Flipped learning, digital storytelling as the new solutions in adult education and school pedagogy

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Aprendizaje a la inversa y narración digital como las nuevas soluciones en educación de adultos y pedagogía escolar.

Resumen:

El documento es una breve descripción de las posibilidades de utilizar nuevas soluciones de enseñanza basadas en las TIC. Presenta los resultados positivos de la integración de los métodos de aprendizaje a la inversa y narración digital en el proceso de aprendizaje y enseñanza. Este documento se refiere a las últimas soluciones de las fronteras de pedagogía con medios, educación de adultos y TIC. El documento ha sido escrito como parte del proyecto internacional Smart Ecosystem for Learning and Inclusión (Ecosistema Inteligente para el Aprendizaje y la Inclusión).

Flipped learning, digital storytelling as the new solutions in adult education and school pedagogy

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Abstract:

The paper is a brief overview of the possibilities of using new, ICT-based teaching solutions. It presents the positive results of integrating flipped learning, digital story telling methods into the learning and teaching process. The text refers to the latest solutions from the border areas of media pedagogy, adult education and ICT. It was written as part of the international project Smart Ecosystem for Learning and Inclusion.

Key words:

Flipped learning, digital storytelling, didactics, adult education, media education.

Introduction

The more wide-spread use of the Internet, the greater is influence of the new, networked media on the human life, social interactions, higher education and economy. Transformation of different social, economic and cultural structures is visible all over the world. One of the most noticeable achievements of education during the last decade is the common implementation of e-solutions which facilitate learning, testing, communication between the learners and networking of educational institutions (Zuowei Zhao, 2018; Lihua Fu, 2018). The growing number of ICT-based solutions that support learning and teaching entails the development of the research into the educational value of: devices like tablets or smartphones, tools to augment the reality (VR, AR) and digital services (websites); the solutions almost every teacher-coach may easily implement in their school or adult education practice (Stošić, Stošić, 2015; Klement, 2017).

The style of using the new media changes as institutions get equipped with the digital devices and faster Internet connections, that is, as they improve their infrastructures (Potyrała, 2017; Eger, 2015). Better technological parameters and more advanced media education methods, as well as shifts in the attitudes of school teachers and adult educators, provide the opportunity to transfer or transform the familiar offline methods into the digital space or allow hybridization of forms, methods and didactic measures (Eger, 2018; Milenkova, Peicheva, Marinov, 2018). Common and available for free, different e-solutions motivate teachers and coaches to use

the ICTs, but they also challenge them to change the way they conduct their classes (Milan, Dostál, Kubrický, 2017).

The three solutions suggested in this paper are only an overview of the new opportunities digital media provide us with. Each of the presented approaches to the use of ICTs in didactics is based on the familiar offline solutions. For example, digital storytelling is based on the assumptions that individuals have sufficient knowledge to use it to add more content to their learning process and share their experiences with others (Veteska, 2017). Flipped learning is based on the similar principle. It occurs when the teacher becomes the facilitator (Domagała-Kręcioch, Majerek, 2017) and ICT becomes the transmission channel and a notebook. Blockchain, in turn, facilitates the exchange of knowledge and enables learners to be not only the receivers but also the creators of information on the global scale.

Flipped Learning: Benefits, Implementation Strategies and Challenges

Since the 20th century, humanity has been under the influence of the globalization phenomenon, which brings changes in different spheres of society, such as economically, politically, culturally and educationally. In this context, educational processes have faced changes that are also related, among other factors, to the introduction of *Information and Communication Technologies* (ICT) in the classroom, although at the beginning they were seen as a support, currently, its impact is much deeper. ICT provides new environments and scenarios for training, which are associated with the expansion of the information supply, creation of more flexible environments for learning, elimination of space-time barriers between the teacher and students and increase in communication modalities. Also, it offers enhancement of scenarios and interactive environments, encourage independent learning and self-learning as well as collaborative and group learning, break the classical educational scenarios, limited to school institutions, offer new possibilities for guidance and tutoring of students and to facilitate permanent learning (Cabero, 2006).

