Innovative technologies of teaching ancient literary heritage

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Abstract

The purpose of this research is to take the opinions of primary school teachers on the teaching of an ancient literary heritage with the digital story method, in order to benefit from innovative technologies in the teaching of old literary works. The research was created with the qualitative research method. In the research, 51 primary school teachers who were teaching in primary schools in Kazakhstan in the 2022–2023 academic year were studied. Research data were collected by in-depth interview technique. As a result of the research; the vast majority of teachers stated that they found themselves inadequate in using the digital story method in the teaching of old literary works. Teachers stated that they never benefited from the digital story method in the teaching of ancient literary heritage. On the other hand, teachers stated that they are very willing to benefit from the digital story method in the teaching of old literary works. The teachers benefited from the advantages of using the story method in the teaching of ancient literary works; they are listed as facilitating the interpretation of the content, conveying real-life situations, providing an interactive learning environment, being interesting, making the explanation of certain topics more attractive, offering more diversity than traditional practices, and providing individualization of education. Teachers, the disadvantages of using the story method in the teaching of old literary works;

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they listed teachers' lack of education, lack of methods and materials, taking a lot of time, insufficient technological equipment in the teaching environment, individual differences of students, and the transformation of technology use into a habit.

Keywords: Ancient literary heritage, innovative technologies, digital story, primary school teachers;

1. Introduction

The methods, techniques, and materials used in the developing and changing world educational environments have also changed (Elmira et al., 2022). Particularly, developments in information and communication technologies and rapidly continuing technology integration studies have brought the existence of technological applications in educational environments (Uzunboylu & Gündogdu, 2018). It can be said that one of the methods based on the effective use of technology in the education-teaching process is "digital storytelling," which has been emphasized frequently in recent years (Schrum et al., 2017).

1.1. Theoretical and conceptual framework

Today is a time when dynamic changes and transformations take place (Abirov et al., 2022; Adimora et al., 2016). In a globalizing world where new demands are created for individuals, societies, and education systems, knowledge is constantly increasing exponentially (Zhang, 2021). In order for society to cope with these challenges, the education system must be modern, flexible, innovative, and in a structure that responds to the changing needs of society (Garbin et al., 2021; Halapa & Djuranovic, 2021). The use of digital stories in education emerges as a new understanding that responds to changing educational needs.

Stories have been frequently used to share wisdom and values throughout history as it is today. Chung (2007) defined storytelling as establishing a connection between past, present, and future generations in shaping a set of values and beliefs. According to Dreon et al. (2011), digital storytelling is the creation of the art of storytelling by supporting it with different tools which emerged as a new concept as a result of developments in electronic and digital fields. It is a method applied as "combining multimedia elements such as image, sound, and video with short story fiction in digital environment" (Undheim & Jernes, 2020). Digital storytelling applications and their contents attract attention with the opportunity to use various visual content, creative drama applications, and sound elements, especially for younger age groups (Istenic Starcic et al., 2016).

With these aspects, digital storytelling enables children to have more possibilities for visual communication in the process (Del-Moral-Perez et al., 2019). In addition, since digital storytelling supports children's multi-faceted literacy (visual literacy, technology literacy, media literacy, etc.); they can also find the opportunity to transfer their competencies from one environment to another, discover their latent skills and realize their competencies at an earlier age (Duveskog et al., 2012).

Compared to the traditional narrative method, digital story audiences are not just a viewer, but individuals who make emotional communication with the story and shape it (Dorner et al., 2002).

He gathered the types of digital storytelling under three main headings. These; informative and instructive stories are personal stories and stories about historical events. Informative and instructive stories: The main theme in informative and instructive stories is to teach certain subjects to the story audience (Hung et al., 2012).

Personal stories includes memories, events, personal experiences, or simple autobiographies. Stories about historical events: historical digital stories focus on investigating and narrating historical events in different forms (Heo, 2009). Digital storytelling is used for different purposes such as teaching course content in the classroom, enabling students to be active researchers, creating communities through storytelling, and bringing students together with technology standards (Banaszewski, 2002).

