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Teaching, Learning and Professional Development through Digital Storytelling: An Innovative Blended Learning Training Course for Primary and Secondary Education Teachers

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Abstract

According to the official educational policy and the global pedagogical research and practice, the teaching and learning process is comprised of a set of theoretically underpinned actions leading to the attainment of the set goals. The application of this educational framework provides for the development of various literacies and skills compatible with the characteristics and needs of the broader social context. At the same time, it presupposes the equivalent reinforcement of the pedagogical training of the teachers, who are the principal implementers of educational practices, through targeted training actions. This paper delineates an innovative blended learning training programme designed for primary and secondary teachers in the Prefecture of Ilia, Peloponnese, which was thematically contextualized within the principles and pedagogical impact of Digital Storytelling. Primarily oriented towards boosting the participants' professional development, the programme aimed in particular to expand their content knowledge, upgrade their teaching skills and develop multiliteracies through their task-based apprenticeship in the strategies and creative challenges of Digital Storytelling.

Keywords: digital storytelling, professional development, technology, skills

Introduction

As a complex process, teaching is composed of a wide range of categories of knowledge which interact with each other so that learning outcomes may be achieved. (Shulman, 1986). With the emphasis

placed equally on the teacher's content and pedagogical knowledge, teaching practice involves designing appropriate actions which ensure the cognitive clarity of the learning objectives and the accessibility of new knowledge to students (Webb & Cox, 2004). Calderhead και Shorrock (1997) posit that besides "knowing *something*" and "knowing *how*", teachers are expected to be competent in "knowing *why*" and "knowing *when*". Therefore, teaching is characterized as a dynamic, purposeful, theoretically and pedagogically underpinned blending of actions, requiring the recurring interaction between the teacher, the students, the materials and the educational environment in a living dialectical relationship (Cohen & Ball, 1999; 2000).

The tight bond between the educational process and the social environment denotes the significance of the need "[for the teachers] to adapt to the constantly changing requirements, so that they may be capable of preparing their students to assume their role in societies which seem to evolve more rapidly than ever in human history" (OECD, 2011: 17). The differentiated circumstances in the social and educational environment at national and global level dictate the need for continuous professional development, which Fullan outlines as the "set of formal and informal learning experiences in the professional path of a teacher, from pre-service education up to retiring" (Fullan, 1991: 326).

The invasion of new technologies in all areas of human activity also affects the educational field, entailing changes in the structures, the perceptions, the practices and the methods of teacher education and training (Darling-Hammond & McLaughlin, 1995). Various inhibiting factors in the pursuit of systematic training enhance the value of e-learning training courses, which argue for the provision of flexible and self-regulated upgrading of the teachers' knowledge and skills (Lionarakis, 2003).

The present paper describes the implementation of a blended learning training course for primary and secondary teachers in the prefecture of Ilia, Peloponnese, which was designed in order to optimize teachers' instructional design skills and multiliteracies, through their empirical familiarisation with the philosophy, the strategic process and the pedagogical value of Digital Storytelling. Initially, there will be a brief reference to the types of skills required from contemporary teachers, as well as and the perception and contribution of training procedures in their professional development. There will follow a description of the course with an emphasis on its specifications (aims, structure, material, human resources) and a concise evaluation of its implementation feedback. In the final part, there will be a discussion of the impact of the particular training process on the enhancement of the participants' multiliteracies and there will also be attempted a short reflection on the pedagogical value of the adopted training methodology as a skills transfer process in the classroom.

The teacher in the modern school environment

The principal mission of education is to prepare future citizens and professionals to cope with the challenges of the times and to contribute to the broader social development and growth using their personal creative forces and values (Trilling & Fadel, 2009). As a part of the general processes in the economic, social, scientific and technological domains, contemporary school reality raises far more

complex challenges for the teacher. Kress (2010: 133) observes that "the past required training for stability, while the future requires education for instability". The teacher is considered the main agent of the educational course, by actively delivering modern perceptions, values, knowledge and skills, and thereby exerting a substantial influence on the transformation of his working environment (McLaughlin & Zarrow, 2001).

