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WEB 2.0 TOOLS FOR SUPPORTING TEACHING

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ABSTRACT

Web 2.0 tools provide enormous opportunities for teaching and learning, yet their application in education is still underdeveloped. What is more, it is no longer possible for teachers to ignore such a technological advance, while they are expected to provide students with opportunities to take control of their learning. However, teachers are still reluctant with technology integration.

This paper introduces four Web 2.0 tools; Blogger, StripGenerator, Go!Animate, and Google Forms, that are free and easy to use, in an effort to motivate teachers with low technological skills in integrating them into their instruction practices. The aforementioned tools comprised the curriculum in a blended-learning professional development course for in-service teachers and attracted many favourable comments from the participants.

Keywords: Internet; teachers; comics; animation; online questionnaire; blog

INTRODUCTION

Web 2.0 tools change the way people interact (Anderson, 2007) offering a wealth of learning opportunities for students. Indeed, Web 2.0 which centres on the idea of a collective intelligence, changed the role of the World Wide Web; it is not only a way to bring information any more, rather it has been configured around activities of people.

Typical features of Web 2.0 tools are the participatory characteristics, mutual contribution, content and resource sharing, users' active role and interaction resulting in the development of online social communities. In that way, it seems that we are destined to be residents, and not visitors, with technologies (White, 2009).

While not designed specifically for educational purposes, Web 2.0 tools provide unique, hitherto impossible, opportunities to change the process of teaching and the nature of learning experiences and have a positive effect on several contemporary educational challenges such as student engagement, authentic learning, and autonomy in learning.

Educational material that deemed appropriate in the past, unfortunately now it may fail to engage students who are accustomed to multimedia software and have higher demands from their educational experiences than paper and pencil exercises.

Nowadays, students spend a lot of time online using Web 2.0 services to express their views and meet with friends.

Add to that, teachers are expected to create differentiated learning paths to accommodate the diverse needs of students within their classes (Tomlinson, 1999) and provide students with opportunities to take control of their learning activities (Garcia & Oin, 2007). Hence, teachers face a significant challenge that lies in their ability to integrate Web 2.0 in their teaching practices, as Web 2.0 tools are not yet incorporated in classrooms, even in tertiary education (Redecker, Ala-Mutka, Bacigalupo, Ferrari, & Punie, 2009; Weyant & Gardner, 2010). However, teachers usually resist to technology and innovation (Beyerbach, Walsh, & Vanatta, 2001), while they are frequently considered "technophobic" (Lip, 2008).

The aim of this review is to provide a source with useful Web 2.0 tools for teaching and learning and thus motivate teachers with low technological skills to integrate them in their daily practice. This review introduces four Web 2.0 tools that comprised the curriculum in a blended-learning professional development course for in-service teachers and attracted many favourable comments from the participants. Twenty-four teachers participating in the course learned the basics of each tool, following written step-by-step instructions provided by the tutors, most of the times with no or little additional help.

Blogger

In general, a blog is a simple webpage consisting of separated blocks of texts, hypertexts, photos, videos, or other media, called posts, and arranged in a reverse chronological order, with the most recent post to appear first. Another typical feature of blogs is that users can add their comments below each post. Beyond these common characteristics there are no specific rules to what a blog should look like or to its serving purposes; it is subject to the will of the owner (Embi, 2011) and 'it can be used for an infinite number of activities' (Kerawalla, Minocha, Kirkup, & Conole, 2009, p. 223).

