Chapter 17

Story Mapping in Primary Education

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ABSTRACT

According to the twenty-first century skills framework and the outcomes of the School on the Cloud European Network, education engages new dynamic learning environments with the use of Web2.0 tools and Cloud Computing. This chapter presents the implementation of a story mapping project in geography classes during the last year of Primary School. Sixth grade pupils worked in groups and created an online map with ArcGIS Online of the major straits and seas of the world. They selected a web mapping application and created a map journal embedding presentations with narrative texts and images. The purpose of the project was the development of map reading abilities and spatial thinking and the creation of content selecting appropriate web tools. The strong engagement of pupils in the project and the produced maps indicate that online story mapping is a useful tool in geography education that combines and promotes spatial and digital literacy.

INTRODUCTION

Learning environments have become increasingly digitalized by incorporating Cloud-based technologies. Institutes of formal and non-formal education, research centers and national authorities design, develop and review Cloud-based applications, tools and didactical approaches. The Education on the Cloud 2015 State of the Art publication (Donert & Kotsanis, 2015) presents a wide variety of Cloud Computing applications in primary, secondary, technical and university education among eighteen different European countries. Moreover, there is a broad discussion about national policies on Cloud Education accompanied by perspectives on the national level, which underlines a widespread interest among different stakeholders in investigating the possibilities and benefits from the integration of Cloud technologies in education.

Cloud computing is an emerging technology that allows users to use the storage and computing resources of a server, known as the “Cloud”, provided by public or private organizations. Users are re-
quired to possess terminals, smart phones or tablets with Internet access (Ruj et al., 2011). Thus, Cloud computing allows accessing, storing and presenting data and programs over the Internet, while IT services are shared rather than being installed and processed through local servers and software (Donert, 2016). Cloud deployment is a synthesis of four distinct Cloud computing types: the private Cloud, the community Cloud, the public Cloud and the hybrid Cloud, all of which represent unique Cloud infrastructures that provide data and application portability (Koutsopoulos & Economou, 2016, Rosenfeld, 2013). According to Koutsopoulos and Kotsanis (2014) all Cloud types can be adopted in education.

Many of the capabilities of Cloud technology are already in the service of everyday life (Ercan, 2010). Teachers and students are familiar with the form of deployment and do not need background knowledge of the services or devices. Additionally, users benefit from simplified software installation, maintenance and centralized control on versioning (Armbrust et al., 2009). The advantages of Cloud Computing in education involve sharing of resources and information, great speed, independence of location, augmented accessibility and limited costs or as Donert (2015) has pointed out “... customized solutions, great cost effectiveness and increased efficiency”. More specifically, for students, Cloud computing offers the ability to work and communicate regardless of location or time limits. Instructors have broad access to learning objects (presentations, videos, simulations, dynamic maps) and teaching practices (didactical scenarios, techniques of evaluation and management of results). As for the administration, Cloud technologies support the design, the development and assessment of program applications (Koutsopoulos & Kotsanis, 2016).

Within the framework of the School on the Cloud European Network, pupils attending the 6th grade of a public primary school in the inner city Athens developed a story mapping project in the field of Geography. This chapter presents the methodology and the outcomes of the project, while discussing pedagogical aspects of the implementation of Cloud Computing in primary education.

**TEACHING AND LEARNING**

In order to appreciate the role of Cloud computing in discussing and presenting the story mapping project, it is necessary to examine the evolution of the educational approaches that established the importance of spatial thinking that benefits from the use of maps, which in turn can support Geography education.

**Approaches**

Dated back to the beginning of the 20th Century and the reconstruction of the societies after the end of two devastating world wars, educational systems were organized according to the monodisciplinary approach. Learning and teaching were based on the model of separate scientific fields divided in specific disciplines that were offered by teacher centered instructing (Koutsopoulos & Papoutsis, 2016). The monodisciplinary approach was based on the research findings of behaviorism, a theory of learning that considered learning as a change of behavior due to responses to specific stimuli (Vosniadou, 2001).

The monodisciplinary model was strongly criticized in the 1970’s with the establishment of several sociocultural theories pointing out that knowledge is not transmitted and learning is an information processing activity influenced by environments, behaviors and personal factors (i.e. cognition). Hence,
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