Incorporating the principles of several international pedagogical schools, the current national curricula at all levels, including the recently launched pilot curriculum [Act "NEW SCHOOL (School of 21st century)], provide an outline of the profile and the role of the contemporary teacher. Essentially missioned to shape spiritually, mentally and culturally integrated personalities, capable to manage modern life data, the teacher nowadays is expected to possess a significant nexus of knowledge, namely knowledge of the teaching subject and the wider curriculum, knowledge of the teaching methodology, general pedagogic knowledge, knowledge of educational psychology, etc. (Shulman, 1987). Following the galloping advances of technology in the educational process, technological content knowledge and technological pedagogical knowledge, which ordain the pedagogically purposeful and theoretically supported exploitation of the new tool for the achievement of the learning objectives, constitute additional essential forms of teacher training (Mishra & Koheler, 2006).

The complex web of challenges raised by the modern age characteristics, with which education is expected to be harmonized, presupposes the development of a wide range of skills by the students under the guidance of accordingly knowledgeable teachers. The so-called 21st century skills, as these are defined in the Framework for 21st Century Learning, are categorized groups of ability, with corresponding subdivisions, which target at the individual's effective management of the new social and occupational life conditions. According to the specific framework, a modern teacher is expected to be appropriately competent to transmit to the students basic interdisciplinary knowledge (Core Subjects and 21st Century Themes), innovation and lifelong learning skills (Learning and Innovation Skills), digital literacy and communication skills (Information, Media and Technology Skills) and social and professional life skills (Life and Career Skills). The students' ability to manage knowledge critically, cooperatively and creatively, to solve problems through knowledge, to use technological progress in appropriately, purposefully and flexibly and to adapt with intercultural readiness to the new roles and tasks of the broader social, educational or professional environment, form important objectives of contemporary education, with expressive implications to the forms of training required by the modern teacher.

Pursuing professional development: the technology factor

According to Day's perception (1994: 4), professional development "consists of all natural learning experiences and those conscious and planned activities which are intended to be of direct or indirect benefit to the individual, group or school, which constitute, through these, to the quality of education in the classroom. It is the process by which, alone and with others, teachers review, renew and extend their commitment as change agents to the moral purposes of teaching; and by which they acquire and develop critically the knowledge, skills

and emotional intelligence essential to good professional thinking, planning and practice with children, young people and colleagues throughout each phase of their teaching lives.". Padwad & Dixit state that it is "... a planned, continuous and lifelong process whereby teachers try to develop their personal and professional qualities, and to improve their knowledge, skills and practice, leading to their empowerment, the improvement of their agency and the development of their organizations and their pupils" (Padwad and Dixit, 2011: 10. Thus, professional development is described in literature as a voluntary personal process which aims to enhance the teachers' knowledge and abilities/skills, so that they can perform their didactic and pedagogical role with flexibility and sustainability.

International scientific research attaches great importance to the role of new technologies, due to their ability to shape critical and creative thinking and exploratory practice and also to build authentic problem-solving skills, thus linking learning with the requirements of the real world (Underwood & Underwood 1990). Technological progress is progressively being incorporated in the form of training systems via the development of new methods of continuing professional development. Changes in the educational structures, perceptions and practices presuppose proportionally equivalent changes in teacher education and training (Darling-Hammond & McLaughlin, 1995). A pedagogically underpinned use of technological tools is closely related to the pedagogy-conscious teaching attitude of the teacher, who is challenged to transcend the narrow techno-centric framework, to interpret the educational prospects of the technological functions and to use them critically and selectively for the achievement of learning objectives (Watson, 2001).

The role of technology in the application of the pedagogical knowledge of each learning subject is to create critical concerns about "why and how" new knowledge should be taught, and, subsequently, about «what kind of technological means/tools, why and how" will be recruited in order to promote the achievement of the cognitive and other goals (Webb & Cox, 2004). Further exemplifying the significance of such knowledge, Webb (2005) claims that it interconnects the knowledge of the teaching subject (content, methodology) with the selection of the appropriate technological tools, which will deliver it effectively. Their rational integration in teaching methodology results in the design of cognitively fruitful actions which in turn shape appropriate and educationally beneficial teaching behaviours (Webb, 2005:727). Especially in foreign language teaching, technology provides the possibility of creating authentic linguistic communication environments, essential for the linguistic, social, cultural and value-based development of the students and their preparation for future citizenship (Kalantzis & Cope, 2008), and therefore necessitates the digital modernization of the teaching methods.

