Examining Digital Storytelling In Terms of the 21st Century Skills Development

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Introduction

Systematic application of technology into educational environments requires the integration of technology into curricula. This is especially in today's, world, where it is important to integrate technology effectively into educational environments rather than using it in instructional processes. Technology integration is defined as a curriculum which actively helps students form their own meaningful knowledge and which use activities involving more interdisciplinary project-based learning (Jonassen, Peck and Wilson, 1999). Integration of technology into a curriculum requires the use of technology as a tool in interdisciplinary environments or in teaching the content of that curriculum effectively (Harris, 2005).

In order to help students structure their knowledge, they should be encouraged to participate actively in learning via information and communications technology (ICT) tools (Jonassen and Carr, 2000). According to Strommen and Lincoln (1992), what is important is not the type of technology to be used in classroom, allowing students' active participation in the learning environment, but the way to use that technology. Especially in learning environments, appropriate use of ICT tools contributes to students' development of 21st century skills (Robin, 2007; Sadik, 2008). There are a number of technology integration approaches which help integrate technology into educational environments and which allow students to acquire the 21st-century skills. One of these approaches is the digital storytelling approach.

Digital storytelling refers to the combination of certain texts, graphics, audios, videos and music in the digital environment. Digital storytelling is basically a process in which students can use technology as designers. In this process, students can interpret their ideas in line with their experiences and create their own narrative language thanks to technological facilities (Barret, 2006; Tendero, 2006). The digital storytelling system, in which students take part as designers, establishes an entertaining learning environment and provides students with an opportunity to create a visual narrative language using the technology (Kindborg, 2001).

Purpose

The purpose of this study was to determine elementary school sixth-grade students' views about whether digital storytelling activities develop their 21st century skills or not.

Method

In the study, the single survey model was used as the research method.

Participants

The participants of the study were 45 sixth-grade students attending a private elementary school.

Data Collection Tool

In the study, in order to determine whether digital storytelling activities developed students' 21st century skills or not, the 11-item "Digital Storytelling Questionnaire for 21st Century skills" developed by the researcher in line with the indicators suggested by the Partnership for 21st Century Skills was used. The questionnaire was made up of three sub-dimensions: learning and innovation skills, information, media and technology skills, and life and career skills. In the addition, it was a five-point Likert-type questionnaire including a rating scale of "I totally disagree", "I disagree", "I am neutral", "I agree" and "I totally agree".

Research Process

The present study covers the evaluation phase of an application carried out based on case study. Prior to the application, the related literature was reviewed, and a curriculum was prepared for eight student teachers from the department of Computer Education and Instructional Technologies (CEIT) regarding digital storytelling.

In the Fall Term of the academic year of 2012-2013, a training of four course hours on storytelling was given to eight CEIT student teachers and they watched sample digital storytelling videos. Following the training session, the student teachers created their own digital stories and uploaded them onto Youtube (www.youtube.com).

The CEIT student teachers taking training on digital storytelling carried out digital storytelling activities with 45 sixth-grade students from three different classes of a private elementary school in the Spring Term of the academic year of 2012-2013.

In order for the students to carry out the digital storytelling activities, a web page with the domain name of www.dijitaloykuleme.com was designed by the researcher. In addition, in order for the students to organize their digital stories, the web page of www.wevideo.com, an online video editing program was used.

The students were given training on digital storytelling by the CEIT student teachers. Following this, they carried out digital storytelling activities with the help of the CEIT student teachers.

The digital storytelling activities carried out in the class environment started with a scenario created by the students regarding a certain subject they determined. The students sharing their scenarios on the web-page of www.dijitaloykuleme.com received feedback from other students regarding their scenarios and finalized these scenarios. Following this, the students searched the Internet and other online environments for multimedia elements as photos, videos, audios and graphics they would use in their digital stories or created them on their own. Finally, the students organized these multimedia elements via the web page of www.wevideo.com, an online video editing program, created their short films of 2 to 3 minutes each and shared them on Youtube (www.youtube.com) and the website www.dijitaloykuleme.com.

In order to find out whether the digital storytelling activities developed the participating students' 21st-century skills or not, the questionnaire developed by the research was applied to 45 students who completed the digital storytelling activities.

