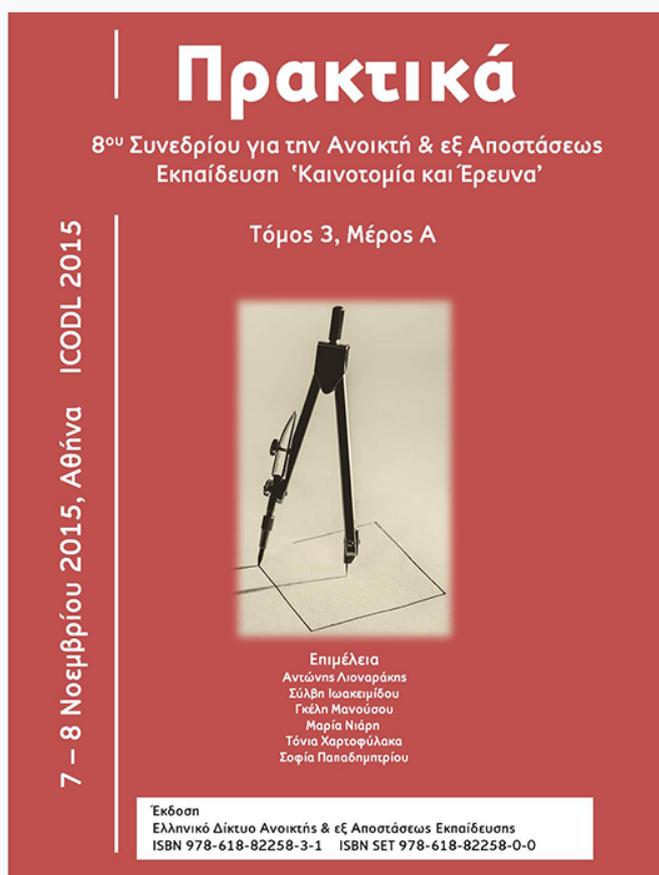# Διεθνές Συνέδριο για την Ανοικτή & εξ Αποστάσεως Εκπαίδευση

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Digital Storytelling in Tomorrow's World: Through Students' Metaphors

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Digital Storytelling in Tomorrow's World: Through Students' Metaphors

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Abstract
The increasing demand for global citizenship education and the expansive use of digital technologies for learning create the need for innovative pedagogical approaches and classroom practices. These should encourage active learner engagement and a critical view of the surrounding world, such as, for instance, the role of social networks in young people's lives, environmental hazards and how human relationships develop nowadays.
In this study we will discuss storytelling in a social network for pedagogy by examining how adolescent (14 and 15 year-old) students from a lower secondary school in Greece experienced knowledge construction, sharing and learning with networked peers from Finland and California in the Boundless Classroom project. To do so, we will analyze the content of student interviews and their digital stories.
As part of their learning activities the participating students from California, Finland and Greece created digital stories and developed traditional (e.g., speaking, writing etc.), digital (e.g., filming, editing, remixing etc.) and networking (e.g., appreciating and responding to projected cultural landscapes) literacies. Importantly, among others, through stories students expressed their views and worries concerning potential dangers of social networking, and what attitudes would reduce environmental risks. It is these student views that we intend to analyze in order to unlock meanings and metaphors underlying pedagogical storytelling that combined the physical (or actual) and the digital site of learning.

Key-words: *digital storytelling, social network, students, metaphors*

Introduction
In the networked learning experience students are not only tellers; they are audiences as well. As students watch peers' stories, interpret them and respond with their own, relevance of content grows as well as a space of shared concerns. In such space, student stories involve both cultural landscapes drawing from history, mythology, daily life etc. (Saito 2010) and self-representations,

thus allowing for identities to shape, and learning and growth to take place in social network environments that serve pedagogical purposes.

If the goal, therefore, is to enable meaningful knowledge building experiences with technologies in schools we should aim to gain a deeper insight into student thinking when engaged in pedagogical Web-based environments and platforms. Such engagement builds upon both shared concerns and human relationships. In this way learning becomes personal and relevant and engagement with technology grows into a shared space of communication and building knowledge and relations.