1.2. Related research

Baim (2015) examined the effectiveness of digital stories in an online learning environment in his study. The study aimed to compare the selection and preparation of video-based digital storytelling modules and the students' own learning preferences in the leadership course. As a result of the research, the best seven digital stories were selected by the votes of the students. As a result, it has been seen that digital storytelling has a positive contribution to the success of students. Niemi et al. (2014) reveal in their studies that new virtual learning environments include more areas and applications where digital resources, tools and applications are used. In the study, it was revealed that the use of digital storytelling to learn the 21st-century skills and competencies needed in the future working life of students is effective.

Xu et al. (2011) examined the effect of digital storytelling studies on writing self-efficacy and flow in a virtual learning environment known as Second Life. According to the results of the research, it was determined that the digital storytelling study carried out in the online virtual learning environment was more effective than the digital storytelling study conducted with Movie Maker. Yang and Wu (2012) aimed to examine the effect of digital storytelling on students' academic achievement, critical thinking skills, and learning motivation in their studies. The findings obtained from the research revealed the educational importance of digital storytelling.

Condy et al. (2012) aimed to analyze the perceptions and digital storytelling experiences of teacher candidates who are in their last year of education. According to the results of the research, it was stated that the digital storytelling approach revealed new media literacy prepared in rich and diverse contexts in students. In his study, Karakoyun (2015) provided training on the use of digital storytelling methods in the lessons by pre-service teachers. Afterward, teacher candidates were encouraged to give lessons to secondary school students. Within the framework of the application, students' views on digital storytelling were consulted. As a result of the study, it was emphasized that they had positive opinions about digital storytelling that the projects and collaborations were enjoyable and effective, but similar scenarios were boring.

1.3. Purpose of the research

The purpose of this research is to take the opinions of primary school teachers on the teaching of old literary works with the digital story method, in order to benefit from innovative technologies in the teaching of old literary works. In accordance with the purpose of the research, the following research questions were formed.

1. What are primary school teachers' competencies in using the digital story method in the teaching of ancient literary works?

2. How do primary school teachers benefit from the digital story method in teaching old literary works?

3. What are the motivations of primary school teachers to use the digital story method in teaching old literary works?

4. What are primary school teachers' views on the advantages of using the digital story method in teaching ancient literary works?

5. What are primary school teachers' views on the disadvantages of using the digital story method in teaching ancient literary works?

2. Methods and materials

2.1. Research method

The research was created with the qualitative research method. It is possible to define qualitative research as research in which qualitative data collection techniques such as observation, interview, and document analysis are used, and a qualitative process is followed to reveal perceptions and events in a natural environment in a realistic and holistic way. There is an effort to reach a deep understanding of the subject in qualitative research (Mohajan, 2018). This effort was determined in the research as an effort to reveal the views of primary school teachers on the teaching of old literary works with the digital story method.

2.2. Participants

In the research, 51 primary school teachers who were teaching in primary schools in Kazakhstan in the 2022–2023 academic year were studied. Primary school teachers who constituted the study group of the research stated that they participated in the research voluntarily. 33 of the primary school teachers are female and 18 are male.

Ethical regulations regarding the study group: In the preliminary interview with the teachers participating in the research before the research data were collected, detailed information was given about the research process in order to prevent unethical behaviors and to ensure reliability. The information that the findings obtained in the in-depth interviews will be shared with the privacy of personal information has been given to the teachers. Accordingly, teachers were asked to avoid scientific answers. Preliminary interviews with teachers were provided in order to increase the reliability of the research.

2.3. Data collection tools

Research data were collected by in-depth interview technique. An in-depth interview is a data collection technique that covers all dimensions of the researched subject, mostly open-ended questions are asked and allows detailed answers to be obtained, and allows information to be collected through face-to-face, one-to-one interviews. It was deemed appropriate to take the views of the pre-service teachers participating in the research by in-depth interview technique. The in-depth interview questions prepared by the researchers are given below.

1. Do you find yourself sufficient in using the digital story method in the teaching of old literary works? Why?

2. Do you use the digital story method in the teaching of old literary works? Would you like to use the digital story method in teaching old literary works?