However, in educational settings, teachers more often use blogs as dissemination venues and for engaging their students in writing and publishing (Cheal, Coughlin, & Moore, 2012). Blogs have a basic structure of which the essential elements are (see Figure 1):

Blog title
Principal column
Post title
Date
Author
Post body
Comments
One or multiple sidebars with widgets

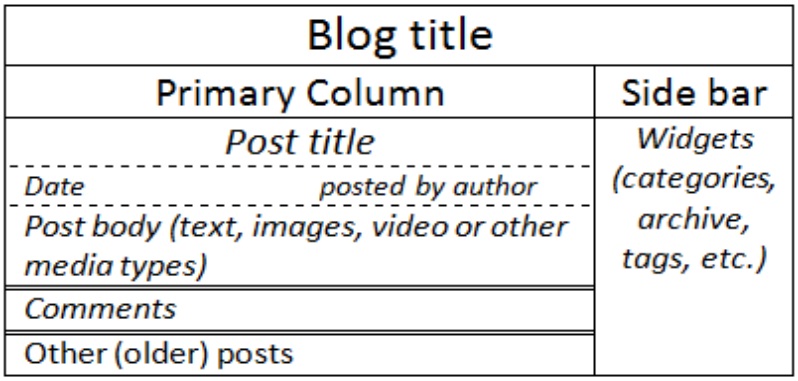

Figure: 1The basic structure of a blog.

Nowadays, there are several services offering free blogs to users, yet Blogger (http://www.blogger.com/) seems to be the easiest to setup and use, and this has been the fundamental criterion for its choice.

Luján-Mora and de Juana-Espinosa (2007) offer a list with the technical affordances and advantages of creating and maintaining a blog in educational settings, such as the instant monitoring, publication and update of the blog, allowance of multiple types of media, expanded audience reach, anytime-anywhere access of information, no requirement of specific technical knowledge, and so on. Teachers participating in the course developed their own blog and used it throughout the course for publishing their assignments.

They expressed several positive comments as regards the easiness of setup and use of the blog, and they enjoyed the fact that they were successful on their initial attempts in creating a blog.

As regards their intention to integrate blogging tools in their classroom, practically all perceived that a blog is a helpful tool in the dissemination of information, such as informing their students about news concerning their course, publishing lecture resources or students' exemplary assignments, and so on, while a few mentioned that they plan to engage their students in writing for a blog or online discussion.

Stripgenerator

The definition of comics as 'the arrangement of pictures or images and words to narrate a story or dramatize an idea' (Eisner, 1985, p. 5) can be seamlessly extended to accommodate web comics if it is considered that these pictures or images are created and published on a webpage. Despite the growing popularity of comics (Symeon, 2008) and the potential pedagogical benefits (Goebel, 2009; Symeon, 2008), schools and teachers do not seem ready to colour the curriculum with the "humor" of comics (Goebel, 2009).

Add to that, publishing web comics is to an exceeding great degree less expensive than printing physical comics. Stripgenerator (http://stripgenerator.com/) integrates comic-strip creation with Web 2.0 features. Content offered from Stripgenerator has no major differences from printed comics; the main difference is that it is executed and distributed online.

Among its advantages are its intuitiveness, simplicity, ease-of-use, and that it does not require drawing abilities as there is a big variety of images to choose and insert into the comic-strip.

