DIGITAL STORYTELLING FOR INCLUSIVE EDUCATION: AN EXPERIENCE IN INITIAL TEACHER TRAINING

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ABSTRACT

We present an experience of digital storytelling conducted as part of a course for initial teacher training. The students of a special education course produced a digital story as partial fulfillment of their distance learning assignment. We describe the structure of the work completed by the students and discuss the results of a questionnaire they filled out after the course, which aimed to gather their opinions about the experience. The experience was agreeable to the students, with many stating that they are likely to repeat the process in their school, either by developing stories themselves or by engaging their future pupils as designers and developers.

KEYWORDS

Digital storytelling, multimedia communication, initial teaching training, inclusion, digital competence, Universal Design for Learning

INTRODUCTION

The pedagogical value of storytelling is widely documented in the literature. Bettelheim (1976) suggests that classic narration of fairy tales, in addition to being entertaining, enriches children's lives, stimulates their imagination and helps them clarify their emotions, recognize their difficulties and find solutions to the problems that trouble them. Bruner (1986) highlights the cognitive, social and emotional value of storytelling for children by asserting that stories are elective tools that foster language development and build and enrich vocabulary and knowledge about the world, in accordance with the active forms of learning (Fontichiaro, 2007).

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Our research stands at the intersection of those two domains, offering a way to apply and discuss methods for communicating with pupils with special educational needs within a special education course offered to the students of an initial secondary school teacher training degree.

THE EXPERIENCE

The experience presented here took place during an initial teacher training course held at the University of Bergamo (Italy) in 2015.

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The initiative had several direct and indirect educational purposes:

1) implementing a form of engaging e-learning for students who spend their mornings at work, their afternoons attending courses and their evenings studying and completing (often boring) e-learning tasks;

2) promoting digital storytelling and media composition skills suitable for TFA students to use in schools to communicate with their current or future pupils;

3) raising awareness of opportunities for involving secondary school pupils in developing original digital stories; and

4) encouraging reflective experimentation of a design methodology inspired by Universal Design for Learning (Rose and Meyer, 2002), in keeping with the content of the special education course.

The experiment was anchored to the field of research that has led to the development of the multimedia learning theory (Mayer, 2005), but also considered evidence that media production activities carried out by students are often heavily time consuming and generate ineffective products, and that the same can be said of the development of multimedia artifacts by teachers, shifting (perhaps) the emphasis from effectiveness to efficiency.

The task that was proposed to the participants was highly structured (inspired by the Coursera MOOC *Powerful Tools for Teaching and Learning: DST*, held by Bernard Robin and Sara McNeil of the University of Houston), so that between the lessons (spaced 7–10 days apart) each student had to engage in a production- and/or evaluation-phase, according to the following scheme:

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After the completion of the course, we started to reflect on the experience to assess positive and negative aspects and possible implications. For reasons related to the number of course participants and to the composition of the groups, the analysis focused on students within the literary department, with a total of 41 people (F = 31, M = 10; age $\mu = 29.5$, $\sigma = 4.7$). They were asked to fill in an online questionnaire regarding their experience of DST. The questionnaire was completed by 25 subjects (response rate 61%) and consisted of 23 questions:

- Five of the questions requested an estimate of the time required (in hours) for each step of the program (e.g., How long did it take to complete Task 1, which was idea generation, identification of target audience, goal setting and preparation of the descriptive card?);

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RESULTS AND DISCUSSION

Students' achievements and performances exceeded teacher expectations. The final evaluations of the stories produced by the students, based on the same quality model and the same rubrics proposed to them for their mutual evaluations, showed the experience to be more than satisfactory, as the average final score was 8.6 out of 10 ($\sigma = 1.5$). Moreover, final informal meetings following the conclusion of the course verified that the experience had fostered meaningful learning. For these reasons, we decided to activate the survey in order to collect the students' opinions, which are briefly summarized here.

The students' overall satisfaction with the type of assignment was rather high ($\mu = 1.30$, $\sigma = 0.97$), as were beliefs that they had acquired valuable skills ($\mu = 1.30$, $\sigma = 0.76$); these two opinions were fairly correlated ($\rho = 0.47$), whereas the correlation between satisfaction and initial expectations was much lower ($\rho = -0.23$). No influence of perceived expertise was detected (items with Cronbach alpha = 0.6).

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CONCLUSIONS

We have presented an experience of using digital storytelling as a tool for effective teaching and meaningful learning. It was used during pre-service training for prospective secondary school teachers within the e-learning program of a special education course.

Despite the students' limited initial competences in DST, their final achievements satisfied the lecturer, and the students appreciated the initiative and expressed intentions to replicate it with their own pupils.

As far as future research into this area is concerned we are going to use a quality model, which takes into account multimedia communication principles, to compare the final digital storytelling products of these students with those of another group of students, who have developed PowerPoint slides for PechaKucha-style examinations. This will enable us to understand which modality is more effective and suitable for unleashing students' creativity and communication skills.

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