Similarly, communication and socialization of knowledge have been transformed, generating an explosion of scientific information, creating the need for new mechanisms to access and organize all this information (Molina, Marrero, Puentes, 2015). The ICT advancements could be the key tool to address the current social challenges in terms of education access and resources to engage students in learning experiences useful for their development (Hernández, 2017). In this chapter, we present *Flipped Learning* (FL) as an interesting technology-enhanced model to consider to help address some of these challenges. We analyzed the FL concept from the perspective of several authors, present the benefits of integrating this instructional model to enrich teaching practice, describe some of the challenges of applying the FL model and provide several strategies to do it successfully.

The Flipped Learning Concept

Flipped Learning (FL) is a popular contemporary instructional model where the traditional pedagogy strategies are enriched by technology to increase student engagement and learning outcomes by increasing the reflection and concept application opportunities in the classroom since students explore the key concepts before coming to class. FL is an instructional model enhanced by technology with several

key elements (Akçayır & Akçayır, 2018; Cabi, 2018; Lo & Hew, 2018). First, in the FL instructional model, the teacher switches the learning activities that traditionally happened in the classrooms, such as lectures, with learning activities that were designed for outside the classroom, such as reflections, videos, digital material. (Akçayır & Akçayır, 2018). Second, the FL model takes advantage of technology to increase the accessibility of class content and to increase its engagement potential (Cabi, 2018; Lo & Hew, 2018). Third, in the FL model technology serves to create personalized and tailored to individual needs content to keep participant engaged (Bergmann & Sams, 2012). Overall, FL is an instructional model that may be used to seeks deeper learning levels and fosters the development of critical thinking skills among students, by using the face-to-face time in classroom to create discussion and other learning activities intended to promote the integration of the new concepts to previous knowledge (Biggs & Tang, 2011, Jenkins, 2017).

Nowadays the FL approach is widely used in a different discipline such as nursing, medicine education, mathematics, social science, physic, humanities, engineering among others. (Akçayır & Akçayır, 2018; Lo & Hwang, 2018). This variety of reported studies help us to understand more deeply the opportunities and challenges that bring the FL model and how can be improved using different perspectives and tools.

Integrating FL into classrooms represents great benefits for students and opportunities for teachers who want to improve the interaction between them and their students while increasing students learning outcomes (Roehl et. al., 2013). Using the FL approach can help students increase their problem solving and critical thinking skills since teachers can use more time in class for discussions and reflections related to the class topics (Zainuddin & Perera, 2019; Winter, 2018; Jenkins et al., 2017). Also, this approach can help to increase student's motivation, the student's learning outcomes and improve in their capability to self-pace their learning process (Akçayır & Akçayır, 2018; Zainuddin & Perera, 2019; Vaughan, 2014). The FL approach has been so valuable because it represents the opportunity to provide students a more personalized class, along with a reduction of lectures time and an increase in reflection and practice time (Roach, 2014; Roehl, et. al., 2013; Winter, 2018).

In addition to these benefits, recent studies suggest that the combination of an FL model with gamification approach can boost student's participation in online learning activities (Jo et al., 2018; Huang et al., 2018). The use of game elements helps the engagement and the motivation to complete the online assignments. One key aspect of introducing the gamification into the FL model is the relatedness between peers competing to obtain a higher score in the games. This element brings a great chance for the student to complete successfully the online practices on time but also improve their capacity to participate during the offline line discussion with a better understanding of the contents (Jo et al., 2018; Huang et al., 2018; Zainuddin, 2018).

The FL approach can help many students achieve deeper learning levels, but teachers must prepare well their classes and choose wisely their teaching materials. Videos and PowerPoint presentations won't necessarily produce better learning outcomes if they are not properly integrated to enrich and support a model based on learning objectives, teaching and learning activities, and assessment tasks that

are well-aligned among themselves (Biggs, 1996). Some researchers have found no increase in the learning outcomes by using an FL approach, but it is not clear if the implementation strategies were applied properly (Cabi, 2018; McCabe et al., 2017).