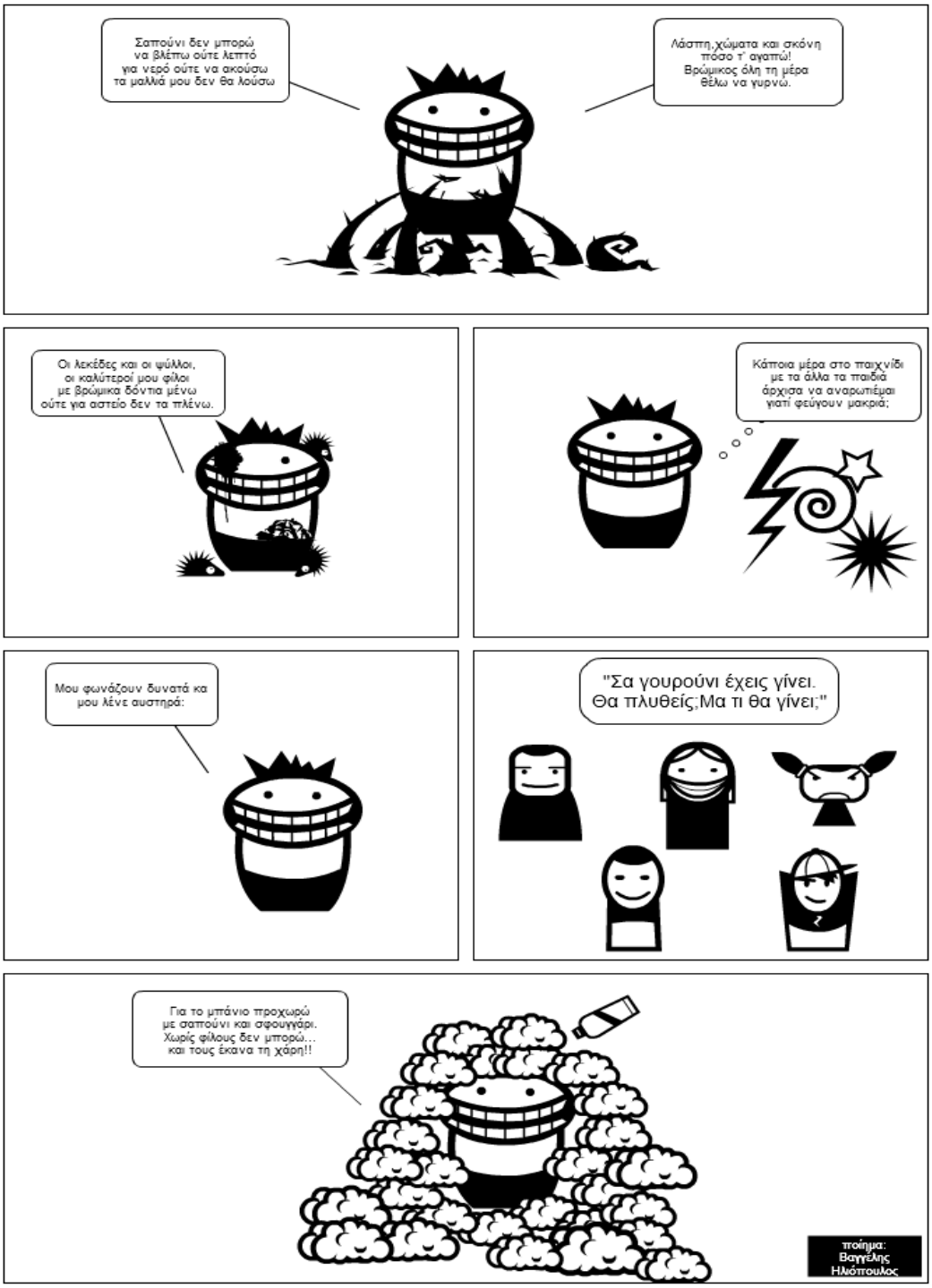

Figure: 2
A comic strip, created in Stripgenerator, teaching the importance of cleanliness.

Users can register for free and create as many comic strips they like, embed or share them on the internet, and comment or rate others' comics. They can choose the number of frames of the comic strip and next they can add characters, text, and other items through a drag-and-drop interface. Additional tools are offered that help users to modify the images, if they want to. In Figure 2 is depicted a comic strip created by a participant, teacher in kindergarden. The comic encourages and prompts little children to take a bath, thus teaching the importance of cleanliness.

Participants in the course did not cordially welcome Stripgenerator at first sight. They doubted whether an only black-and-white tool would be appealing to children. However, after having some trials their perceptions changed radically. They valued its minimalistic way of depicting objects and people, and they surmised that this feature would further induce creativity to students.

Go!Animate

The aforementioned definition about comics, taken literally can include many other media, such as animation, which also rely on a type of visual storytelling. Animation can help reducing the cognitive effort of mental simulation and subsequently save cognitive resources for learning a task (Betrancourt, 2005). Use of animations can have an important effect in teaching abstract or complex topics and is more effective than traditional teaching methods in terms of enhancing students' achievement (Aksoy, 2013; Pekdağ, 2010; Rohendi, 2012). When applied properly, animation presents information in a more intriguing and easier to understand way than static media (Ali & Madar, 2010; Dancy & Beichner, 2006; Madar & Hashim, 2011).

