, knows the material perfectly, is very interested in it, and conducts research.
5	Ability to explain how to increase the efficiency of the educational process using virtual technologies	Improving the effectiveness of the educational process with the help of virtual technologies.
6	That it has the ability to observe to increase the efficiency of the educational process using virtual technologies	Psychological observation associated with the ability to understand a student's personality and his or her temporal mental states using virtual technology. Such a teacher can also perceive invisible changes in a student's psyche on the basis of small symptoms, small external signs.
7	Ability to pedagogical speech using virtual technologies	Virtual technology is the ability to express one's thoughts and feelings clearly and distinctly through speech, as well as through gestures.
8	Has organizational skills in increasing the efficiency of the educational process using virtual technologies	Improving the effectiveness of the educational process with the help of virtual technologies involves the organization, consolidation of the student body, the motivation to solve important tasks, and secondly, the organization of their own work. Organizing your own work means being able to plan and control your work properly.

Table 3. Indicators of linguistic competence in students using virtual technologies

Criteria for indicator types	Indicators
Motivational (formation of positive tendencies)	- Understanding the need to develop professional competence of the future teacher as a component of preparation for pedagogical activity; - readiness to demonstrate the competencies formed in the learning process; - the need for independent development of competencies in their field;

Cognitive (strengthening of theoretical knowledge)	- be able to acquire knowledge and perform mental operations using them; - to understand the importance of professional competencies in pedagogical activity, to have theoretical knowledge for lessons and extracurricular activities in their subject; - be able to use the knowledge of the specialty in practice;
Operational (ability to effectively organize educational work)	- Ability to organize classes and extracurricular activities in higher education; - have the skills to plan and analyze their professional activities, educational processes and forms of organizational and managerial activities; - be able to establish positive relationships with students, teachers and administration; be able to use modern information and communication technologies in their activities; - be able to apply their professional competencies in all forms of education.
Reflexive (self-assessment based on self-analysis)	- ability to think, evaluate and predict the results and achievements of the learning process; - Ability to self-assess, analyze the actions of personal and professional activities.

Results.

Based on the special methodology, experimental work carried out in 2018-2019, 2019-2020, 2020-2021 was conducted at GulSU, Nukus and TerSU. Students of the 2nd, 3rd and 4th stages of the "Primary education and sports educational work" of these universities were involved in experimental work. In the experimental group, a comprehensive program "Innovative forms, methods and technologies of organization of educational work in higher education institutions" was implemented.

The sociodemographic data shows that 85,7% of the participants use multimedia content in class at least occasionally (M= 1,14, SD = 0,53). When inquired the types of multimedia they use, 100% answered sounds (music, recordings of voice, etc.), 85,7% images (photographs, drawings, maps, figures, etc.), 57,1% videos (entertainment, educational, animations, etc.), and only 14,3% reported the use of simulations and others. It was questioned what was their perceived level of knowledge on VR, in which 71,4% of the participants said that they only have basic knowledge about this technology and how it works.

Diagnostic results on the formation of linguistic competence in future teachers using virtual technologies in the organization of the first experimental work did not differ from

each other in the experimental and control groups.

Table 4. The results of the analysis of the number of students with critical, reproductive, productive and creative competence in the defining and formative stages of experimental work

Levels	Experiment	
	Experimental Group (120 students)	Control Group (120 students)
Elementary	11,5%	11,2%
Lower	34,2%	33,4%
Intermediate	40,9%	39,7%
Advanced	14,4%	15,7%