Social networks, human relationships that develop in networked spaces, and environmental risks seem to intersect with students' anxieties about the future. These areas activate the student intention to express own views and create a space for further discussion with connected peers online. They do so by telling stories where students construct narratives with a beginning, middle and end. Stories (Herzog 2001, p. 185) result from actions and words, and relate these two components so that action and words become the content of the stories.

The stories are later edited and remixed for aesthetic improvement. Through this process students repurpose the content of the stories, which envelops a reconsideration of notions of space and time. It is these spatial and temporal re-adjustments through students' eyes that we will discuss in this paper. To do so we will draw on adolescent (14 and 15 year-old) Greek students' interviews and the content of the digital stories they created in a pedagogical networked environment (Mobile Video Experience, MoViE). These stories occur in a particular setting and come as response to peers' presentations of cultural landscapes and self-representations.

Storytelling with the Digital Online

The pedagogical design to enable the integration of digital and mobile technologies in the classroom practice departs from the view that attitudes and values are best learned by observing other people's emotions and behaviors and are, thus, socially grounded. This paper discusses learning through storytelling on a social network environment (Mobile Video Experience, MoViE) where students upload, edit and share content. In this pedagogical Web-based site, a space opens up for teachers to enhance the passage from knowledge field to knowledge field and for students to grow from a state of 'passing' studentship to 'passing' citizenship. While students meet others, get related and learn with peers they build relevance and, at the same time, through interaction co-create the content of learning. Toward co-creation, multimodal means of expression enable a shift in content form (e.g., into oral, written, and inscribed as is in videos) (Hartley and McWilliam 2009, p. 5). In this way, however, by experimenting with different types of codes (e.g., linguistic and cinematographic) students not only develop literacies but also an aesthetic understanding of the world where human relations are mutual engagement for responsibility and respect, not just mere connections. In this respect, telling stories with digital technologies and sharing online opens up the space for young people to voice their views and convey, in addition to skill, meaning. As studies on digital storytelling indicate, this can be a way for marginalized adults to perform networked identity work online and offline in order to be heard in public debates (Vivienne & Burgess 2012).

Although contemporary curricula claim to bring the student and her needs in focus, we consider that current pedagogies eventually restrain the student by acting upon instead of enabling to act, by, for instance, enforcing her being unnaturally confined in space and in time. Based on findings from the literature, we also take the position that digital storytelling can enable the storyteller's meanings to appear. Consequently, through the discussion and analysis of digital

stories the meanings that students attribute to reality are expected to come up. Some of them seem to be challenged on the course of the experience.

In a post-phenomenological study on imaging technologies, Rosenberger (2010, p. 69) argues that one basic function of technologies is to make visible spatial and temporal aspects of the object of study. These aspects, however, are not located exclusively when lifting the object from the original context in the process of making the video clip or when the clip is rewound or frozen. They can also be discerned in the variations of a theme that lead to the finalized view of the story. In this study, therefore, we argue that the creator-tellers' underlying notions of space and time, being the object of this study, can become visible through the analysis of variations on a story theme.

Ultimately, what we argue here is that the use of social networks and digital technologies can allow new notions of space and time as opposed to notions linked with conventional schooling to emerge. While students have been traditionally expected to occupy a fixed area in a particular classroom setting and attend teacher-delivered lectures spanning, more or less, 45-minute slots, the digital storytelling experience opens up the opportunity for young people to move around, transfer the learning activity and seek more flexible time schedules that do away with the pre-set timetable fragmentation of the knowledge building process. In this way, the possibility for a more authentic learning experience comes up.

In order to understand how young storytellers re-interpret space and time we seek the metaphors that emerge in the digital stories as well as in student speech. To trace metaphors we aim to examine the content of stories and analyze focus groups interviews respectively. According to Ricoeur (1976), a metaphor makes sense only through interpretation, or through a metaphorical twist, an extension of meaning. This allows our sense making to take place where a literal interpretation would be nonsensical. In other words, we place the focus of our study on the effort to understand metaphorical 'language' in order to get into how young people think, not into the figures of speech used into their talk. In this respect, our study of metaphor here occurs, instead of the level of word, at the level of discourse. This, in turn, means that we will consider the young people's metaphors as a phenomenon emerging in interaction both online and offline. To this end, we take into consideration Marwick and boyd's (2011b) argument that the network acts as collaborator in the process of identity forming and the content presented by the speakers and, in our case, the young storytellers. Stories do not take place in a vacuum. They are told by the tellers, watched by an audience and convey a message. This is, then, what we consider as the setting where interaction occurs. By examining student views, therefore, we also look into what meanings come out through the interaction with the peers in the school as well as the connected ones from California and Finland. In this way, metaphors are not only the means to make sense of but to refer to the world as well (Ricoeur 1976).