3. Would you like to use the digital story method in teaching old literary works?

4. What are the advantages of using the digital story method in teaching ancient literary works?

5. What are the disadvantages of using the digital story method in teaching old literary works?

2.4. Data collection process

Interviews with primary school teachers were conducted face-to-face and one-on-one. Permission of the participants was sought to record the interviews during the research. While 43 of the interviewees allowed the interviews to be audio-recorded, 8 interviewees requested that the interviews be recorded in writing. The interviews lasted approximately 40 minutes. The completion of the research process took 8 weeks.

2.5. Data collection analysis

The data obtained at the end of the research process were subjected to descriptive and content analysis. While descriptive analysis is used to process data that does not require in-depth analysis, content analysis requires a closer examination of the data obtained and reaching the concepts and themes that explain this data. The descriptive analysis evaluates the descriptive findings of the individuals interviewed and tries to define the data through content analysis; the data, which are found to be similar and related to each other, are brought together and interpreted within the framework of certain concepts and themes. The content of the participants' views is systematically defined by content analysis. In this research, the views of primary school teachers on the use of innovative technologies in the teaching of ancient literary works with the digital story method and the teaching of ancient literary works were subjected to descriptive and content analysis. The answers given by the primary school teachers in the in-depth interviews were given by creating frequency and percentage tables in the findings. Obtained values are given by rounding because they are not divisible by 100. The personal information of the primary school teachers participating in the research was kept confidential and the answers they gave to the questions were coded as Teacher-1, Teacher-2, and Teacher-3 and used in the research.

3. Results

3.1. "Do you find yourself competent to use the digital story method in the teaching of ancient literary works? Why?"

Table 1. Primary school teachers' self-efficacy in using the digital story method in the teaching of old literary works

Teacher opinions	F	%
I find it very sufficient	-	-
I find it sufficient	4	7.9
I find a little enough	9	17.6
I find it insufficient	33	64.7
I find it very inadequate.	5	9.8
Total	51	100

In Table 1, the situation of primary school teachers participating in the research finding themselves competent in using the digital story method in the teaching of old literary works has been evaluated under five different views. These are: I find it very sufficient, I find it sufficient, I find it somewhat sufficient, I find it insufficient, and I find it very insufficient. 7.9% of the primary school teachers who participated in the research found it sufficient, 17.6% found it somewhat sufficient, 64.7% found it sufficient, and 9.8% found it very inadequate. Among the teachers participating in the research, there is no teacher who stated that they found themselves very competent in using the digital story method in the teaching of old literary works.

3.1.1. Teacher opinions

Teacher-40: I definitely don't find it adequate at all. In this field, it is necessary to provide teacher competencies through in-service training. Teacher-11: I find myself inadequate. While I was studying as a teacher, I did not receive any training on digital technology and storytelling. Moreover, teaching old literary works to students with the digital story method requires a separate expertise. Teacher-4: Actually, there are times when I use the digital story method. However, I find myself somewhat sufficient in using the digital story method in the teaching of old literary works. Teacher-7: I can say that I consider myself sufficient. I used the digital story method in the narration of old literary works before. I can say that I have experienced enough.

3.2. "Do you use the digital story method in teaching ancient literary works?"

Table 2. Primary school teachers' use of digital story method in teaching old literary works

Teacher opinions	F	%
I always take advantage	-	-
I often use	-	-
Sometimes I take advantage	10	19.6
I rarely use	14	27.5
I never take advantage	27	52.9
Total	51	100

Table 2, the use of the digital story method by the primary school teachers participating in the research in the teaching of old literary works has been evaluated under five different views. These are: I always use, I often use, I sometimes use, I rarely use, and I never benefit. 19.6% of the teachers who participated in the research gave the answer that I sometimes use it, 27.5% of them rarely use it and 52.9% of them never use it. Among the teachers who participated in the research, there is no teacher who answered that I always use the digital story method in the teaching of old literary works and I often make use of it.

3.2.1. Teacher opinions

Teacher-31: From time to time, I use the digital storytelling method in teaching old literary works. I think it is a very effective method. Teacher-9: I have organized such activities for my students several times. However, creating a story takes a lot of time, so it's not a method I use very often. Teacher-50: Until today, I have not organized any activity on the teaching of old literary works with the digital story method.