In this section we share several implementation strategies that teachers can use in their FL model, depending on the situation. The teacher must analyze which strategies are best-fitted to address their learning objectives, based on a proper understanding of the student's profile, the resources available and the topic at hand.

The Observatory of Educational Innovation suggests implementing the FL model with small changes to the traditional learning model by applying the methodology to some topics that may be adequate to teach in the FL classroom. „Be thoughtful about what parts of your class you decide to „Flip" and when" Schmidt & Ralph, 2016, p. 2). With this first approximation in mind we suggest the following list of strategies found in the literature:

- Define the learning objectives clearly (Bergmann & Sams, 2012). It is worthy and wise to begin establishing the outcomes we want to obtain and express it to the students since the first day of class.

- Be aware, since the beginning, about the accessibility and the gaps in the use of ICT tools that the student may have. (Ash, 2012; Schmidt & Ralph, 2016). It is important to know that not all students may have the tools or the channels to complete successfully all the online assignments. This reality has a special impact in the developing countries (Karamti, 2016).

- Do not feel frustrated if you can not produce all your videos and content for your class. You can find good free resources online that can enrich your classes. Some websites can provide you with additional resources and also try to collaborate with a colleague in producing videos and resources (Ash, 2012; Schmidt & Ralph, 2016).

- Prefer using short videos. Prepare short length videos (or use from the web) which met the desirable goal you established at the beginning and are aligned with the assignments (Logan, 2015).

- Engage the students through motivational activities in face-to-face class (Lo & Hew 2018; Bergmann & Sams, 2012; Logan, 2015). Look for other colleagues' experience and also be updated about the last tools, type of activities and new methodologies you can use to improve the delivering of every encounter.

- Include collaborative work. Try to add specific tasks, study case, and practices which need to be performed in groups (Lo & Hew, 2018; Roach, T, 2014).

- Give feedback to the students. Reply in a short period of time the inquiry and questions that the students have. Try to maintain the engagement through this type of actions. (Logan, 2015)

  „The flipped classroom may not be applicable to all subjects." (Roehl, Reddy, Shannon, 2013). One of the disadvantages of the FL model is that it is not appropriate for all topics and subjects. That requires an accurate analysis from the teacher to confirm if the FC model will enrich their class. The main challenges that we can mention are:

- Design new strategies to achieve learning objectives. "An evaluation method that generates learning through its process and fosters a spirit of challenge in students is to be preferred" (Sun, 2018).
- Develop new tools to enrich the teaching-learning process and include new types of subjects.
- Keep the discipline of the instructors and the students outside of the classroom to achieve the learning objectives.

Workshop-based Digital Storytelling for Developing Social and Civic Competences in PE Curriculum

In the learning environments of twenty-first century, issues regarding inclusion attract attention of scholars as well as policy makers from various fields. Inclusive education is such an emerging field and the discussions about inclusion in learning environments sets the agendas for both scholar of communication, education and political science as well as other disciplines. This chapter by scholars of communication and education aims to raise a discussion regarding integrating workshop–based digital storytelling into the curriculum of PE teacher education for raising awareness about inclusion principles and inclusive education. In this regards, this chapter will provide an overview about Physical Education training and competence based curriculum mainly focusing on the core aspects of social and civic competences, in which inclusion is an important aspect.

As a co-creative face-to-face practice, digital storytelling workshops provide a unique opportunity for both facilitators and participants to reflect their personal experiences and has been used in the higher education context by Simsek and İnce both for community projects and in the graduate courses as an self-reflective, co-creative process. In this chapter the dialogue among scholars of education and communication brings front the use of workshop-based digital storytelling rather than the tool based digital storytelling. The workshop-based practice of digital storytelling and its dynamics will be explored relying on the literature raising in the last decade. In this respect, the experiences of the Hacettepe University Digital Storytelling Workshop Unit will be included in this discussion about the integration of workshop-based digital storytelling for PE teacher training. A new model of integrating workshop-based digital storytelling in relation to competence-based curriculum will be developed as a result.

a. Digital storytelling workshop: A co-creative process

Digital storytelling has been in use for exploring the new capacities of storytelling in the new media ecologies for the last decade. The emergence of new media technologies enable ordinary people to engage with content creation and the consumers of media have become content producers themselves as well. In the meanwhile, in this new media ecology there are digital divides. Not everyone access the content or the new media ecologies in equal terms. It has been a decade since Robin stated that young people continue to use emerging technologies in their personal lives, even if a large number of educators have not yet found ways to meaningfully integrat-

ing new media technologies to classroom (Robin, 2008). In this regards, creating learning environments and habits of co-creative processes gains importance for both students and educators.

