UDC 37.013

Digitalization of education: digital storytelling as a new format of educational activity

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Abstract

The development of digitalization has significantly changed the living conditions and activities of a man and society, making a number of modifications to the previously established systems. These innovations have not bypassed the education sector, which needs to find and integrate new formats and technologies suitable for teaching a new generation grown up in a digital environment. This article considers a modern educational technology – digital storytelling, used in the educational process to form students' competencies of the XXI century. Digital storytelling provides an opportunity for students to show their skills in modern technologies, as well as creativity and imagination. The use of digital storytelling in education contributes to the creation of key competencies, developing skills such as teamwork, critical thinking, creativity, as well as competencies in the field of digital, information, technological and media literacy. Digital storytelling is a great opportunity not only to conduct a lesson in an interesting way, but also to give students the opportunity to show their skills in modern technologies, creativity and imagination. The digital storytelling method can be used at different stages and levels of education. The use of digital storytelling in education contributes to the development of key competencies of the 21st century, improving skills such as teamwork, critical thinking, creativity, as well as the competencies in the field of digital, information, technological and media literacy.

Keywords

Digitalization of the educational process, skills, competencies, innovations, storytelling, distance technologies, electronic educational environment, gamification, project activities, multimedia technologies.

Introduction

The development of digitalization and the widespread use of modern information technologies have significantly changed the living conditions and activities of a man and society, making adjustments and transformations to previously established systems [Aisner, Naumov, 2020a]. These innovations have affected the field of education: changes in the traditional educational process require the search and integration of new formats and technologies that would be suitable for teaching a new generation of students who grew up in a digital environment [Aisner, Naumov, 2020b].

The current trend is the transition to blended learning, which involves working in electronic educational environment (EEE) and the use of distance learning technologies (DLT). Such training involves the organization of independent work of students through the mass use of online courses, distance learning systems, social networks, etc., the partial transfer of certain types of classes to a virtual electronic environment, the organization of project activities in it [Agapova, 2021].

The use of advanced educational technologies such as blended learning, pedagogical design technologies, inverted classroom model, online testing, and multimedia accelerates the restructuring of the traditional educational process. In addition, massive open online courses (MOOCs), mobile and cloud technologies, gamification of learning, simulators (VR/AR), as well as a variety of interactive content (longreads, snowfall, podcasts) are actively developing [Agapova, 2019].

Among the interactive digital methods that have been actively implemented into the educational process recently, special attention is paid to digital storytelling, which has replaced the traditional storytelling technology and has become the subject of research by many authors.

Classic and digital storytelling

To understand what digital storytelling is, it is necessary to find out what classic one is. Unlike the usual story, storytelling is told in order to achieve a goal. The information is given in such a way as to intrigue listeners (readers) and involve them in the process. The following types of storytelling can be found in scientific publications (table 1):

Table 1 - Types of storytelling

Types	Description of the types
oral storytelling	the format of public speeches: a short, understandable oral presentation to the general public on a relevant topic, presented in an accessible and interesting language
written storytelling	the use of the ad story genre (advertising story), which is an entertaining story about a product / a character, its (his) unique qualities
digital storytelling	the format of using modern types of media (various forms of information presentation: text, audio, graphic, video). Possible variants of the product: digital essay, interactive narration, computer storytelling, multimedia storytelling, longrid, etc.

Let's consider the main reasons for using storytelling in the educational process:
1) A variety of educational forms: the competent use of storytelling will make any lesson more interesting.
2) Involvement in the process: the storytelling technique is presented in the form of discourse, i.e. stories allow students to arouse interest, develop imagination, literacy and speech, help memorize material.
3) Use in project activities: storytelling can be used in joint project activities of students, developing teamwork skills [Tikhonova, 2016].

At the present stage of digital technology development, the traditional story, immersed in the digital environment, gets a "new life": modern multimedia technologies transfer narrative practice to a completely new format of content organization. Digital storytelling is the art of fascinating storytelling using modern multimedia tools: graphics, audio, video and web design.

Digital story has its own rules:

1) Immersion in story: viewers / readers should feel involved in the story.

2) Deep study of the topic: it is important for participants not only to get answers to the questions "what?", "where?", "when?", but also to understand the prehistory by getting answers to the question "why?".

3) Interactivity: a reader / a listener should be given the opportunity to interact with the material: manage infographics, rotate photos, comment, etc. [Agapova, Aisner, 2019].

4) Design: all content should be clearly structured.

The main elements of digital storytelling:

− the author must have a clear point of view;

− there must be an intrigue (the main question that is answered at the end);

− an emotional component (such stories are remembered best);

− the key question that holds the viewer's attention and which will be answered at the end of the story;

− careful selection of visual means by which a digital story will be created, there is no need to overload the audience with a large number of video installations (their choice must be justified), completeness must be present;

− the rhythm of the story should be dynamic not to let listeners get bored [Azevich, 2017].