It seems that at this stage of young people's lived experience making sense does not only correlate with the present situation but with what, to their eyes, the future looks like as well. By digging into metaphorical meaning, therefore, we aim to understand students' experiences of the present moment and their expectations of the future. In this respect, while, on the one hand, the young people's stories are expressions of what takes place within the space of experience, on the other hand, they encapsulate expectations, wishes, hopes and fears about the future as well. In this study, then, the term *space* denotes the pathways leading to the structure of school everydayness (Ricoeur 1991, p. 214). Also, in addition to the notion linking with the slots that define the duration of the learning experience, the term *time* denotes expectations of the future.

Taking all these into consideration, we depart to seek answers to our main research question: 'What notions of space and time underlie young people's thinking when they share stories in a pedagogical social network environment?'

Study aims, methods and participants
In this study we will discuss the digital storytelling experiences of adolescent (14 and 15 year-old) students from a lower secondary school in Northwest Greece. The students participated in the Finnable 2020-Boundless Classroom project and shared stories with and responded to artifacts of peers from Finland and California. To examine this networked interaction, we will analyze the content of interviews of four focus groups of students and relate to the content of digital stories. To this end, we also will discuss viewpoints delivered by students in the stories and the message conveyed through them by looking into the variations, or versions, of stories.
Overall, the Boundless experience hosted 36 classrooms from the three countries with an average of 10-15 students in each during the period October-December 2012. In the majority of situations storytelling activities were incorporated in the daily school timetable, but this study's group of students and a Californian class. However, the overall research design goal was to look into participants' perspectives of the experience and how the 'internationally-based' network of peers achieved communication and knowledge building. To this end, each local classroom used own principles in the process of creating digital stories for learning. In this research design approach, one of the so-called current mega-trends in education with technology for a '*sustainable and ecological way of life and collaborative working culture*' (Vahtivuori-Hänninen et al., 2014) was also taken into consideration.
All in all, there were approximately 50 students-participants in these Greek school thematic teams that discussed social networks, human relationships, environmental dangers and local history. Approximately 20 of them responded to focus group (4-5 students in each) interview questions asking about the process of story making, the content of stories and what were key storytelling experiences. Student focus groups were selected by their teachers in terms of contribution to in-school collaborative work.
Overall, interaction between and among peers on the network came in the form of comments where students expressed, for example, whether and why they liked the story. However, explicit comments in the specifically designed area of MoVie were sporadic given that time allowed for project involvement was limited (in some schools implementation took less than one week). Interaction in this paper, therefore, comes as response to peer stories and as student initiative to convey a message and, thus, offer own perspective on a theme through variations. Anxieties about life on the planet, as expressed by Finnish and Greek students, and respect for other species, as tackled by Californians, are examples of such story content variations.

The context of the storytelling experience
Telling stories with digital and mobile applications and devices is the background pedagogical method in the Boundless Classroom project as well as in this paper. Relevant studies (e.g., Hull and Katz 2006, Hull, Kenney, Marple, & Forsman-Schneider 2006, Nelson, Hull & Roche-Smith 2008) present the potential for storytelling to function as means for the representation of the agentive self, for construction of narratives of the self, the family and the community, and for making meaning through self-presentation, symbolic means and subject matters. This occurs in a process of changing and editing that enables spatial and temporal adjustments (Rosenberger 2010) to the story.

