Communication, digital media and future: new scenarios and future changes

edited by
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This volume collects a set of meaningful full papers of Medcom2020+1 international conference, which has been organized by the University of Cagliari, University Hospital of Cagliari, and University of Tor Vergata (Rome). The conference has been held online from the 17th to 19th June 2021, on "Communication, digital media and future: new scenarios and future changes", which is also the title of this volume. The general topic has been divided in 8 sessions which range from social media to screen culture, from media education to social communication, politics and multiculturalism. The general topic has been divided in 8 sessions which range from social media to screen culture, from media education to social communication, politics and multiculturalism The topics also embrace reflections on the experiences after-pandemic, that had a strong impact and caused many changes on communication and society. The proceedings of the conference include a selection of 22 papers out of the about one hundred talks from the conference.

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The cover image represents the extended communication scenarios
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The Digital Storytelling Methodology in Media Education for Learning Digital Citizenship Skills as part of a University Course

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Abstract
The aim of this study was to investigate how a group of university students perceived their actual achievement of a series of media, digital and critical reflection skills (information, media and digital literacy) developed during a Media Education Workshop conducted by using Digital Storytelling techniques. The study saw the participation of 176 students with an average age of 21, who live within an "Infosphere", that is an eco-system dominated by media frameworks and a continuous flow of information (thus, in a mediatization context). During this workshop, students were organised into work groups and they were asked to design 76 videos to be published on the Web. Four thematic areas were addressed: digital life, the environment, volunteering, the association movement and active citizenship. Completed the activities, students were then presented with a questionnaire meant to analyse their perception of the effectiveness of Digital Storytelling in the development of digital and media skills from various perspectives, in particular, with a focus on critical thinking regarding concrete experiences. The quantitative and correlational assessment was conducted on the basis of an initial hypothesis according to which the Digital Storytelling approach enables participants to learn both technical skills, in the use of digital tools (especially video), and critical reflection and meta-cognition skills, thus stimulating awareness and recognition of the students' ethical, social and value-related dimensions as well as their contextual meaning.
Keywords: digital storytelling, media education, information literacy, media literacy, digital literacy, digital skills.

Introduction

Transformation processes, brought by technological development, stimulate current debates concerning both the future of education and the construction of competences, especially with reference to younger generations. As a matter of fact, they live within the infosphere (Floridi, 2017) which is intended as an eco-system dominated by a continuous flow of information in which both social institutions and individuals incorporate the "logic" of the media. People's life itself becomes *Onlife*, that is an interchange that continuously receives and redistributes information (Serres, 2015) through a process of mediatization (Hepp, Hjarvard, Lundby, 2015). The dis-intermediation, concerning social, cultural and political structures, also includes the work environment, fostering a change of perspective with respect to the interaction between man and machine.

1. Background

In this context, work transformation brought by the 4th industrial revolution, is characterised by an interrelation of people, machine learning and products that are able to interact with each other thanks to the "internet of things" as it produces a huge amount of data that are transformed, by artificial intelligences, into information and this consequently change modifies the processes of productivity (Costa, 2018). Given this scenario, human resources will be able to exploit these innovative processes if they are properly trained to deal with the current changes, and, similarly, training institutions, such as the university, should develop and propose models that respond to the complexity of these transformations especially in the field of teaching. Starting from this framework, the research carried out at the University, which

involved 176 students of the Communication Pedagogy workshop throughout the academic year 2018-19, constitutes a contribution aimed at investigating the feasibility and effectiveness of the methodological approach of Digital Storytelling in order to enable students to learn technical skills related to the use of digital tools (especially video) and critical reflection and meta-cognition skills based on experiential activities. The investigation was conducted starting from the research hypothesis that the learning of some media education skills (information literacy, media literacy and digital literacy) led to more effective outcomes since, as attested by Robin, instructional design is constructed by exploiting the didactic potential of Digital Storytelling (Robin, 2008) by:

1. improving the understanding of disciplinary content (De Rossi, Petrucco, 2013);
2. stimulating attention and recognition of value, ethical and social dimensions as well as inclusion (Di Blas, 2016);
3. developing reflective and self-awareness skills, of the self for guidance and improved practices (McDrury, Alterio, 2003).

