**Transforming Teaching History in a Smart Learning Environment with Open Educational Resources**

Anastasia D. Vakaloudi

Teachers’ Supervisor (Inspector) in Secondary Education

Klazomenon 5, 55132, Kalamaria - Thessaloniki
Greece
+30-6937318230

anvakaloudi@yahoo.gr

**ABSTRACT**

This paper analyzes the steps to be taken to design a blended learning environment which develops into a Smart Learning Environment and a Mobile Learning Environment based on Open Educational Recourses and free and easy-to-use online tools for the teaching of History in Secondary Education. This learning environment is based on learner-centered teaching theories, strategies and methods to stimulate motivation, study skills, learning skills, thinking skills, critical thinking. All the ICT tools are combined with interactive, and collaborative activities.

**Keywords**

Historical Thinking, Lerner-Centered Teaching Theories and Strategies, Historical Thinking, Critical Thinking Skills, Smart Learning Environment, Blended Learning Environment

# INTRODUCTION

The teaching of History is defined as the students’ cultivation of skills and abilities, which a historian has, such as historical understanding, adaptation, analysis, synthesizing [1, 2, 3]. In teaching History, a crucial role is played by: a) Comprehensive History (New History, Microhistory, Oral History, etc.); b) the experiential relationship with the past through meaningful communication, collaboration, common reflection and pursuit, interaction, cognitive conflict within existing knowledge and knowledge which is being acquired; c) a critical approach to sources and historiographical works; d) historical interpretation which is based on logic and facts [1, 2, 3, 4]. Information and Communication Technologies (ICT) as a tool for teaching History can substantially alter the way that students access, gather, analyse, reconstruct, present and convey information. There are at least five main reasons that advocate the integration of ICT in the learning process and they relate to the support and reinforcement of: a) learning; b) teaching; c) the socialization of the student; d) the social inclusion of students with learning difficulties; e) the creativity and effectiveness of the educators [1, 2, 3, 5, 6, 7]. When we refer to the mobile learning and smart learning implementation in the teaching of History, we mean that the teaching is implemented in a learning environment that combines real-world contexts and digital-world resources with the use of ICT to provide students with direct experiences of the real world with sufficient learning support [5, 6, 7, 8, 9, 10, 11, 12, 13]. The basic precept of constructivism is that learning is achieved via the mediation of tools and interaction. In particular, ICT can substantially contribute to the teaching of History because: a) it can provide access to primary and secondary sources; b) it can cultivate a kind of experience in students, with audio visual material, simulations etc., which makes the understanding of historical terms, concepts and facts feasible; c) it favors the creation of an exploratory and collaborative learning environment; d) it offers rich material to the teacher to transform learning into a social process, collaborative, evolving and informed by a process of self‐paced development that happens at a time and place of the learner's choosing [3, 13, 14, 15, 16, 17].

# THEORETICAL FRAMEWORK

Contemporary teaching highlights, as the primary objective of History, historical understanding which is based on knowledge of the content of history, the methods of approaching historical facts and the understanding of concepts (evidence, cause, explanation, empathy, etc.) that seem to play a crucial role in historical understanding [1, 2, 13, 17, 18, 19].

The most important task in teaching and learning History is the study of primary and secondary source documents because it significantly enhances school students’ understanding of content. When working with sources students need to be both cognitively active and emotionally engaged. In particular, some of the things that students need to do are: a) closely observe the documents’ features, b) bring prior knowledge to bear, c) speculate about causes and consequences, d) make personal connections, and e) use evidence to support their speculations. Indeed, the centrality of these skills is a key reason why digital archives of primary sources have important roles to play in improving elementary, middle, and secondary teaching and learning across the curriculum [13, 20].

