USING REN'PY AS A DIGITAL STORYTELLING TOOL TO ENHANCE STUDENTS' LEARNING

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ABSTRACT

The present study aims to explore students' learning experience with the use of Ren'py as a tool to approach digital storytelling in their collaborative design of digital stories. Digital storytelling is adopted by the present research as an approach for a total of 46 high school students to consider social issues with critical thinking and present the learning outcomes of their collaborative design through projects of digital stories. Students were divided in groups of three to four to engage in collaborative learning in all of the following three different aspects: critical thinking, game script design, and game production, all of which require students to collect or generate information and collaborate with one another toward successful design of digital stories. An in-depth interview was given to each student in the present study at the end of the course. Interview results indicate that students must pick up the programming language in order to control necessary elements in the production of their games and that learning simultaneously two sets of high level skills both in the programming language and in critical thinking might cause them to experience cognitive overload. Nonetheless, the proposed approach was still recognized among student participants, all of whom reported enhanced skills in communication, problem-solving, and media literacy.

KEYWORDS

Digital Storytelling, Ren'py, Critical Thinking

1. INTRODUCTION

Ren'py is a game engine dedicated to the production of visual novels. Its select menu offers an alternative to the linear mode of plot development commonly seen among conventional stories. Its non-linear and divergent structure of digital storytelling allows designers to develop content comprised of multiple branches. This also allows users to choose different plots and preferred endings at their will for any stories they intend to create. Users also benefit from enriched interaction and entertainment through the kind of digital storytelling supported both by a large collection of imagery as well as sound effect and by a wide selection of background designs, where various modes of conversation are also available for any characters involved. Ren'py is thus selected as a tool for digital storytelling in the present research.

Digital storytelling is an application of integrated multimedia. It alters its own artistic forms and techniques among different kinds of software to appeal to students in various learning activities (Hung, Hwang, & Huang, 2012). Malita and Martin (2010) think that the sharing of knowledge, wisdom, and values through digital storytelling not only enhances one's memory but helps him/her create links to former experience. In addition, scholars also think that digital storytelling increases students' ability in writing (Xu, Park, & Baek, 2011), critical thinking (Gaeta, Loia, Mangione, Orciuoli, Ritrovato, & Salerno, 2014), and problem-solving (Yang & Wu, 2012).

To sum, the present study aims to explore students' learning experience where they used Ren'py as a tool to approach digital storytelling in their collaborative design of digital stories.

2. METHODS

The present study includes a total of 46 (26 males and 20 females) high school students enrolled in Think Utopia, an elective course in civics education. Students are required to consider social issues with critical thinking and present the outcomes of their collaborative learning through the design of game stories. Three kinds of learning activities were featured in the course by the present study. The first one involves the learning of critical thinking. Students were presented with everyday situations that help them appreciate the importance of critical thinking and were taught to apply it in their daily activities. The second one features the design of game scripts, where students were divided in groups of three to four. A total of twelve groups were formed. Each group worked on one of the five themes in civics education. These themes were “fundamental human rights and the right to freedom,” “fundamental human rights and the right to equality” “media literacy,” “cultural diversity,” and “sustainable development.” The learning objective for students in this course was to incorporate the concepts they learned in critical thinking into the above themes and to use the result of such incorporation as the pivot of background design in their game stories. The third one focuses on the production of games. Upon the completion of their game scripts, students proceeded to a computer lab, where they used an abundance of sound effect, imagery, and animation techniques to add appeals to their games and to engage in the production process in collaboration with their peers. Each student in the present study was given with an in-depth interview at the end of the course.

3. RESULTS

The present study engaged every student participant in an in-depth and semi structured interview at the end of the semester. Student responses in the interviews were collected for an integrated analysis, where several inferences derived as follows:

Some stated that the need for topics of civics education to be integrated in the script of their games actually encouraged them to develop a data base and a mechanism where they may sort out various information for themselves and clear things up for their users. Furthermore, the technical need for cohesion and logic within game stories also drove student participants to consider matters such as causation and attributions in the scripts and hurdle questions for their game stories.

Others spoke positively of the need for them to recall some of the knowledge they had learned previously in a lecture and use it towards the design of hurdle questions. This process of inquiry had successfully liberated them from their previous positions as passive listeners and turned them into active learners where they were able to engage in comprehensive thinking related to their learning. In addition, the need for them to provide users with detailed illustrations of every single choice on the menu has also contributed to their understanding of how each skill in critical thinking may be applied.

Still others mentioned that they have benefitted from group discussions where they engaged in critical thinking and scrutinized, talked about, and took stances on what others had shared about a topic in question. This also allowed them to practice expressing themselves with organized thoughts and persuading others through one’s original perspectives and words.

As for the concern about cognitive load among student participants, it was found that some students were confident in applying critical thinking to their daily lives while others did not think so. Such division is reflected among students in their interviews where some students approved the approach proposed by the present research for its strength in improving their skills in effective communication, problem solving, and media literacy while others did not find much appeal in the approach due to the reason of cognitive overload where they experienced difficulty in game design, timely completion of assignment and learning tasks both related to computer programming and critical thinking. Additional obstacles in learning were also pointed out by students regarding various confusions with the similarities and differences among the skills in critical thinking.

In general, it can be inferred from the result of the interview that a majority (38 out of 46) of student participants was supportive of and satisfied with the approach proposed by the present research. They think that the approach incorporated learning by doing and effectively increased their motivation in learning critical thinking through the design of hurdle questions and everything else ranging from game trials to a final production. They also described learning with the approach as one where the need for original designs in story plots and voluntary efforts in getting the basics of critical thinking amounted to some valid trainings for one’s independent thinking.

4. CONCLUSION

Results from the qualitative interview on the integration of both the learning strategies and its content indicate that students must pick up the programming language in order to control necessary elements such as image configuration, sound effect, animation, and transition between scenes in the production of their games. However, the subsequent demand for high level thinking skills such as programming and critical thinking may result in cognitive overload among students who ran out of time to complete all of the tasks. Nonetheless, the proposed approach was still recognized among student participants, all of whom reported enhanced skills in communication, problem-solving, and media literacy.

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