2. Materials and Methods

In such an innovative digital and technological context, a focus on the concept of competence becomes crucial, starting from its definition, elaborated by the European Council in May 2018 (European Council, 2018), according to which digital competence is identified as one of the key competences. In particular, it is stressed the idea that digital technologies should be used in a critical and responsible manner therefore highlighting the need to explore new ways of learning to ensure the appropriate combination of 'hard' and 'soft' skills (European Commission, 2017). In line with this definition there is also the concept of competence elaborated by the Oecd, which defines its formation as the mobilisation of knowledge, skills, attitudes and values through the process of reflection, anticipation and action addressed to develop the interconnected competences required in order to interact with the world (Oecd, 2030). The didactic methodology of Digital Storytelling (Lambert, 2013) fits into such a scenario because it allows students to experience a work of critical-reflexive analysis on the coding of messages and media themselves and, at the same time, giving them the possibility to participate in civil society through the sharing of stories and experiences designed in the logic of active citizenship (Buckingham, 2013). Moreover, this didactic methodology is in line with the socio-constructivist approach (Jonassen, 1994) which is strictly related to the production of collaborative forms of knowledge (technological dimension); the activation of meaningful teaching and learning processes (cognitive dimension); the development of socially responsible skills (ethical dimension). The competences that can potentially be activated in the three phases of design, realization and sharing of a Digital Storytelling in video format, together with synopsis and storyboard, can be summarised as follows (Figure 1):

As for the skills related to Digital Storytelling, the research investigated those defined by Robin (2008) as "strategic for the 21st century" and related to information media and digital literacy.

In the Digital Storytelling workshop participated 176 students, 164 of whom (108 females and 56 males) actually participated in the survey by filling in the questionnaire. All the students were in their second year of a Bachelor's degree with an average age of 21.7 years and therefore they are part of that generation defined by researchers as *always on*: that is, young people who live almost all their daily activities mediated by the use of digital media (De Kerckhove, 2016). In order to detect students' perception of the achievement of the key competences acquired throughout all the stages, such as concept (Information Literacy), design development (Media Literacy) and dissemination/sharing (Digital Literacy) which are related to the Digital Storytelling workshop, an appropriate questionnaire was developed and administered at the end of the course (Table 1).

Figure 1: The convergence of digital storytelling in education (Robin, 2008, p. 223).

Table 1: Skills involved in the Digital Storytelling workshop activities.

	Concept Information Literacy	**Design** Media Literacy	**Sharing** Digital Literacy
Literacy	Ability to find, assess, manage, synthesize and provide information	Ability to create media products; ability to communicate effectively	Ability to develop critical and ethical reflection

The research framework was designed to investigate the three dimensions of digital literacy (Van Dijk, 2005): the cognitive dimension (knowledge of terms related to the digital environment and its operating logic), the operational dimension (ability and familiarity with different digital environments) and, finally, the critical dimension (the ability to critically analyse and verify digital tools). Each dimension corresponds to two interrelated closed-ended questions to which a score has been assigned and, when added together, results in an overall score corresponding to information, average and digital literacy (Table 2). To the score was applied the statistical technique of correlation in order to verify whether the connections that exist at a theoretical level, within the three dimensions of digital literacy, were also present in the workshop and to detect the degree of intensity (Ercolani, Areni, Leone, 2008).

Table 2: Questions and related dimensions in the student questionnaire.

Dimensions	**Closed-ended questions**
Information Literacy	1. Has the use of digital storytelling methodology to design a video enabled me to manage information more effectively than using traditional tools such as a writing file?
	2. Has the use of digital storytelling methodology to design a video enabled me to provide information in a more compelling way compared to traditional forms of communication (text or slides)?
Media Literacy	3. Has writing a synopsis and a storyboard to design a video enabled me to focus on the contents in a more effective way compared to the use of traditional tools?