Moreover, teaching should be based on the learning theories of *constructivism* and the *socio-cultural dimensions of knowledge*, in effect *socio-cultural constructivism,* that allow the students to interface with the digital teaching environment and determine the issues of investigation according to their needs and potential [13, 21, 22]. Students have to manage, in a variety of ways, the mobile devices, smart phones and the ICT in general, as well as interactively participate in the learning process in an “open-ended software program” (Internet). The teaching and learning activities must be combined with free and easy-to-use ICT tools needed to bring open educational resources (teaching, learning and research materials in any medium that reside in the public domain or have been released under an open license) into the classroom, to facilitate a student-centered learning environment (promoting problem solving, knowledge construction, critical thinking evaluation, interactivity, and collaborative, flexible learning). The use of the aforementioned ICT tools suggests that learning is affected and modified by these tools, and that reciprocally the learning tools are modified by the ways that they are used for learning. This type of learning complies with learning as a tool-mediated socio-cultural activity and with mobile learning. Mobile learning refers to the use of mobile or wireless devices for the purpose of learning. A central task in the design of technology for mobile learning is to promote enriching conversations within and across contexts. The design of mobile learning activities should be driven by specific learning objectives. The use of (mobile) technology is not the target but rather a means to enable activities that were otherwise not possible, or to increase the benefits for the learners. Thus it must support learners to reach personal understanding through conversation and exploration; support learners’ collaboration in order to construct common knowledge; use technology to enrich learners’ collaborative knowledge building with other learners and teachers; support learners’ transitions across learning contexts. Mobile learning is not just about the use of portable devices but also about learning across contexts, that is technology that makes it possible for learners to work at unique activities in ways that were previously impossible. Recent innovations in program applications and social software using Web 2.0 technologies (e.g., blogs, wikis, Twitter, YouTube, etc.) or social networking sites have made mobile devices more dynamic and pervasive and also promise more educational potential [3, 16, 17, 22, 23, 24, 25, 26, 27].

## The integration of Lerner-Centered Teaching Strategies

If we want to achieve the essential understanding of the content of History teaching must contain various teaching strategies to stimulate motivation, study skills, learning skills, thinking skills, critical thinking to secondary school students. The strategy of “teaching history through inquiry” helps students move toward knowledge by engaging with the primary documents of the past. Crafting the right questions is the key step that ensures students learn to critically evaluate information. Teachers provide primary and secondary sources that confirm students’ viewpoint and ask students to develop a new point of view based on the evidence. By forcing students to engage with all evidence, teachers can help them gain greater insight into History. The greatest challenge in teaching with the inquiry approach is taking the time to find the right sources. Students need the tools to distinguish the truth, to evaluate the information they encounter, based on where it comes from, who is producing it and when, its use of evidence, and its intended audience [13, 28].

Another significant strategy for teaching History is the strategy of “historical empathy” in order to succeed students’ cognitive and affective engagement with historical figures to better understand and contextualize their lived experiences, decisions, or actions. Historical empathy involves understanding how people from the past thought, felt, made decisions, acted, and faced consequences within a specific historical and social context [13, 29, 30]. The process of forming affective connections to the past enables students to view historical figures as human beings who faced very human experiences and leads to a richer understanding than perspective taking alone [13, 29, 30, 31, 32, 33]. When we teach History, it is helpful to structure lesson plans aiming not only to educate students about particular topics such as global mass atrocities but to help them prevent possible future atrocities. Through the historical analysis we should be engaged to the moral and anti-racist education [13, 30].

Another useful teaching strategy is “project-based learning,” (PBL) an overall approach to the design of learning environments. PBL is a model that organizes learning around projects. According to the definitions found in PBL handbooks for teachers, projects are complex tasks, based on challenging questions or problems, that involve students in design, problem-solving, decision making, or investigative activities; give students the opportunity to work relatively autonomously over extended periods of time; and culminate in realistic products or presentations. Other defining features found in the literature include authentic content, authentic assessment, teacher facilitation but not direction, explicit educational goals, cooperative learning, reflection, and incorporation of adult skills [13, 34].

Finally, for analyzing visual sources, the integration of teaching strategies such as “visual literacy”, “multimodal literacy”, and “analyzing visual images and stereotyping” are necessary in order to lead students in a critical analysis of an image, and to help students develop and enhance observational, interpretive, and critical thinking skills. The exploration of visual sources and their multimodal messages enables students to deal constructively with complex modes of delivering information, and technology-based art forms. Students benefit doubly when they study traditional literary contexts and multimedia sources. Their understanding of the literary text is enriched and enhanced and they are encouraged to become more informed about the content [13, 35].