The use of digital storytelling in the educational contexts mostly encourages pupil to use multi-media technologies and tell a story. The literature in education contexts provide us about the tool based, digital skill developing approach. One of the theoretical framework is Technological Pedagogical and Content Knowledge (TPACK) which Robin noted that digital storytelling may be combined with it (Robin, 2008). TPACK emphasizes how the connections among teachers' understanding of content, pedagogy, and technology interact with one another to produce effective teaching (Koehler, Mishra, Kereluik, Shin, & Graham, 2014). Although critics are made about TPACK, particularly on technology domain for having lack of definitional clarity(Graham, 2011), framework has drawn much attention across the educational field (Willermark, 2018). There are examples of using digital storytelling as an education tool in various fields of education including pre-school, K-12, higher education and non-formal education. Digital stories can be created both by teachers and students in a formal education.

Digital stories created by students as projects give students an opportunity to reflect and share their own learning processes. These digital stories also give an insight to the teachers to understand student's achievement and participation in learning. Teachers can also use previously created digital stories to their students to introduce content and capture students' attention when presenting new ideas (Robin, 2008). Digital stories created by teachers may be used as an instructional material to improve and promote educational activities. As an example using digital storytelling in pre-school a study presented examples to illustrate how early childhood teachers integrate digital storytelling as an instructional tool into curriculum to enhance young children learning (Yüksel, 2011).

Similarly, another study which involves a 7-year-old child to produce a digital story telling presenting her study of self provides a new area for early childhood educators to explore and study digital story telling (Disney & Geng, 2017). Another explores what kind of activities emerge when 6-years-old children in a pre-school class write a digital story, using a word processor and speech-synthesised feedback computer software. Again the children succeed in accomplishing the instructed task of collaboratively composing a story(Skantz Åberg, Lantz-Andersson, & Pramling, 2014). Another study is compared the conceptual understanding of pre-school students in digital storytelling classrooms with children in traditional storytelling classrooms. Researcher used a pre-test, post-test control group design with 149 preschool children. Findings of the study indicates that digital storytelling improved the preschoolers' conceptual understanding of the course content more than traditional storytelling (Kocaman-Karoglu, 2015).

As an example in higher education study implemented with college students from Industrial Design program reflects benefits of using digital storytelling as the authentic learning, the polished end products, the engagement of students with the material, the decidedly independent learning, and the collaborative practice (Barnes, 2015). In another study, researchers developed a digital storytelling sys-

tem called Digital Storytelling Teaching System-University (DSTS-U) in order to help college students to quickly create stories with a structural architecture and enhance the variation of the contents of stories through different story structures. According to researchers the story structure-led teaching model is necessary (Wu, Hu, Wu, & Fan, 2017).

Another study which involved pre-service physics teachers highlights students' achievement and interest in physics lesson in particular and point out that digital storytelling as a distance education tool may bring out remarkable contributions (Kotluk & Kocakaya, 2016). As part of non-formal education, digital trainings can be used as a tool to help in the construction of collaborative learning spaces in which adults are in the context of vocational training throughout life (Hack, Ramos, Manuel, & Lucía, 2015). Another research defend the use of digital stories as a strategy for teaching and learning in the context of corporate training and point that digital stories can enhance collaborative learning in adult vocational training (Hack et al., 2015).

On the other hand, the workshop-based digital storytelling practices as mentioned in the introduction is widely used in higher education ecologies as a co-creative process in which six main stages of workshop process defined as (Lambert, 2013) practiced and tailored according to the theme and the purpose of the practice. The digital storytelling workshop is facilitated by a trained facilitator team with participants willing to share their experiences and produce a digital story from these first personal narratives in this approach.