The use of digital storytelling in the classroom

Before applying the digital storytelling technique, it is necessary to decide who will create a multimedia story: the teacher or students. This can be both a collective work and an individual one.

Let's look at some examples of organizing the work of creating a digital story:

1) The teacher presents new material in the form of a digital story.

2) The story is created in order to explain a complex rule, to make abstract content more understandable (multimedia teaching has been proven to help students understand and memorize complex material).

3) Students create their own story on a given topic, collectively or individually.

There are a lot of options – it all depends on the level of training, age and sphere of interests of students. Let's consider the main types of digital storytelling listed in the table (table 2).

Table 2 - Varieties of digital storytelling

Type of digital storytelling	Functionality	Resources for creation
a drawn video	In this format a viewer is watching the process of creating a picture, writing a text, etc.	VideoScribe, Powtoon
animated storytelling	In this format, there is a creation of moving elements	Powtoon, Vyond
comics and storyboards	This format makes it possible to create independent projects or use them as working materials for creating presentations and videos	Pixton
presentations	This format is used to create projects	PowerPoint, Office Mix, Prezi (prezi.com), Sway and other online resources

Type of digital storytelling	Functionality	Resources for creation
a web page with multimedia content	This format is for creating multimedia longreads with photos, audio, animation elements	Tilda, Medium, Stampsy

The variety of programs makes it possible to choose the technology for creating a digital story, depending on the topic of the assignment and level of computer literacy. Online services help us create stories with graphic, animated and other elements.

There is the following algorithm for creating a digital story:

1. Concept development. This is the choice of a topic and a format, the definition of goals.

2. Collection and analysis of information. We search for information on the topic, select it, analyze it, and reveal our attitude to the story.

3. Creating a story. It is necessary to remember all the rules for creating a digital (and classical) story. It will be better to perceive the story in the first person. Do not forget about the emotional component. Select the service that you will use to create a story, the necessary photos, videos, etc.

4. Installation. All the collected information is connected in the project workspace. Multimedia elements are added.

5. Presentation of the project. The finished project is either presented by a teacher to his students in class, or students present it to the class. Feedback is very important.

Conclusion

To date, there is no consensus on what role digital storytelling plays in the educational process: whether it is a complete pedagogical technology, an independent or auxiliary method, practical or project activity, or maybe just a way to transfer and popularize knowledge. In the works of researchers, there are at least two approaches to the consideration of digital storytelling technology in education: from the point of view of a teacher and students.

According to a number of researchers, digital storytelling belongs to one of the forms of educational communications. Thus, A.I. Azevich believes that digital storytelling promotes effective interaction between a teacher and students, develops students' independence [Azevich, 2017]. V.Y. Grushevskaya believes that the storytelling method can be used to solve pedagogical problems: information transfer, student's motivation increase and development of communicative and ICT competencies [Grushevskaya, 2017]. L.A. Gorokhova complements this list and identifies four groups of competencies, the formation of which is facilitated by the pedagogical technology of digital storytelling: informational, cognitive, communicative, and research [Gorokhova, 2016]. The first group includes skills in working with ICT tools, information of various types: audio, video, graphic. The second group of competencies (cognitive) includes the ability to think creatively and critically, set and solve educational tasks, and analyze information. Communicative competencies are the skills to work in a team, evaluate oneself and others, and use various forms of communication. The group of research competencies includes the ability to work with data, collect, systematize and process information, and conduct project work.

As you can see, digital storytelling is a great opportunity not only to conduct a lesson in an interesting way, but also to give students the opportunity to show their skills in modern technologies, creativity and imagination [Agapova, Aisner, 2018]. The digital storytelling method can be used at different stages and levels of education. The use of digital storytelling in education contributes to the development of key competencies of the 21st century, improving skills such as teamwork, critical

thinking, creativity, as well as the competencies in the field of digital, information, technological and media literacy.

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Цифровизация образования: цифровой сторителлинг как новый формат учебного занятия

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Аннотация

Развитие цифровизации существенно изменило условия жизни и деятельности человека и общества, внеся ряд модификаций в ранее сложившееся системы. Данные инновации не обошли стороной и сферу образования, испытывающую потребность в поиске и интеграции новых форматов и технологий, подходящих для обучения нового поколения, выросшего в цифровой среде. В данной статье рассматривается современная образовательная технология – цифровой сторителлинг, применяемая в учебном процессе для формирования у обучающихся компетенций XXI века. Цифровой сторителлинг дает возможность обучающимся показать свои навыки владения современными технологиями, проявить творчество и фантазию. Применение цифрового сторителлинга в образовании способствует созданию ключевых компетенций, развивая такие навыки, как работа в команде, критическое мышление, креативность, а также компетенции в области цифровой, информационной, технологической и медиаграмотности.

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