According to a research investigating the efficiency of teachers in Britain, aggravating factors such as «heavy workload, a lack of time and financial constraints were important inhibitors in their pursuit of professional development» (Day et al. (2006:123). Similar findings are also recorded in the Greek environment, leading to the conclusion that «training programmes in the form of distance learning can facilitate the flexible and self-regulated update of the teachers' knowledge and skills" (Lionarakis, 2003).

Digital Storytelling and skills development: a blended learning CPD course

Digital Storytelling constitutes an evolutionary form of traditional storytelling and refers to the digital investment of personal narratives, so that meanings and feelings can be conveyed to an audience with the immediacy and multimodality provided by modern multimedia (Robin, 2008). A product of innovation of the Center for Digital Storytelling (CDS) in Berkeley California since 1993, pioneered by the founders of the organization, Joe Lambert and Dana Atchley, Digital Storytelling has nowadays developed into a significant educational tool with a catalytic effect on the development of literacies and skills. The structure and strategic procedures of the approach encourage on the one hand the teachers to the critically and reflectively include technology in their didactic practices, and on the other hand the students to actively develop 21st century skills (Jakes & Brennan, 2005).

Aiming at the teachers' training in the educational purposefulness of Digital Storytelling, with particular reference to its impact on the development of productive language skills, digital and transmedia literacy and collaborative skills, there was designed and implemented a thematically related eight-week-long CPD course, structured on the methodological principles of blended learning. The course was launched in two versions, namely an English-speaking one under the title "Digital Storytelling for the Development of Productive and Collaborative Skills", which addressed teachers of English in Ilia, Peloponnese, and a Greek-speaking one under a similar title, which addressed primary and secondary teachers of various specializations in the same prefecture, yet narrowing the audience to those teachers whose discipline areas focused on the development of language skills.

The technical support of the course was assigned to the Achaia Centre of Informatics and New Technologies, which provided the Moodle platform for asynchronous and distant learning in Western Greece, and the course implementation was coordinated by a network of volunteering teachers with high ICT expertise. Despite the initial orientation to the formation of two groups of trainees, for the two different language versions respectively, due to increased demand, a third English-speaking group was formed to accommodate teachers of various subjects, who also had certified knowledge of English at B2 level and above.

The blended learning course aimed at:

- actively familiarizing the teachers with the principles of written narrative speech,
- analyzing and elaborating on the elements of the specific genre (story telling),
- acquainting teachers with the notion, the structure, the tools and the educational implementation of digital storytelling,
- acquainting the teachers with the pedagogical value of introducing digital storytelling in the learning process,
- engaging the teachers in an empirical exploration of the impact of digital storytelling on the development of authentic coherent language,

- engaging the teachers in an empirical investigation of the contribution of digital storytelling in the development of collaborative skills through collaborative work,
- immersing the teachers in their empirical development of collaboration skills through the cooperative exchange of ideas, experiences and problem solving,
- encouraging the teachers to enrich their didactic practices with modern and educationally relevant technological tools and
- reinforcing the teachers' individual digital training and encouraging the use of digital technology for their own professional development.

The course material was deployed in eight modules distributed in the eight respective weeks of its duration. Each week, the participants were assigned a number of subject-specific tasks which strategically led them into empirically, collaboratively and creatively processing and exploiting the concept of Digital Storytelling. The course units hierarchically involved:

- the theoretical introduction to the concept and structure of Digital Storytelling ,
- the presentation of categorized Digital Storytelling tools, the analysis of the methodology and evaluation of Digital Storytelling,
- the construction, editing and dissemination of the trainees' personal Digital Stories and
- the connection of Digital Storytelling to the teaching practice.