3.3. "Would you like to use the digital story method in teaching ancient literary works?"

Table 3. Teachers' willingness to use the digital story method in teaching old literary works

Teacher opinions	F	%
I would like	40	78.4
I would like	7	13.7
I would like some	4	7.9
I do not want	-	-
I never want	-	-
Total	51	100

Table 3, the willingness of the teachers participating in the research to benefit from the digital story method in the teaching of ancient literary works was evaluated in the categories of "I would very much like," "I would like," "I would like some," "I do not want," and "I do not want at all." 78.4% of the teachers answered that I would like it very much, 13.7% would like it and 7.9% answered that I do not want a little. Among the teachers participating in the research, there is no teacher who gave the answer "I don't want" or "I don't want" to benefit from the digital story method in the teaching of old literary works.

3.3.1. Teacher opinions

Teacher-3: Of course, I would love to be equipped in such a field and to use the digital story method effectively in teaching old literary works. Teacher-3: Teaching ancient literary works is very important for primary school students. Since digital stories will increase the quality of teaching, I would like to gain experience in using the digital story method in the teaching of ancient literary works. Teacher-51: I think I'd like some. I am a teacher who is reluctant to integrate technology into education. So I can't say that I am very enthusiastic. Still, it will certainly have benefits.

3.4. "What are the advantages of using the digital story method in teaching ancient literary works?"

Table 4. Teachers' views on the advantages of using the story method in teaching ancient literary works

Teacher opinions	F	%
Making content easier to understand	42	82.3
Conveying real-life situations	33	64.7
Providing an interactive learning environment	29	56.8
To be interesting	17	33.3
Making the explanation of certain topics more compelling	15	29.4
Offers more variety than traditional applications	13	25.4
Ensuring individualization of education	6	11.7

In Table 4, the views of the teachers participating in the research on the advantages of using the story method in teaching old literary works are categorized. 82.3% of the teachers answered that the content makes it easier to make sense of, 64.7% conveys real-life situations, 56.8% offers an interactive learning environment, and 33.3% answers that it is interesting. 29.4% of the teachers answered that it makes the explanation of certain subjects more attractive, 25.4% offer more variety than traditional practices, and 11.7% give the individualization of education.

3.4.1. Teacher opinions

Teacher-1: I think this method is quite interesting for students. It also creates an interactive learning environment as it ensures the active participation of the student. It transforms training from large groups to personal. Teacher-19: It can be effective in teaching students about real-life situations. I think it is a method that makes it easier for the student to understand and make sense of the subject. Teacher-21: I think that the subjects that would not attract attention when told with the classical method can attract attention when told through digital stories. It offers a variety of methods that are different from classical methods. Teacher-44: It ensures that the educational content is understood by the student. It is attention-grabbing and interesting.

3.5. "What are the disadvantages of using the digital story method in teaching ancient literary works?"

Table 5. Opinions of teachers on the disadvantages of using the story method in teaching old literary works

Teacher opinions	F	%
Teachers' lack of training	44	86.3
Lack of methods and materials	36	70.5
Take a lot of time	30	58.8
Insufficient technological equipment in the teaching environment	21	41.1
Individual differences between students	16	31.3
Turning the use of technology into a habit	5	9.8

In Table 5, the views of the teachers participating in the research on the disadvantages of using the story method in teaching old literary works are categorized. 86.3% of the teachers gave the answer that teachers lack training, 70.5% lack methods and materials, 58.8% answered that it takes a lot of time. 41.1% of the teachers answered that the technological equipment in the teaching environment is insufficient, 31.3% of them answered about the individual differences of the students, and 9.8% of them answered that the use of technology turns into a habit.

3.5.1. Teacher opinions

Teacher-14: I think the biggest disadvantage in this regard is the teachers' lack of knowledge about creating digital stories. Teachers also do not know what method to follow. We also have a lack of materials to be used in teaching old literary works with the digital narrative methods. All these are significant disadvantages. Teacher-27: Teachers are uneducated. Not every student is inclined to this type of teaching, that is, individual differences are also a disadvantage. Teacher-39: I think teachers are inadequate. Creating a digital story takes a lot of time. This is partly due to inexperience. Teacher-49: Turning the use of technology into a habit in education can be a disadvantage. The lack of technological equipment is also an important negative.