## The integration of Information and Communication Technologies (ICT)

The integration of Information and Communication Technologies (ICT) is another very important factor for successfully teaching History. The teaching process consists of the handling of objects and tools, both material (e.g. devices, hardware, software, Internet, technology tools, worksheets) and symbolic (language, communication, interaction, cooperation of educators – students, and students amongst themselves). The students are divided into groups, with the teachers’ guidance. Collaboration, as a role-playing game, engages the imagination and empathy of the students [3, 13, 22]. Students have to manage, in a variety of ways, the mobile devices and the ICT in general, as well as interactively participate in the learning process in an “open-ended software program” (Internet). The teaching and learning activities are combined with free and easy-to-use ICT tools needed to bring open educational resources into the classroom, to support a blended learning environment which combines face-to-face instruction with technology-mediated instruction and to enhance students’ perceived technological competencies, while promoting their active engagement. A blended learning environment encourages active learning through the use of authentic instructional activities, interactive communities of learners and online learning tools and develops into a smart learning environment and a mobile learning environment as it combines cyber synchronous learning, mobile learning, social learning, and ubiquitous learning [3, 13, 16, 17, 22, 23, 24].

Students interact with the content, resulting in a change in their cognitive structure, with the instructor, who guides and motivates learning, and with one another, motivating and helping one another to learn. In more detail, videos (moving images and sound) are used as an instructor in communicating facts but they also enable students to acquire research skills, collaborative working, problem solving, technology, and organizational skills [13, 36, 37]. Students combine information from a variety of sources to create multimedia presentations; they use online discussion groups/lists, to exchange opinions about historical themes; they also use Wikis to write essays sharing and collaborating with others. Wikis also permit both interaction and simultaneous work on the conjoined result, thereby removing the boundaries between the active author and the passive user of content [13, 38, 39]. Students use Blogs where they discuss and comment various topics. Educational blogging is an effective tool for user centered, participatory learning [13, 40]. Students are also assigned to create a digital journal using online tools. In the case of History, the purpose of journal writing is to provide a space where students can connect their personal experiences and opinions to the concepts and events they are studying in the classroom. Teachers evaluate the journals based on criteria such as effort, thoughtfulness, completion, creativity, curiosity, and making connections between the past and the present [13, 41]. All the aforementioned free technology tools enable the groups of students to work together to complete their tasks. They have the advantage thatanyone can contribute anytime, anywhere. Thus collaborative skills, skills in negotiation and organization, critical writing skills, and a sense of responsibility and ownership are developed. This way students are helped to reach Bloom’s higher order skills: knowledge, comprehension, application, analysis, synthesis, and evaluation [13].

# CONCLUSION

The evaluation of the learning process and results takes place in the end with the evaluative reports from the participants about the achievement of the lesson’s objectives and the success of the activities (based on how well the students have incorporated the concepts discussed in class). Teachers evaluate students’: understanding of the content; ability to relate and analyze primary and secondary sources; ability to situate the sources and their messages within the context of the historical events; ability to determine the central ideas or information of a primary or secondary source and provide an accurate summary that makes clear the relationships among the key details and ideas; ability to evaluate various explanations for actions or events; ability to determine the meaning of words and images as they are used in sources. Also teachers check for the: clarity with which the argument is presented; ability of the students to cite specific examples to support their analysis; active participation of all students (as group members and individually).