The weekly material included the module goals, the study documents, and one or two tasks per week, which had to be processed and submitted electronically within a set time frame, as the course structure ensured the coherence, the interconnection and the interdependence of the different modules. The participants' submissions were evaluated by a network of volunteering teacher-assessors, who were experienced in the management of asynchronous and distance learning programmes. The study material was comprised of a) PowerPoint presentations which included the theoretical background and the presentation of digital tools, b) hyperlinks, links to portals and other informative educational video material, c) research articles for study and exploitation, d) introductory texts anticipating the content each week and e) doc(x), pdf or other file forms as models for the implementation of the tasks and f) the task instructions.

The course also involved a discussion forum for the exchange of ideas and the collaborative manipulation of arising queries. There were also scheduled two 5-hour face-to-face training sessions hosted at the a school computer lab, targeting at a) the participants' introduction to the theoretical framework of Digital Storytelling and b) their hands-on trialing of important categorized Digital Storytelling tools. The total amount of time allocated for theoretical studying, use of digital tools and task implementation was estimated to be 42 hours, including the live sessions' duration. The criteria set for the successful completion of the course and certification involved a) the trainees' participation in both live sessions and b) their accurate and punctual submission of all compulsory assignments.

Course evaluation

For the collection of data regarding the degree to which the course aims were achieved, but also to record the participants' reflections and proposals for further course amendment and reform, a short final evaluation survey was conducted among the trainees upon the completion of the course. The applied questionnaire (viewable at: https://docs.google.com/forms/d/1mYhOUUZ9oUwokC09JS45_XGVJx8fiDm9CrOYs1bY6z4/viewform) combined quantitative and qualitative data questions and aimed at a rather ad hoc examination of the course effectiveness in the light of a short span of variables. The questions posed sought to investigate holistically and the issues they addressed included:

- the participants' digital background at the outset of the course,
- the participants' motivational factors for enrolling in the course,
- their holistic evaluation of its effectiveness in relation to their expectations,
- the difficulties they faced and the means in which they tackled them,
- the advantages and weaknesses of the course as far as its content and implementation procedures are concerned and
- the course impact on the trainees' current educational status and professional development.

The number of the recorded responses reflected the views of fifty out of the eighty participants, namely thirty nine female and eleven male, which broadly depicts the gender distribution in the specific trainee audience. The limited participation of the participants can be attributed to either time factors relating to the teachers' heavy school schedule at that period, or to the optional character of the research. The vast majority of the participants were English language teachers (44%), whereas the rest were primary school teachers (22%) and secondary school Greek language teachers (14%). It was of particular interest that the age range of the majority of the trainees was 41-50 years (50%) and 31-40 years (38%). As regards their digital competence, 88% of the participants possessed basic certified ICT knowledge, whereas the rest had attended a seminar through the Moodle open source platform in the past.

The principal factors which affected the participants' enrolment in the course were reported to be the course topic, its relevance to the teaching subjects, the blended learning nature of the course, the individual interest in the specific thematic area and the need for knowledge and skills enrichment. Despite the fact that the course was evaluated by 70% of the trainees as "fairly demanding, yet not difficult", it seemed to respond to a great extent to the initial expectations of the majority of them (88%). It is noteworthy that the decrease of systematic official in-service training activity in the Greek educational context on the one hand and the increase of educational novelties at national and global level on the other, frequently induce an urging need for the teachers' pursuit of various types of training programmes.

The major difficulties that were attested to, included the limited time span allocated for the implementation and submission of each assignment, the wide range of technological tools proposed in the study material, the inherent functional difficulty of a certain number of them and the insufficient time available for a thorough

experimentation with the proposed technological tools. To cope with these difficulties, the strategies the participants most opted for were the thorough and frequent review of the educational material, experimentation, activation of existing knowledge, skills and learning styles and use of the course discussion forum.