Dimensions	Closed-ended questions
	4. Has creating a video based on the use of digital storytelling methodology enabled me to learn contents more effectively compared to other teaching methods?
Digital Literacy	5. Has sharing the video to Vimeo helped me to critically evaluate my project?
	6. Has the feedback received concerning the video enabled me to reflect on the effectiveness of the work carried out?

Students could answer the six closed questions using a Likert scale from 1 to 5 (not at all; not much; moderately; quite a lot; very much). Two open-ended questions were also added in order to investigate students' perception of the potential use of the Digital Storytelling methodology also outside the university didactic environment, especially in a future professional context (Table 3).

Table 3: Open-ended questions in the student questionnaire.

Dimensions	Open-ended questions
Digital Literacy	7. To what extent do you think that Digital storytelling techniques may be applied in your future working environment in order to employ communication effectively?
	8. To what extent do you think that Digital storytelling techniques may be applied in your future working environment in order to critically reflect on the effectiveness of the work carried out?

The questionnaire was administered using Surveymonkey software at the end of the course and the data processing and statistical analysis was done using SPSS software.

3. Results and Discussion

The results of the closed-ended questions highlight that:

For the dimension "Information and Media Literacy" (creating, organising, synthesising) students consider Digital Storytelling videos to be a more effective tools than traditional teaching methods for both organising and communicating information. The percentages of answers to question n. 2 are distributed between "quite a lot" (45.7%) and "very much" (40.2%) while the percentage of answers to question n. 6 on the effectiveness of the methodology with respect to learning is distributed between "quite a lot" (47,00%), "moderately" (32,9%) and "very much" (15,2%).

For the "Digital Literacy" dimension (capacity for critical and ethical reflection): 25% of the students answered "not much" or "not at all" to question n. 5 on sharing for critical evaluation therefore considering the Digital Storytelling videos merely a didactic artefact, as required by the aims of the workshop, and not a communication and potential social reflective tool that can also be used even outside the academic context.

With regard to the first point, since students have experimented the making of a video by creating both a synopsis and a storyboard, this has allowed them to learn the disciplinary contents in a significant way (Moon, 1999). Considering instead the answers of those who did not make the video, "enough" prevails, which is the intermediate choice and can be interpreted as a neutral answer. A focus on the second point, reveals that the most relevant data are the answers to questions 5 and 6 that investigate digital literacy, from a perspective related to critical reflection and ethical responsibility both issues that students have experienced during the realisation of Digital Storytelling as educational tool. The answers show that the diffusion of videos on the Web and the potential opinion of those who watch them do not seem to be considered as an important factor. In addition to this, the correlational statistical analysis under-

lines a lack of interest in the potential critical thinking component of Digital Storytelling. The inferential analysis related to the three dimensions of digital skills (cognitive, operational and critical) resulted in a good intensity of relationship between information and media literacy (correlation of 0.488) while the relationship between media literacy and digital literacy stands at 0.377, confirming a limited interest in perceiving the importance of the ethical and social component in their work (Table 4).

Table 4: Correlation coefficient (Spearman's Rho) of the intensity between the 3 variables.

Dimensioni	Media Literacy
Information Literacy	0,488
Media Literacy	1,000
Digital Literacy	0,377

This seems to indicate that the more students are capable to organise and communicate information by means of digital storytelling (information literacy), the more they will learn such information effectively (media literacy).