Go!Animate (http://goanimate.com/**) allows non-artist people to create quickly and easily animated videos. Animation creation process is reduced to three basic steps: (a) selection of a stage from a variety of templates, (b) selection of a couple of characters-actors from the available, and (c) writing or recording the dialogue between the characters. There is also an option to create the animation from the scratch, thus rendering greater control to the user. The following links direct to two comics developed by one participant, so as readers can acquire a quick view on what the tool may offer:**

http://goanimate.com/go/movie/0w3Qvx1iaBaE?utm_source=emailshare&uid=
http://goanimate.com/go/movie/06bBWktR7pbI?utm_source=emailshare&uid=

Participants in the course had to create their own animations and the tool enchanted them; later in the discussion forum some of them reported that not only did they enjoyed the activity, but they felt like children who learn something new and are totally immersed in it. They supported that voice recording adds an extra value to the tool and will possibly increase students' interest, since they will be able to hear their own voice in an animation. Most of all they valued the potential of the tool to unleash students' creativity and increase their motivation in learning.

Google Forms

Ongoing measurement of student understanding, perception, preferences, and satisfaction is a difficult and labor-intensive task, yet assessment should be an integral part of teaching and learning (Nicol & Macfarlane-Dick, 2006).

Unfortunately, the only available means to evaluate the quality of instruction and students' learning has been, by large, tests or paper-based surveys.

Google Forms enable teachers to collect student responses to multiple choice or open text responses and analyse the results, thus make the tool appropriate for applications such as surveys and evaluations. Different types of questions can be inserted on a questionnaire developed on Google Forms, the questionnaire can either be embedded on a website or it can be sent as link via email, while the collected data is stored into an online spreadsheet. Next, the production of charts can be done automatically or data can be downloaded at the disposal of the user to apply more advanced statistical techniques.

Participants created their own survey with Google Forms, disseminated the survey link to the class, while they filled in the surveys created by their peers. As it was expected, they stated that the process of questionnaire construction was easy and intuitive, while they considered important that end-users are not distracted by annoying advertisements and as a result the completing process runs smoothly.

Most of all, they were amazed by the automatic result generation, for it required no extra effort and time to analyse the results manually. Taken the above together, all participants valued high the pedagogical potential of Google Forms as an assessment or survey tool and they were profoundly inclined to integrate it in their instruction practices.

CONCLUSION

This review introduced four Web 2.0 tools that are easy to handle even by not technologically-savvy users. The tools comprised the curriculum in a blended-learning course for a group of twenty-four teachers. All participants valued positively the four tools and they were able to use them just by following written step-by-step instructions. Therefore, the authors argue that the proposed tools can be easily integrated into the classroom and serve the diverse needs of learners. This paper encourages teachers who are not so competent with technology to try and integrate the presented tools in their regular teaching practices.

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Angelos KONSTANTINIDIS works as computer science teacher at a public secondary school in Drama, Greece. He has two Bachelor degrees and one Master's degree; Bsc in Informatics from the Aristotle University of Thessaloniki (Greece), Bsc in Information Management from the Technological Educational Institute of Kavala (Greece), and Msc in e-learning from the University of Edinburgh (UK). He has extensive experience in teaching a wide variety of courses to students aged from 6 years old to mature adults and experience in teaching in multicultural and online settings.

Dimitra THEODOSIADOU has 15 years of teaching experience in primary education. At the present, she serves as a teacher and as assistant headmistress at a public primary school in Drama, Greece. She currently completes her postgraduate studies in "e-learning: interactive teaching technologies" at University of Ulster (UK). She implements ICT in her daily teaching and applies innovative teaching methods in primary education.

Christos PAPPOS works as computer science teacher at a vocational high school in Drama, Greece. In tandem with his regular teaching he is the administrator of the schools' website, administrator of the six computer labs, and has developed and supervises the schools' Moodle platform. His knowledge in the field of computer programming is wide and he has major experience in teaching computer software skills.

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