As expected, the most significant difficulties related to the content of Week 6 (50%), which involved the construction of the final product, that is the digital story, whereas of lesser difficulty were reported to be the assignments of Week 1, which involved script writing (16%), Week 4, which involved storyboarding (18%) and Week 8, which involved the educational exploitation of Digital Storytelling (18%). Yet, despite the cognitive or technical challenges posed by the assignments, the trainees stated that they derived joy by most of them, placing special emphasis on those of week 6, which engaged them in the creation of their digital stories.

As far as the course advantages are concerned, the participants acknowledged the fact that in terms of content, the course enhances the teachers' scientific and pedagogical background (94%) and that it offers high prospects for integration in the teaching and learning processes (92%). Particularly positively was appreciated the course material as a vehicle for creative expression (92%), as well as the methodological approach it adopts (88%). Equivalent positive evaluation was attributed to the course impact on the development of lifelong skills and self-regulated learning strategies (86%) and multiple literacies (86%), as well as on the exemplary scientific and technological guidance provided by the course trainers (86%). Both the organizational as well as the communication-guidance parameters were positively assessed (94%), whereas, in their vast majority, the participants felt ascertained that the course would eventually improve their didactic attitude (94%). Therefore, in their feedback, they clearly stated their satisfaction of the knowledge and skills gained through the process, anticipated their strong inclination towards embedding the course content in their teaching and openly expressed their wish for further initiatives of the kind in the future.

Weaknesses and areas for further investigation

The major reported weaknesses of the course involved the uneven distribution of the time available per assignment type (42%), which hampered the work progress on certain occasions, the subscription fees suddenly imposed on certain technological tools due to policy change (26%), the absence of face-to-face interaction and guidance due to the e-learning nature of the course (24%) and the lack of choice of assignments in particular weeks (24%). As far as technical difficulties are concerned, it needs to be researched whether a redistribution of the course material across the available weeks or, alternatively, an extension of the course time with the accompanying review of the study material could ameliorate the targeted outcomes and modify the affective factors.

Furthermore, the course contribution to the reinforcement of communication and collaboration was not as fervently corroborated (64%) as was its impact on the promotion of flexible and individualized professional development of the teachers (84%). Communication and collaboration skills building forms an integral part of the methodological approaches espoused by mostly the recent school curricula, but have not been adequately promoted and therefore

endorsed by the teacher audience. Cooperative professional growth needs to be integrated in teacher training programmes in due time. The conclusions drawn from the survey cannot become easily generalized, but they could indicate corrective interventions in view of a future relaunching of the course.

Epilogue: 'apprenticeship', technology and professional development

The implications raised through the course experience relate to the concept and nature of the particular training programme examined under the prism of sustainability. The central philosophical line of the course was to submit the trainees in a process of simulated 'apprenticeship', through which they would actively and exploratively develop multiliteracy, interaction and reflection skills, in order to ultimately convey the obtained pedagogical knowledge into their distinct educational environments. The particular methodological approach constitutes a vivid experience which results in new action and ideas, since the engaged teacher experientially constructs new knowledge (Koutselini, 2008). Moreover, it adheres to the principles of adult education which define that learning experiences that promote personal, responsible, autonomous and collaborative action are considered crucial agents of change of teachers' perceptions, attitudes and behaviours (Schibeci et al., 2008).

The critical, creative and above all pedagogically oriented technological use, which by Shulman (1987) constitutes an essential form of professional knowledge, shapes parallel learning and teaching behaviours, reciprocally beneficial in the educational process. Last but not least, flexible forms of training activity, which exploit the potential of technological developments to address issues of geographical, time and other restrictions, are aligned with contemporary lifelong learning practices, whereas, according to Warschauer & Shetzer (2003: 176), "flexible, autonomous, lifelong learning is essential to success in the age of information".

Therefore, the important conclusion out of the whole project is that the form of professional development ensures its sustainability if it is tuned to the existing conditions and needs of the environment and the people functioning in it. This relation seriously affects the effective feedback and the purposeful reinforcement of the educational work. The degree to which the particular training exerted a lasting impact on the reshaping of the teachers' pedagogical thinking and attitude over time is to be examined in future research. The investigation of the contribution of technology to both the critical enhancement and/or differentiation of teaching performance and the building of self-regulated professional development strategies is also considered vital.

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