# REFERENCES

1. Levstik, L. S. & Barton, K. 2001. *Doing history: Investigating with children in elementary and middle schools*. Mahwah, NJ: Lawrence Erlbaum Associates (246-261).
2. Peck, C. 2005. Introduction to the Special Edition of Canadian Social Studies: New Approaches to Teaching History. *Canadian Social Studies.* 39, 2 (Winter. 2005), *Special Issue: New Approaches to Teaching History*.
3. Vakaloudi, A.D. & Dagdilelis, V. 2016. The Transformation of History TeachingMethods in Secondary Education Through the Use of Information and Communication Technology (ICT). *International Journal of Historical Learning, Teaching and Research.* 13.2 (Spring-Summer. 2016), 150-174; 151-152, 166.
4. Vakaloudi, A.D. 2003. *Teaching and Learning with Information and Communication Technologies – Theory and Practice.* Patakis, Athens. In Greek.
5. Engeström, Υ. 1987. *Learning by expanding an activity-theoretical approach to developmental research*. Orienta-Konsultit, Helsinki.
6. Duffy, T.M. & Cunningham, D.J. 1996. Constructivism: Implications for the design and delivery of instruction. In D.H. Jonassen (Ed.), *Educational communications and technology* (pp. 170-199). Simon & Schuster Macmillan, New York, NY.
7. Poole, B.J. 1997. *Education for an information age. Teaching in the computerized classroom*. McGrow Hill, Boston.
8. Minami, M., Morikawa, H., & Aoyama, T. 2004. **The Design of Naming-Based Service Composition System for Ubiquitous Computing Applications.** In Proceedings of the 2004 International Symposium on Applications and the Internet Workshops (SAINTW’04) (pp. 304–312). IEEE Computer Society, Washington, DC.
9. Wu, H.K., Lee, S.W.Y., Chang, H.Y., & Liang, J.C. 2013.**Current status, opportunities and challenges of augmented reality in education.** Computers & Education. **62,** 41–49.
10. Wu, P.H., Hwang, G.J., & Chai, W.H. 2013. **An expert system-based context-aware ubiquitous learning approach for conducting science learning activities.***Journal of Educational Technology & Society.* 16, 4 (October. 2013), 217-230.
11. Hwang, G.J., Hung, P.H., Chen, N.S., & Liu, G.Z. 2014. **Mindtool-Assisted In-Field Learning (MAIL): An advanced ubiquitous learning project in Taiwan.** *Educational Technology & Society.* **17,** 2, 4–16.
12. Hwang, G.-J. 2014. Definition, framework and research issues of smart learning environments – a context-aware ubiquitous learning perspective. *Smart Learning Environments*. **1,** 4 (November. 2014). DOI = https://slejournal.springeropen.com/articles/10.1186/s40561-014-0004-5
13. Vakaloudi, A.D. 2020. Concepts of Propaganda – Educating Responsible Citizens by Integrating Multiple Intelligences and Learning Styles into a Smart Learning Environment. In R. Zheng (Ed.), *Examining multiple intelligences and the use of digital technologies for enhanced learning opportunities.* IGI Global, Hershey, PA. In Press. DOI = 10.4018/978-1-7998-0249-5
14. Sutherland, R., Armstrong, V., Barnes, S., Brawn, R., Breeze, N., Gall, M., Matthewman, S., Olivero, F., Taylor, A., Triggs, P., Wishart, J., & John, P.† 2004. Transforming teaching and learning: embedding ICT into everyday classroom practices. *Journal of Computer Assisted Learning*. 20, 413–425.
15. Winters, N., Walker, K., & Rousos, D. 2005. Facilitating Learning in an Intelligent Environment. In *the IEE International Workshop on Intelligent Environments* (pp. 74‐79; 74). Institute of Electrical Engineers, London.
16. Mikulecký, P. 2012. Smart Environments for Smart Learning. In *Proceedings of 9th International Scientific Conference on Distance Learning in Applied Informatics* (pp. 213-222; 217). Divai.
17. Vakaloudi, A.D. 2016. *The Teaching of History with the Use of Information and Communication Technologies*. K. & M. Ant. Stamoulis, Thessaloniki (152). In Greek.
18. Ashby, R. & Lee, P. 1987. Discussing the evidence. *Teaching History*.48, 13-17.
19. Limón, M. 2002. Conceptual Change in History. In M. Limón & S. Mason (Eds.), *Reconsidering Conceptual Change: Issues in Theory and Practice* (pp. 259-289). Kluwer Academic Publishers, Dordrecht.
20. Tally, B. & Goldenberg, L.B. 2005. Fostering Historical Thinking with Digitized Primary Sources. *Journal of Research on Technology in Education.* 38, 1, 1-21; 1.
21. Smith, N. 2010. *The History Teacher’s Handbook*. Continuum International Publishing Group, New York, NY. (94-95).