According to a thematic categorization of storytelling that draws from Birules (2009) and Arendt (1958), student digital artifacts represent stories of living memory. In these, students draw from own cultural landscapes and develop a deeper understanding and appreciation of the world's aesthetic potential (Saito 2010). In this way, pedagogical digital stories catch moments from the tellers' cultural environments, or landscapes, and evoke interpretive responses as well as an aesthetic understanding, or attitude, of humans, spaces and artifacts as narratives. Similar themes present the Finnish and Californian students' digital artifacts. Some thematically relevant examples from Finnish students' work involve stories drawing from environmentally related areas (i.e., types of recycling such as aluminum, glass etc.), how to improve wellbeing (by, for instance, doing sports) and human relationships (e.g., bullying). The Californian students make stories that, among others, evoke responses against animal cruelty and gender discrimination.

In our case learning with storytelling mainly occurred within school premises, during and after formal timetable within a framework of voluntary participation in thematic projects that appealed to student interests and concerns. This focus on grouping according to student choices rather than according to age echoes Smyth et al.'s (2013) argument for pedagogies where students matter and have a say. In these situations the pedagogical aim is to build experiences where students are involved as active participants, while what '*they* (emphasis is ours) want to learn' is taken into consideration (Smyth et al. 2013).

In this study, the Greek student stories are pre-planned (*Ubuntu,* i.e., 'I am happy when everyone is happy'; Tutu 2000, and *Composting*) in the sense that during classroom activities students developed a specific plan for shooting and scenes were shot from different angles while the final story saw several edits and revisions. Some others are spontaneous (*singing* and *hoggy boggy*). Overall, the stories are made with different mobile devices (e.g., smartphones, tablets and digital cameras).

Findings and Discussion

We will discuss the findings of the study based on the analysis of the content of qualitative and cinematographic data. As table 1 below shows, the analysis of student work reveals two main metaphors. Main metaphors emerge out of 9 (from a total of 27) student digital stories and fall in two main categories: one is *the circle* and the second is about *illusions of social media and technologies*.

Table 1: *Metaphors and interpretations*

Students' metaphors in digital stories	
The circle	*The illusions of networked technologies*
Team spirit	The risks of social networking
Sense of mission	Connectivity for entertainment
	Invisible systems of technology

The stories were selected upon the criterion of whether they constituted variations of a certain theme. Having been categorized, the stories were analyzed upon the criterion of theme development. The time of publication was also taken into consideration. In the case, for instance, of the spatial metaphor of *circle*, a shift from less to more student-driven interaction was displayed. More particularly, in the digital story published first in the row of the circle category, scenes shot with a static camera present the teacher standing out, kicking off and orchestrating the interaction in a closed, dimly lit space. In the videos that followed (e.g., *hoggy boggy*),

however, the activity is transferred outdoors where the atmosphere is more relaxed and teacher presence less marked, while students shoot long shots and close-ups with confident, moving cameras.

Main metaphors undergo more than one interpretation. Thus, in the stories that use the 'circle' as cinematographic device, the students apply the circular configuration (i.e., use their bodies to form circles) in order to signify their views of team spirit, friendship and what they consider as sense of mission. As we will discuss below, the metaphor of the 'circle' brings forward the notion of equality. However, as the circle is a shape itself and is, thus, linked with the spatial dimension, this metaphor also marks student moving out of the classroom. Taking the circle into the open seems to signal the young people's view of what the setting of learning should look like.

The Space in the Digital Storytelling Experience
Environmental issues and human relationships are the focus of discussion in Finnish students' stories (e.g., *Clothes recycling, Bio bag, Why do people cover nature with litter? A Boy Being Left Out - Why?* etc.). Also students from California present their views and worries concerning the environment and how we treat other species found on the planet (e.g., in the *Trash pollution* and the *Animal testing* stories). The Greek students create seven stories in order to convey their messages and respond to international peers' content. In five of them they use the 'circle' representation to signify equality in team participation, to discuss environmental risks and suggest solutions, and define the meaning of friendship. In the stories students explain that they are inspired by the African tradition where the individual and the group are seen as parts of ongoing, mutual interaction and interdependence. Although teams are formed locally, students seem to expand the notion of the geographically dependent team formation into one where international peers are involved both as audience and as collaborators. This perspective becomes visible in Student 5's (S5) claim that the *'... collaborative spirit is transferred out through the videos. And this does not apply to our team only!'* Team spirit and collaborative culture between and among connected audiences of peers are essential components in this learning space where, as S2 summarizes, the '*joint goal*' is, '*… to make stories and communicate our ideas to our peers*'.