Figure 1 The Story Circle: The flow of a digital storytelling workshop
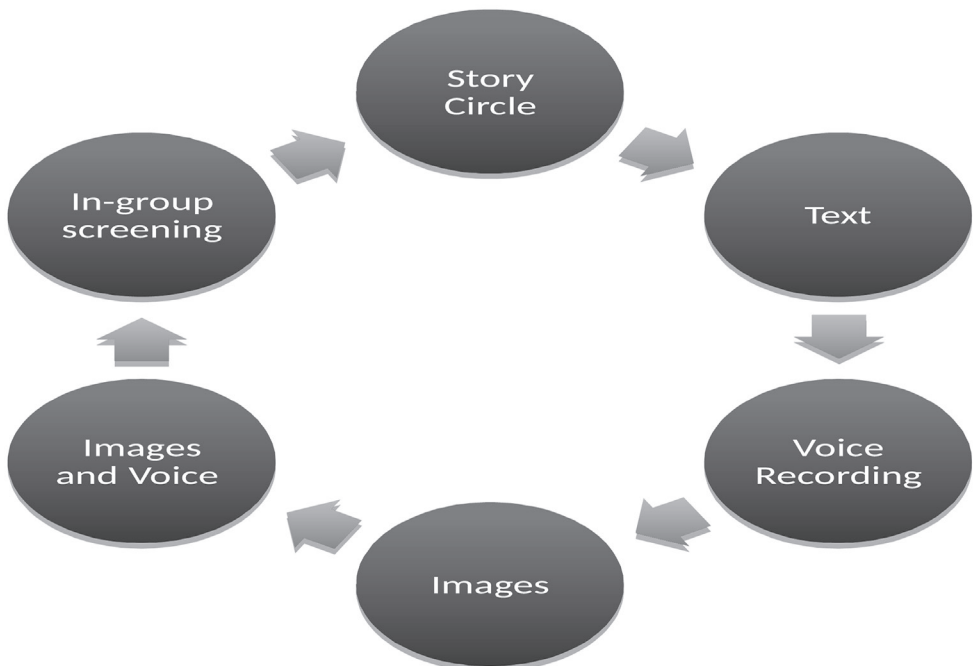
In this workshop practice the first stage that is story circle is important for the creation of digital stories. In the story circle, the participants are encouraged to tell a fragment of a personal experience that will be later turned into a digital story, forming the foundation of their digital story. This stage is a dialogic stage in which, no digital aspect is mentioned rather the archaic storytelling practices are called in and practiced by the participants through the facilitation process. The facilitators also share a story in the story circle. The terms of the story circle is facilitated according to inclusion and equal say principles.

The role of the facilitators here is crucial as some voices are more dominant and willing to speak whereas some others can not create their an opportunity to share their stories and ideas. This core element in the facilitation process of the workshop-based digital storytelling provides us the grounds for using the practice both for exercising inclusion as well as sharing stories and learning from each others' experiences and lives. Once such a circle of respect and trust is formed, creating an individual digital story through the digitalization stages become an experience of collaboration rather than competition. During the in-group screening process, the final stage of a workshop, the story circle is completed through watching the final version of the individual digital stories and sharing thoughts and ideas about each others' digital stories.

This version of workshop-based digital storytelling have been used in the higher education worldwide and at Hacettepe University Faculty of Communication since 2009 in relation to community engagement projects with women, migrants, refugees, graduate and undergraduate students, academics. The sharing of experiences in enabled through the participation in this workshop-based practice and widened to others through the online and offline screening occasions. The digital stories created in a workshop with the consent of the participants are circulated via www. digitalstoryhub.org and face-to-face screening events are created after each workshop for raising further dialogue with the audience for discussing everyday life experiences. Two important paths of interest are significant to recall here. The connection of workshop-based digital storytelling and health communication and the workshops facilitated to understand various cultures such as the work done with women and refugees. Inclusion has been an important field of study in relation to digital storytelling in this context.

