

The Use of Digital Storytelling in Elementary Math Teacher Education

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The history of stories is as old as human race. Stories were always a part of formal and informal teaching since the beginning of history. While elders told stories to youngsters in order to share their knowledge and experience, teachers used stories in order to teach more complicated topics in an easier and fun way. Along with the advancements in technology, the way of storytelling has evolved to digital storytelling. Digital storytelling could be defined as short multimedia stories told by the hero of the story by heart, or shortly telling stories via computers. The purpose of this study was to investigate the use and effects of digital storytelling in elementary math teacher education. The data of the study were collected from 48 junior elementary math education teacher candidates as a part of computer applications in education course in spring semester of 2015-2016 academic year. In this manner, some examples and non-examples were presented and the ways of using digital stories in education were taught at first. Then, several digital storytelling tools, advantages and limitations of each tool were introduced to students. Afterwards, students were asked to form groups consisted of two or three people. Each group was given a two-weeks period to decide their topics related with elementary math education curricula, get approval from the instructor, and write their stories. Groups with approved topic and story were given a week to prepare their storyboards. Lastly, all groups were given a month to prepare their digital stories. During the whole process, each group got feedback from the instructors related with their stories, storyboards, and digital storytelling tools. At the end of the semester, all 18 groups presented their digital story to their classmates, and each story was evaluated by classmates via a likert-type digital storytelling scale. There were 48 students from total of 18 groups. Furthermore, qualitative data of the study were collected via semi-structured interviews conducted after within the few days of the presentations in order to ensure that students remember other groups' digital stories. Each interview was lasted around 15 minutes that students were asked about their topic, reasons of choosing that topic, the design and development process of their digital stories, the tool they used to prepare their digital stories, the reasons of choosing that tool, the advantages of learning to prepare digital stories, their opinions on keep going on this assignment in forthcoming years, and their suggestions. Each interview was transcribed and then analyzed by two of the researchers. Based on the preliminary analysis, students selected the topic mostly based on the easiness of teaching or transferring the topic into a story. Besides, they selected the topics difficult to learn, or that they experienced problems while



learning in elementary school. The most common tool for creating a digital story was “Goanimate” among all groups. The most common reasons of choosing Goanimate were being easy to use, design, characters and visuals of the program. When students were asked the benefits of the process of learning to prepare digital stories, they stated that the most important benefits were learning to teach, and learning a new tool that they can use when they become teachers. Furthermore, all students stated that they liked the application, and they think that it is beneficial and keeps going on for forthcoming years. Lastly, when students were asked the best digital story, the most common one was the “measurement units” although various digital stories were mentioned. The reasons of mentioning a digital story as successful might be listed as from most common to common as the storyline and the flow of the story, music and voiceover, fun, and the relationship with daily life.

Keywords: Digital storytelling, elementary math education, elementary math teacher education

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