22. Vakaloudi, A.D. & Dagdilelis, V. 2013. Differentiation in the teaching of Soci­al Scien­ces with the­ de­­­ve­lop­­ment of Information and Communication Technologies. In *Proceedings of the 3rd International Conference on Cognitonics, The Science about the Human Being in the Digital World, a subconference of the 16th International Multiconference Information Society 2013* (vol. A, pp. 476-479; 476-478). (Ljubljana, October 07 – 08, 2013).
23. Price, J.K. 2015. Transforming learning for the smart learning environment: lessons learned from the Intel education initiatives. *Smart Learning Environments.* 2, 16, 1-16; 4, 5, 13.
24. Kennah, M.R. 2016. *The Use of ICT in the Teaching and Learning Process in Secondary Schools: A Case Study of Two Cameroonian schools* (Master’s Thesis). University of Jyväskylä.
25. Kearneya, M., Schucka, S., Burdenb, K., & Aubussona, P. 2012. Viewing mobile learning from a pedagogical perspective. *Research in Learning Technology.* 20. DOI = https://files.eric.ed.gov/fulltext/EJ973806.pdf
26. Sharples, M., Arnedillo-Sánchez, I., Milrad, M., & Vavoula, G. 2009. Mobile Learning. In S. Ludvigsen, N. Balacheff, T. de Jong, A. Lazonder, and S. Barnes (Eds.), *Technology-enhanced learning: Principles and products* (pp. 233-249). Springer, Dordrecht.
27. Park, Y. 2011. A Pedagogical Framework for Mobile Learning: Categorizing Educational Applications of Mobile Technologies into Four Types. *International Review of Research in Open and Distance Learning.* 12, 2 (February. 2011), 78-102; 78-79.
28. Lazar, S. 2011. *Teaching History Through Inquiry*. Education Week Teacher (November. 2011). DOI = http://www.edweek.org/tm/articles/2011/10/31/tln\_lazar.html
29. Endacott, J. & Brooks, S. 2013. An Updated Theoretical and Practical Model for Promoting Historical Empathy. *Social Studies Research and Practice.* 8, 1 (Spring. 2013), 41-58.
30. Vakaloudi, A.D. 2017. From the holocaust to recent mass murders and refugees. What does history teach us?. *International Journal of Historical Learning, Teaching and Research.* 14, 2 (Spring-Summer. 2017), 119-149; 120-121.
31. Krajcik, J.S., Blumenfeld, P.C., Marx, R.W., & Soloway, E. 1994. A collaborative model for helping middle grade teachers learn project-based instruction. *The Elementary School Journal.* 94, 5, 483-497.
32. Thomas, J. 2000. *A Review of the Research on Project-Based Learning*. The Autodesk Foundation, San Rafael, California (1, 3).
33. Krajcik, J.S. & Blumenfeld, P.C. 2006. Project-based learning. In R.K. Sawyer (Ed.), *The Cambridge handbook of the learning sciences* (pp. 317–334). Cambridge, New York.
34. Helle, L., Tynjälä, P., & Olkinuora, E. 2006. Project-based learning in post-secondary education – theory, practice and rubber sling shots. *Higher Education*. 51, 287–314; 288.
35. Sullivan, S. 2007. Media and Persuasion: Techniques, Forms, and Construction. In M. Christel and S. Sullivan (Eds.), *Lesson Plans for Creating Media-Rich Classrooms* (pp. 173-176)*.* NCTE, Urbana, IL.
36. Graham, C.R. & Dziuban, C. 2005. Blended Learning Environments. *Encyclopedia of distance learning*. DOI = https://www.researchgate.net/profile/Charles\_Graham2/publication/267774009\_Blended\_Learning\_Environments/links/54d522c30cf246475806fd8f.pdf
37. Kinshuk, Chen, N.S., Cheng, I.L. et al. 2016. Evolution Is not enough: Revolutionizing Current Learning Environments to Smart Learning Environments, *International Journal of Artificial Intelligence in Education.* 26, 2, 561-581. DOI = https://doi.org/10.1007/s40593-016-0108-x
38. Elgort, I., Smith, A.G., & Toland, J. 2008. Is wiki an effective platform for group course work? *Australasian Journal of Educational Technology*. 24, 2, 195-210; 197-199.
39. Kurt, S. 2017. Wikis in Education: How Wikis are Being Used in the Classroom. *Educational Technology*. (September 2017). DOI = https://educationaltechnology.net/wikis-in-education
40. Farmer, B., Yue, A., & Brooks, C. 2008. Using blogging for higher order learning in large cohort university teaching: A case study. *Australasian Journal of Educational Technology.* 24, 2, 123-136; 124.

[41] Journals in a Facing History Classroom. N.D. DOI = https://www.facinghistory.org/resource-library/teaching-strategies/journals-facing-history-classroom