Findings

The data collected via the questionnaire were analyzed using descriptive statistical methods, and the means and standard deviations obtained regarding the sub-dimensions of the questionnaire are presented in Table 1.

Table 1. Means and Standard Deviations

21st Skills	**N**	$\overline{X}$	**Sd**
Learning and Innovation Skills	45	3,55	,830
Information, media and technology skills	45	3,84	,791
Life and career skills	45	3,57	,881
Overall mean	45	3,61	,791

As can be seen in Table 1, the students believed the digital storytelling activities developed their skills in "learning and innovation", "information, media and technology" and "life and career". The view that the students agreed most was that the digital storytelling activities developed their skills in "information, media and technology" ($\overline{X}$ = 3, 84).

When the overall mean given in Table 1 was examined, it was seen that the elementary school sixth grade students believed the digital storytelling activities developed their 21st century skills ($\overline{X}$ = 3,61).

Conclusion

The elementary school sixth grade students held the belief that the digital storytelling activities contributed to the development of their 21st century skills. In their study, Renda and Sprouse (2010) reported that digital storytelling activities developed students' technology use skills as well as their 21st-century skills. In one study carried out with teachers, Robin (2007) found out that digital storytelling developed the teachers' technology skills. In another study conducted with teachers and students from two private schools, Sadik (2008) investigated the influence of digital storytelling activities on students' learning. According to the findings obtained, students' use of creative and motivating technological tools in digital storytelling activities increased their learning experiences and developed their 21st-century skills.

References

1. Barrett, H. (2006). Researching and evaluating digital storytelling as a deep learning tool. In, C. Caroline, D.A., Willis, R. Carlsen, I. Gibson, K. McFerrin, J. Price, & S. Weber, Proceedings of Society for Information Technology and Teacher Education International Conference 2006. Held at Chesapeake, Virginia, 2008, (pp. 647-654). AACE.
2. Harris, J. (2005). Our agenda for technology integration: It's time to choose. *Contemporary Issues in Technology and Teacher Education*, *5*(2), 116-122.
3. Jonassen, D. H., & Carr, C. (2000). Mindtools: Affording multiple knowledge representations in learning. In S. P. Lajoie (Ed.), *Computers as Cognitive Tools, Vol. 2: No More Walls* (pp. 165–196). Mahwah, NJ: Lawrence Erlbaum Associates.
4. Jonassen, D., Peck, K., & Wilson, B. (1999). *Learning with Technology: A Constructivist Perspective*. Upper Saddle River, NJ: Prentice Hall.
5. Kindborg, M. (2001). How children understand concurrent comics: Experiences from LOFI and HIFI prototypes. In Proceedings of the IEEE 2001 Symposia on Human Centric Computing Languages and Environments (HCC'01) held at Stresa, Italy, 5-7 September 2001, (pp. 232-233).
6. Renda, C. & Sprouse, D. (2010). Giving Experiential Learning a Digital Makeover: A Case Study in Using Digital Storytelling and Web 2.0 Applications to Promote Greater.Technological Competency in K-12 Teachers. Proceedings of International Conference on Education 2010, Hawaii.

7. Robin,B.(2007).The convergence of digital storytelling and popular culture in graduate education. In R. Carlsen et al. (Eds.), Proceedings of Society for Information Technology &Teacher Education International Conference 2007 (pp. 643-650). Chesapeake, VA: AACE.
8. Sadik, A. (2008). Digital storytelling: A meaningful technology-integrated approach for engaged student learning. *Educational Technology Research and Development, 56,* 487-506.
9. Strommen, E., & Lincoln, B. (1992). Constructivism, technology, and the future of classroom learning. *Education and Urban Society, 24,* 466–467.
10. Partnership for 21st Century Skills. (2003). *Learning for the 21st century: A Report and Mile Guide for 21st century skills*. Washington, D.C.: Partnership for 21st Century Skills.
11. Tendero, A. (2006). Facing versions of the self: The effects of digital storytelling on English education. *Contemporary Issues in Technology and Teacher Education, 6*(2), 174-194.