Regarding to the teachers' satisfaction with the immersive VR application as an educational tool, the results were even more positive, with M = 6,86 and SD = 0,45 (Figure 1). A closer analysis revealed that the participants strongly agree that: (1) this experience complements in a positive way the classic listening exercise; (2) this experiment facilitates and helps with the language teaching methods; (3) they would like to use this technology as a way of teaching in their classes.
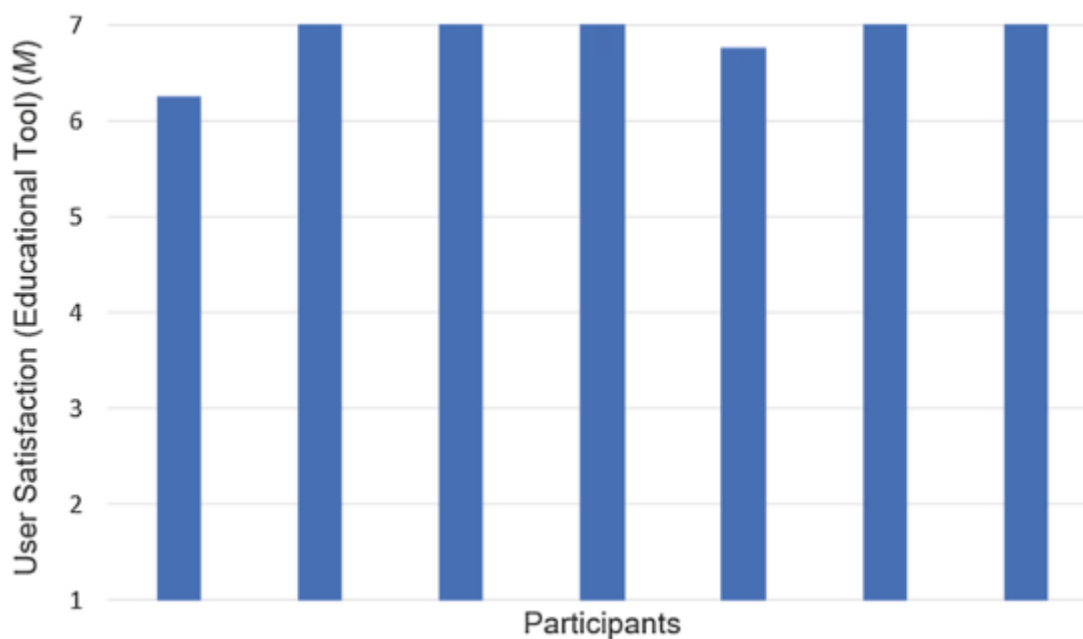

Figure 1. User satisfaction regarding the VR application as an educational tool

In the course of the research, we relied on the current qualification requirements and ideas about the status of the teacher, promoted in foreign legal documents, in determining the competence indicators of students, English teachers and leading teachers.

Conclusion.

Somehow, it is known that even though the education sector is coming late to the use of technology, it will soon overtake other industries regarding the kind of transformation it can have when teachers and students use it appropriately. Getting it right is critical for both teachers and students; but once they do, they are set to employ technology to transform the teaching, build great students, and further change our world. Particularly, to increase the effectiveness of modern lessons based on the formation of linguistic competence in students

with the help of virtual technologies, it is expedient to develop the content of the innovative process aimed at teaching students English. Textbooks, teaching aids, Internet resources, media materials, multimedia products, TV conferences, video conferences and visual aids are very effective in the formation of students' linguistic competence. Students demonstrate their linguistic abilities through listening, reading, writing, speaking competencies. Important pedagogical requirements are phonetic, lexical, grammatical, linguistic, pragmatic theoretical knowledge and skills to demonstrate them in practice.

References

1. Wang R., Newton S., Lowe R. Experiential learning styles in the age of a virtual surrogate // International Journal of Arch. Res 9, 2015. – P.93–110. DOI: 10.26687/archnet-ijar.v9i3.715
2. Prensky M. Digital Game-Based Learning. – New York: Paragon House, 2007.
3. Alatis J. Georgetown University Round Table on Languages and Linguistics. – Georgetown: Georgetown University Press, 1990.
4. Andresen B., van den Brink K., UNESCO Institute for Information Technologies in Education: Multimedia in Education: Curriculum. UNESCO, 2013.
5. Machover C., Tice S.E. Virtual reality // IEEE 14(1), 2014. – P.15–16.
6. Psotka J. Immersive training systems: virtual reality and education and training // Instructional Science 23(5), 1995. – P.405–431. DOI: 10.1007/BF00896880
7. Alqahtani A.S., Daghestani L.F., Ibrahim L.F. Environments and system types of virtual reality technology in stem: a survey // International Journal of Advanced Computer Scientific Applications 10, 2016. – P. 82-106.
8. Christou C. Virtual Reality in Education // IGI Global 12, 2010. – P.228–243. DOI: 10.4018/978-1-60566-940-3.ch012
9. Youngblut C. Educational Uses of Virtual Reality Technology. – Malden: Institute for Defense Dnalyses, 2018.