A significant example for using digital story telling as an extracurricular activity was with K-12 students. The study discussed the use of digital story telling for children's social inclusion. Study involved ten years old children who reflected their experiences during a visit to a Children's Rehabilitation center as part of Primary Years Project. Study concludes key concepts as understanding about children's agency, using the power of play to shorten the distance, talking about ourselves in relation to others which results to a digital storytelling as a process comes into play (Şimşek, 2015).

Digital storytelling workshops in relation to women's participation has been discussed in relation to well-being through the workshop process and product- digital story- analysis (Şimşek, 2017). The use of digital storytelling workshops and digital stories created in these workshops is also integrated to dentistry undergradu-

ate education for health communication and to the communications PhD program for cultural studies. In the context of health communication, the digital stories of patients and their physicians are used as a course material to be screened and discussed with undergraduate students. On the other hand, in the context of communication PhD program in the courses of Simsek and İnce, the digital storytelling workshop is integrated to the course structure as a self-reflective practice in which the students.

b. Developing a Model for the Integrating Digital Storytelling to PE Curriculum for Social and Civic Competences

Briefly, the inclusive nature of workshop-based digital storytelling is described above. In a time where stories are needed the most to connect people, creating a sense of belonging and the idea of community gain importance. Here the significant aspect is learning the listen to one another in order to develop an understanding about living together. In this respect, developing a model for the integration of workshop-based digital storytelling could be a key component for the social and civic competences in the PE curriculum.

When the current PE Curriculum is considered, it attracts attention that the basic skills consist of the recommendations made by the European Union Commission on lifelong learning, while values are handled as the elements that constitute the basic humane features in the curriculum (Demirhan , Bilgin, Akyar, Yüksel, & İnce, 2018).

The workshop-based digital storytelling enables individuals – students and teachers, facilitators and participants to participate in a sharing and co-creative process in which they both reflect their understanding about the wider world through stories and also listen to one other and learn from each other. The authors in this chapter in this respect, collaborate to develop a model for integrating workshop-based digital storytelling to strengthen the fulfillment of the important competent of the PE Curriculum, the social and civic competence through the emphasis on the issue of social inclusion.

As Hartley and McWilliam points "Everyone loves a story. Not everyone loves a computer. "Digital storytelling" is a workshop-based practice in which people are taught to use digital media to create a short audio-video stories, usually about their own lives The idea is that this puts the universal human delight in narrative and self-expression into the hands of everyone. It brings a timeless form into the digital age, to give a voice to the myriad tales of everyday life as experienced by ordinary people in their own terms. Despite its use of the latest technologies, its purpose is simple and human" (Hartley & McWilliam, 2009). In the learning environments, it is clear that we need more of this simple human aspect both for teachers and students and we discuss how we can develop a model for PE education in particular.

Conclusions

The development of the information society is visible in the growing number of the digital services (Ziemba, 2017). This phenomenon is being observed in different areas. In the last decade, we have witnessed the rapid growth of applications, tools

and methods to support learning and teaching There are many examples of ICT-based educational tools and solutions. The presented ones: flipped learning, digital storytelling and blockchain can be used both, in formal education and non-formal adult teaching/learning. Implementation thereof is only limited by the mental and technical barriers experienced by the educators.

The noticeable quantitative and qualitative development of the digital solutions translates also into the shift in the attitudes towards the new media and strengthens the common, oftentimes stereotypical beliefs about the improvement of educational effectiveness (Morbitzer, 2015). There are more and more research results and methodological guides in media pedagogy, which explain the complexity of using the ICT in education. Modern media education is a developing sub-discipline with many new areas and opportunities, as well as limitations (Ogonowska, 2012).

Intentional and adequate application of flipped learning, digital storytelling and blockchain, depending on the established operational goals, provides a chance to change the dynamics of the learning process while basing on the proven principles of adult education. The authors are aware that the proposed solutions are ones of the many methodological tools which enrich the traditional didactic forms, methods and measures (Baltimore, 2017). Within the next years, we will most likely see a new methodological approach as well as more research results in regards to the methodological assumptions and correlations presented in this text.

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