4. Discussions

The majority of the teachers who participated in the research stated that they found themselves insufficient to benefit from the digital story method in the teaching of old literary works. Bumgarner (2012) used observations, interviews, questionnaires, and daily email correspondence in his research on the evaluation of student and teacher behavior in digital story writing. In the student-centered study, it was observed that teachers had some technological inadequacies.

The majority of primary school teachers stated that they have never benefited from the digital story method in the teaching of old literary works. However, teachers stated that they are very willing to benefit from the digital story method in the teaching of old literary works. The teachers benefited from the advantages of using the story method in the teaching of ancient literary works; they are listed as facilitating the interpretation of the content, conveying real-life situations, providing an interactive learning environment, being interesting, making the explanation of certain topics more attractive, offering more diversity than traditional practices, and providing individualization of education. The disadvantages of using the story method in the teaching of old literary works listed teachers' lack of education, lack of methods and materials, taking a lot of time, insufficient technological equipment in the teaching environment, individual differences of students, and the transformation of technology use into a habit. Karakoyun (2015) stated that pre-service teachers suggested that the effectiveness of the activities could be increased by increasing the lesson hours in the digital story process and keeping the lectures short. Reyes Torres et al. (2012) also found that creating digital stories increases students' interest levels.

Coutinho (2010) conducted a study on the integration of technology pedagogy content knowledge into teacher education programs through digital storytelling. In the study, teachers described it as a disadvantage that creating digital stories takes a long time and requires more training. They argued that digital storytelling provides an advantage to teachers in enabling the use of new methods in the classroom, gaining new competencies, increasing interest in the learning process, strengthening the integration of information and communication technologies into the curriculum, increasing motivation and creativity, and facilitating the interpretation of the content. Van Gils (2005) stated that there are many advantages of using digital storytelling in education. These are to provide diversity compared to traditional methods, to personalize the learning experience, to create real-life situations easily and cheaply, and to improve students' participation in the learning process.

Yoon (2013) used self-assessment and lesson observation reports, attitude, and reading comprehension tests to examine the effects of digital storytelling studies on students' attitudes and perceptions towards learning English. At the end of the research, it was concluded that digital storytelling studies improved students' reading skills, helped them understand the lesson better with active participation, and positively affected their attitudes toward learning. In addition, it has been revealed that digital storytelling studies increase students' motivation and interest, as well as increase their confidence in learning.

5. Conclusion

Technological developments and changes in recent years directly affect human life. One of the areas directly exposed to this effect is the field of education. The integration between education and technology also emerges as a result of this process. The use of digital technologies has also become very common in all areas of education in recent years. From the point of view of this research, it is aimed to get the opinions of primary school teachers on the teaching of old literary works with the digital story method, in order to benefit from innovative technologies in teaching old literary works. As a result of the research; the vast majority of teachers stated that they found themselves inadequate in using the digital story method in the teaching of old literary works. Teachers stated that they never benefited from the digital story method in the teaching of old literary works. However, teachers stated that they are very willing to benefit from the digital story method in the teaching of old literary works. The teachers benefited from the advantages of using the story method in the teaching of ancient literary works; They are listed as facilitating the interpretation of the content, conveying real-life situations, providing an interactive learning environment, being interesting, making the explanation of certain topics more attractive, offering more diversity than traditional practices, and providing individualization of education. Teachers, the disadvantages of using the story method in the teaching of old literary works; they listed teachers' lack of education, lack of methods and materials, taking a lot of time, insufficient technological equipment in the teaching environment, individual differences of students, and the transformation of technology use into a habit.

6. Recommendations

In-service training programs should be organized to establish teacher competencies regarding the use of digital technologies in the teaching of ancient literary works. In in-service training, teachers should be provided with the ability to use digital technology in the teaching of ancient literary works, as well as the ability to use methods, effective use of time and teaching by considering the individual differences of students. Support should be provided in educational institutions to eliminate the disadvantages stated by teachers. It is necessary to eliminate the lack of materials in schools and to provide technological equipment.