In addition to the content they develop and share with connective technologies, the students respond to their peers' cinematographic display of space. As a result, filming is transferred outside the classroom. As S6 explains, '*… We observed that our peers film their stories mainly outdoors, not in a classroom, like we do*'. Adding to this, S7 argues, '*When a story is filmed indoors, it looks so 'set up', not spontaneous at all! It was this* [i.e., their observation] *that urged us to move outdoors*'. These students' views for learning outside the classroom echo Leander's argument (Leander et al. 2010, p. 330) for re-imagined 'geographies of place' as well as the need to work with young people in different ways from the ones we have been used to so far.

More and more students and teachers nowadays cross boundaries and connect with peers in ways that resemble what Marwick and boyd (2011) term as 'networked publics'. These are spaces where young people gather to hang out, gossip, negotiate relationships and challenge norms. Therefore, the current need to integrate connective technologies seems to call for pedagogies that re-visit the space of the learning experience overall. Considering students' views and the requirements that pervasive connectivity poses for the pedagogies of the future, we argue here that the pedagogical dialogue should be extended both outside and beyond the conventional classroom. Similarly to what happens in networked publics, when the dialogue goes onto the pedagogical social network for learning and growth with connected peers, the 'conversation'

needs to be kept alive. Unlike what happens in networked publics, however, where the dialogue is frequently trivialized, pedagogies in mediated publics should aim for making sense toward an authentic knowledge building experience with other human beings and with technologies. Storytelling is one pathway for such experience.

The Future Through Young People's Eyes
Students' stories offer an insight into how the young storytellers view their selves located in the world in the present time. The analysis of the 'circle' metaphor conveyed in the digital stories also allows a view of the content of learning to show up as shared concern among students, teachers and connected peers. In order to build knowledge upon shared concerns students seem to believe that two conditions should be met. One relates to having *'a common goal'* as, for example, working *'for this wider environmental sustainability goal, together'* (S2). Another requires a learning space where the opportunity to '*feel freer to express our views* (S1) opens up.
The *'illusions of networked technologies'* metaphor conveys similar notions. To tell the story of *'illusions'* students make three variations. One (*Lolis and his lollies*) displays young people's influencing culture of entertainment through social media in contemporary society. Another (*iPad bought from Facebook*) presents the possible dangers resulting from non-encrypted digital transaction practices. The third variation (*Harassment*) discusses the case of an adult who uses a fake profile (or troll) to take advantage of a marginalized, social-network addicted teenager. Taken all together, it seems that similar meanings underlie these stories. These relate, for instance, to the risks underlying the use of social networking technology (see table 1).
Although '*illusions'* is a technological metaphor, the message does not concern technology only; it is rather a reflection about the possible dangers hidden in the social networking world and the articulation of these young people's worries about the future of human relationships. Student approach seems to be, rather than technological and utilitarian, humanistic and communicative while stories eventually offer a critical view of technology in human life.
Along similar lines, the environmental theme seems to bring forward the view of the future as sense of mission. As S2 points out, '*… We have to show to the world that only in unity we can make it! This is a mission that crosses the boundaries of one group or one school. We need to work together if we wanna save the world!'*
The value of the digital storytelling experience, therefore, lies not only in the opportunity that opens up for young people to reconsider the setting of learning being the space of experience but also in the ways their identities and lives are being built 'now' toward the future. It becomes clear through the discussion and analysis that these students view themselves as inter-connected, and building relationships in collaboration with peers. Summarizing the storytelling experience, S4 adds, '*Developing collaboration and the sense that, despite cultural differences, we are able to communicate with practical things. This is the real value of the project!'*

Conclusions
In this paper the analysis of student experiences and digital stories discloses two main metaphors: the circle and technological illusions. Both metaphors reflect the views of students for a learning space that allows for communication and sharing. In such space, the notion of the 'team' is new, as it breaks away from geographically bound formations and connects as well as positions local sub-systems within the global learning environment. According to their experiences and stories, and in order to keep the dialogue among connected peers going, students need to build content upon shared concerns, common goals and a sense of mission. The latter

also makes an aspect of student identity as agents, by, as Ricoeur (1991) would put it, showing and telling their intention to change the world aiming at a better future for the planet.

Acknowledgements

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