This specific inference is also found in the qualitative analysis carried out thanks to the two open-ended questions (question n. 7 and n. 8) from which it emerges that the Digital Storytelling method is perceived by students as an active and intentional process of thinking and strongly connected to learning even in a potential working enviroment. The thematic core "organisation and method", which appeared 19 times, reveals that Digital Storytelling is perceived by students as an effective system to organise and combine contents and information they want to convey (Figure 2).
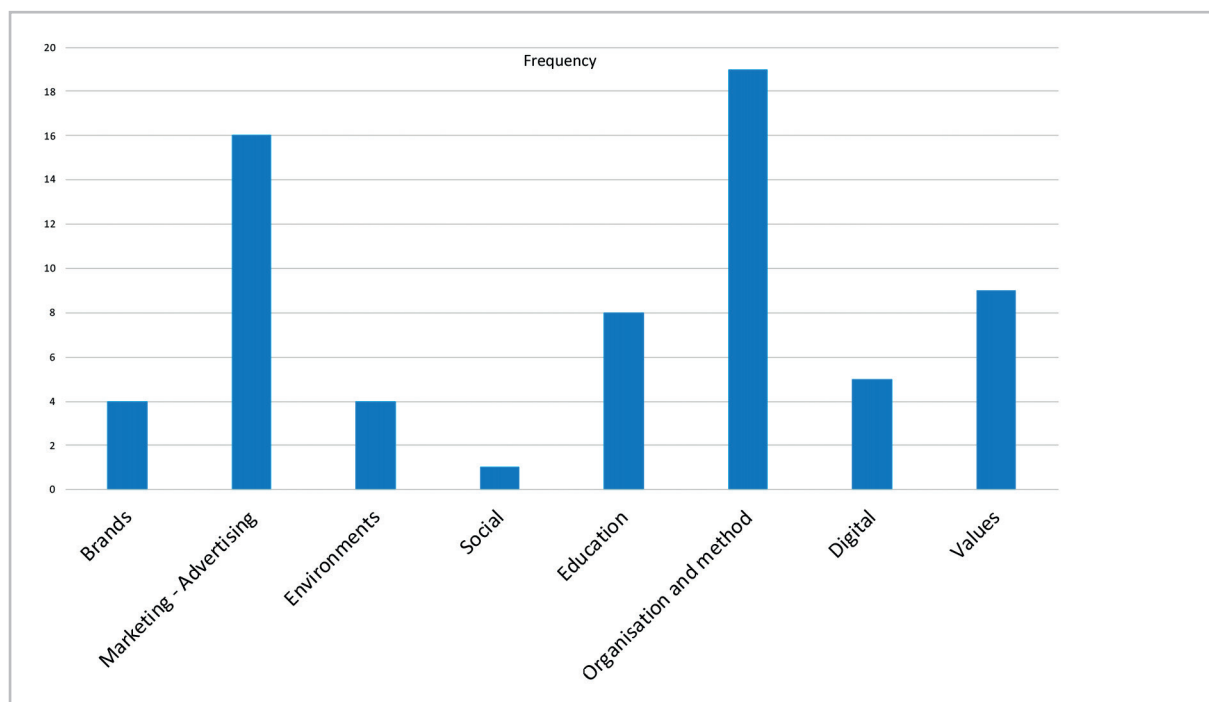

Figure 2: question n. 7 "to what extent do you think that the use of digital storytelling may be applied to the working enviroment to enhance effective communication".

Students' perception concerning the applicability of this methodology, even in the working environment, underlines both the function of organising device that narration assumes (Petrucco, De Rossi, 2012) and the importance of the discursive intentionality which is part of a story in order to be effective.

4. Conclusion

Given that the creation of a Digital Storytelling activates a comprehensive portfolio of information, media and digital literacy skills, the results of the questionnaire show that students' perception is, on the one hand, very high especially with reference to technical skills (information and media literacy), while, on the other hand, with regards to ethical-critical skills, almost half of the students consider Digital Storytelling merely a didactic artefact, as required by the aims of the workshop itself, and thus it is not considered a tool for critical reflection (digital literacy). This is undoubtedly a starting point for a constructive revision of the workshop: to ensure that, alongside the development of technological/media skills, the cultural conditions for renegotiating the meanings with which students interpret "mediatised" reality through the creation and dissemination of Digital Storytelling can also be developed and encouraged. Supporting students to abandon the eco-chambers (Quattrociocchi, Scala, Sunstein, 2016) and thus to open themselves up towards a public discourse, in a community horizon of Mediapolis (Silverstone, 2009) and make the Net a social space of authentic and educational experience using also digital narratives. In this way, both the final digital product and the process of knowledge construction and sharing may become a meaningful, intentional, collaborative and contextualised learning mode in everyday life.

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