References

Abirov, D., Ybyraimzhanov, K., Turkmenbayev, A., Abdykerimova, E., & Kuanbayeva, B. (2022). Innovative features of education in Kazakhstan's Lyceum-Gymnasium. *Cypriot Journal of Education Science, 17*(1), 159–173. https://doi.org/10.18844/cjes.v17i1.6693

Adimora, D. E., Ngwuchukwu, M. N., & Onuoha, J. C. (2016). Prevalence of social media networking on academics achievement and psychological health of undergraduate students in Federal Universities in Nigeria. *Global Journal of Psychology Research: New Trends and Issues, 6*(3), 135–147. https://doi.org/10.18844/gjpr.v6i3.1451

Baim, S. A. (2015). Digital storytelling: Conveying the essence of a face-to-face lecture in an online learning environment. *Journal of Effectiveness Teaching, 15*(1), 47–58. https://eric.ed.gov/?id=EJ1060431

Banaszewski, T. (2002). Digital storytelling finds its place in the classroom. *Multimedia Schools, 9*(1), 32–35. http://www1.udel.edu/present/aaron/digitalstory/Readings/Digital%20Storytelling%20Finds%20Its%20Place%20in%20the%20Classroom.pdf

Bumgarner, B. L. (2012). *Digital storytelling in writing: A case study of students teacher attitudes toward teaching with tech.* University of Missouri-Columbia. https://www.proquest.com/openview/6977a06af74a5f57c0952c1abed8073c/1?pq-origsite=gscholar&cbl=18750

Chung, S. K. (2007). Art education technology: Digital storytelling. *Art Education, 60*(2), 17–22. https://doi.org/10.1080/00043125.2007.11651632

Condy, J., Chigona, A., Gachago, D., & Ivala, E. (2012). Pre-service students' perceptions and experience of digital storytelling in diverse classrooms. *Turkish Online Journal of Educational Technology-TOJET, 11*(3), 278–285. https://eric.ed.gov/?id=EJ989219

Coutinho, C. (2010, March). Storytelling as a strategy for integrating technologies into the curriculum: An empirical study with post graduate teachers. *Society for Information Technology & Teacher Education International Conference* (pp. 3795–3802). Association for the Advancement of Computing in Education (AACE). https://www.learntechlib.org/p/33972/

Del-Moral-Pérez, M. E., Villalustre-Martínez, L., & Neira-Piñeiro, M. D. R. (2019). Teachers' perception about the contribution of collaborative creation of digital storytelling to the communicative and digital competence in primary education schoolchildren. *Computer Assisted Language Learning, 32*(4), 342–365. https://doi.org/10.1080/09588221.2018.1517094

Dorner, R., Grimm, P., & Abawi, D. F. (2002). Synergies between interactive training simulations and digital storytelling: A component-based framework. *Computers & Graphics, 26*(1), 45–55. https://doi.org/10.1016/S0097-8493(01)00177-7

Duveskog, M., Tedre, M., Sedano, C. I., & Sutinen, E. (2012). Life planning by digital storytelling in a primary school in rural Tanzania. *Journal of Education Technology & Society, 15*(4), 225–237. https://www.jstor.org/stable/jeducttechsoci.15.4.225

Dreon, O., Kerper, R. M., & Landis, J. (2011). Digital storytelling: A tool for teaching and learning in the YouTube generation. *Middle School Journal, 42*(5), 4–10. https://doi.org/10.1080/00940771.2011.11461777

Elmira, U., Nikolaevna, R. N., Izmagambetova, R., Zhussupbekova, G., Gennadievna, S. S., & Kulzhanovna, Y. A. (2022). Opportunities of innovators technologies in the educational process. *World Journal on Educational Technology: Current Issues, 14*(5), 1602–1611. https://doi.org/10.18844/wjet.v14i5.8122

Halapa, M., & Djuranovic, M. (2021). Children and digital media. *Global Journal of Sociology: Current Issues, 11*(2), 71–78. https://doi.org/10.18844/gjs.v11i2.5481

Garbin, M. C., de Oliveira, E. T., & Telles, S. (2021). Active methodologies supported by interaction and communication technologies in higher education: Communication technologies in higher education. *Global Journal of Information Technology: Emerging Technologies, 11*(2), 47–54. https://doi.org/10.18844/gjit.v11i2.6117

Heo, M. (2009). Digital storytelling: An empirical study of the impact of digital storytelling on pre-service teachers' self-efficacy and dispositions towards educational tech. *Journal of Educational Multimedia and Hypermedia, 18*(4), 405–428. https://www.learntechlib.org/p/30458/

Hung, C. M., Hwang, G. J., & Huang, I. (2012). A project-based digital storytelling approach for improving students' learning motivation, problem-solving competence and learning achievement. *Journal of Education Technology & Society, 15*(4), 368–379. https://www.jstor.org/stable/jeducttechsoci.15.4.368

Istenic Starcic, A., Cotic, M., Solomonides, I., & Volk, M. (2016). Engaging preservice primary and preprimary school teachers in digital storytelling for the teaching and learning of mathematics. *British Journal of Education Technology, 47*(1), 29–50. https://doi.org/10.1111/bjet.12253

Karakoyun, F. (2015). *Examining the opinions of pre-service teachers and primary school students about digital storytelling activities created online* [Doctoral Dissertation, Anadolu University]. https://www.proquest.com/openview/d575b35b7c5b397cd27caa913cdbe3f8/1?pq-origsite=gscholar&cbl=2026366&diss=y

Mohajan, H. K. (2018). Qualitative research methodology in social sciences and related subject. *Journal of Economics Development, Environment and People, 7*(1), 23–48. https://doi.org/10.26458/jedep.v7i1.571

Niemi, H., Harju, V., Vivitsou, M., Viitanen, K., Multisilta, J., & Kuokkanen, A. (2014). Digital storytelling for 21st-century skills in virtual learning environment. *Creative Education, 5*(9), 657–671. https://doi.org/10.4236/ce.2014.59078

Reyes Torres, A., Pich Ponce, E., & Garcia Pastor, M. D. (2012). Digital storytelling as a pedagogical tool within a didactic sequence in foreign language teaching. *Digital Education Review, 22*, 1–18. https://roderic.uv.es/handle/10550/34827

Schrum, K., Dalbec, B., Boyce, M., & Collini, S. (2017). Digital storytelling: Communicating academic research beyond the academy. *Innovations in Teaching & Learning Conference Proceedings* (vol. 9). https://journals.gmu.edu/ITLCP/article/view/1807

Undheim, M., & Jernes, M. (2020). Teachers' pedagogical strategies when creating digital stories with young children. *European Early Childhood Education Research Journal, 28*(2), 256–271. https://doi.org/10.1080/1350293X.2020.1735743

Uzunboylu, H., & Gündogdu, E. E. (2018). A content analysis study related to research on preschool education and instructional technologies. *International Journal of Innovation Research in Education, 5*(4), 119–128. https://doi.org/10.18844/ijire.v5i4.3974

Xu, Y., Park, H., & Baek, Y. (2011). A new approach toward digital storytelling: An activity focused on writing self-efficacy in a virtual learning environment. *Journal of Education Technology & Society, 14*(4), 181–191. https://www.jstor.org/stable/jeducttechsoci.14.4.181

Van Gils, F. (2005, June). Potential applications of digital storytelling in education. *3rd Twente students Conference on IT* (p. 7). https://wwwhome.ewi.utwente.nl/~theune/VS/Frank_van_Gils.pdf

Yang, Y. T. C., & Wu, W. C. I. (2012). Digital storytelling for enhancing student academic achievement, critical thinking, and learning motivation: A year-long experimental study. *Computers & Education, 59*(2), 339–352. https://doi.org/10.1016/j.compedu.2011.12.012

Yoon, T. (2013). Are you digitized? Ways to provide motivation for ELLs using digital storytelling. *International Journal of Research Studies in Educational Technology, 2*(1), 1–10. https://www.learntechlib.org/p/49787/

Zhang, K. (2021). Determining the influence factors affecting the digital competencies of colleges students in blended teaching. *Contemporary Educational Researches Journal, 11*(4), 210–224. https://doi.org/10.18844/cerj.v11i4.5974