Mobile Social Learning as a Catalyst for Cultural Heritage

Timothy Read
Dep. of Computing Languages and Systems, UNED
C. Juan de Rosales, 16
28040 Madrid, Spain
tread@lsi.uned.es

Elena Bárcena
Dep. of Foreign Languages and Linguistics, UNED
Pº. Senda del Rey, 7
28040 Madrid, Spain
mbarcena@flog.uned.es

ABSTRACT
This article[1] presents a reflection about the way in which recent advances in pedagogy and technology could be harnessed to increase the access to Cultural Heritage. This would happen by using it as a resource for mobile learning in seemingly unrelated areas, such as economics, engineering, science and languages. The 'long-tail effect' of such contextualized content driven social interactions would foster contact with and interest in primary sources, which may represent the entry point into the Cultural Heritage Cycle for some or a turning point for others.

Author Keywords
Cultural Heritage Cycle; Mobile Learning; Social Learning.

ACM Classification Keywords
J.5; K.3.1

General Terms
Online learning; Mobile learning; Collaborative learning.

INTRODUCTION
Cultural Heritage (henceforth, CH) holds a wealth of tangible traces from antiquity to the recent past, including a broad range of artefacts, sites, artistic expressions and representations of value and belief systems, traditions and lifestyles, which are significant for human collective memory [1]. CH primary sources[2] constitute the legacy of previous generations and arguably provide insights into the very nature of humanity and its various civilizations. However, the question arises of how CH appreciation can be fostered for our benefit and enjoyment before being handed on in optimal conditions to the next generation.

The CH Cycle was proposed by Thurley [2] as a model of how the understanding of a given historical environment can lead people to value it more, thereby caring for it more, which, in turn, leads to further enjoyment (and subsequently a deeper understanding, and so on). This model was published in 2005. However, today, a decade later, the need to continue with this endeavour is still with us. For example, following the European Commission's indications [3], new broader audiences are sought for CH together with new ways to engage young people with it (leading to a wider appreciation and a deeper commitment to protect it).

Furthermore, if more CH is available online than ever before, the question also arises as to why it is not more widely popular and prominent, and why the European Commission should highlight the necessity for broadening access. A complete answer to this question is beyond the scope of this article, but may have to do with the way we relate to it and the relevance it is given in our modern society. Hofstede [4] presents a six-dimension model of societies that characterises communities according to: power distance, uncertainty avoidance, individualism / collectivism, masculinity / femininity, long / short-term orientation, and indulgence / restraint. He concludes that economic development is associated a low tolerance of inequalities and a balanced distribution of values between the genders, but also strong individualism, an intermediate focus on the past and a high tendency toward immediate gratification. Skrzypaszek [5] argues that in the current context of globalization, multiculturalism and technological advancement, CH must confront a range of challenges about its relevance, role and specific functions.

This author goes on to claim that CH is currently reduced to the "cognitive assessment of conceptual thoughts assigned to past creative expressions" (p.767), which leads to the present gradual loss of connectivity with the original creators and a potential loss of inspirational vitality for future generations. He calls for a deeper understanding of CH as a recognition of the human desire for an escape from 'everyday troubles' and towards existential security. As such, he argues that CH represents crafted expressions of collective sorrow and hope. Such creativity moves beyond the surface level of human reactive responsiveness to life's issues toward its intrinsic value, namely its uniqueness and immense potential. The knowledge and appreciation of such creativity is inherently empathic and can lead to a proactive engagement with it.

Therefore, it can be argued that a way to engage the new generations with CH is by complementing attempts to establish an implicit recognition and appreciation of the aesthetic and significance of primary sources. A broader identification with CH could facilitate reflection into the very nature of human existence, struggle and survival, an

[1]The work presented in this article has been funded by the Spanish Ministry of Science and Innovation (ref. no. FFI 2011-29829).
[2]A document or physical object which was written or created during the time under study. http://www.princeton.edu/~refdesk/primary2.html

element that bonds previous, current and possibly future generations. The question can therefore be asked: how might the methodological and technological advances in learning play a role in this process?

DIGITAL LIVING AND LEARNING

The way we interact with information and culture, and relate to other people has changed significantly over the past decade. The democratization of mobile technology and the move away from desktop computers as the only way to be online has transformed such interaction both quantitatively and qualitatively. There is abundant data to support the use and impact of these technologies. Evans [6] states that "The world is mobile!", noting that over 1,250 million smartphones and tablets were sold in 2013 (cf. 250 million desktop computers). It has been estimated that by 2016 there will be more people alive on the planet who are connected by mobile technology than people who are not.

In this 'mobile' educational context, the future of learning has been argued to be open, connected and imminently social [7], where teachers are more facilitators and connectors than experts in the related content. The appearance and widespread adoption of social networks and media with readily available up-to-the-minute information provide congregational learning spaces. There, people can follow topics of interest and come into contact with others from disparate geographic locations, with whom they might only share specific common interests. Learning networks arise and define how knowledge is created, distributed and controlled. Furthermore, as the distinction between online living and learning begins to blur, then the latter becomes more life-long, forming a constant part of our digital life.

In the context of CH, these changes are affecting the way in which people interact with primary sources. It is possible, for example, to undertake a virtual tour of some museums online using a smartphone or tablet without leaving home. However, what the authors argue here to be missing, if such mobile social learning is to broaden access to CH, reflecting Skrypaszek´s [4] arguments, is a distributed framework of knowledge sharing with related pedagogic and ludic activities to enable new relationships to be established with CH. The 'long-tail effect' [8] of such contextualised pedagogically motivated social network interactions would foster contact with and interest in primary sources, which may for some people represent the entry point into the CH Cycle. For others, who already have some kind of relation with primary sources, this may be intensified and extended.

MOBILE SOCIAL LEARNING SCENARIOS FOR CH

Given this mobile educational context, a decentralised approach is suggested to complement the current access to CH, as a starting point for a research project whose aim is to apply new pedagogical (massive open social and mobile learning, Connectivism [9], flipped teaching, personalised learning, learning through life experience, learning analytics, etc.), technological (mobile and wearable BYOD [Bring Your Own Device], data from real world objects – the so called 'Internet of things', etc.) and sociocultural (the long-tail effect [8], etc.) advances to the application of CH. This would be seen not only as the 'end' of a historical appreciation process, but also as the 'means' by which broader educational activities are undertaken. The authors claim that these activities would facilitate indirect contact with primary sources, thereby providing an entry point for people into the CH Cycle, or reinforcing the commitment of those who already have some superficial or intermittent relation with it.

Research is already being undertaken on how to apply the potential that mobile technology has for topics within the field of CH. For example, Kali et al. [10] present an innovative instructional model that facilitates an inquiry-based approach to art history including the use of mobile technology to access and modify cloud-based informational resources from the classroom, museum and home. Such a scaffolded approach to learning enables the students to become pro-active and independent early on in their educational process, with their instructors' interventions diminishing as they progress with the learning activities. The results of this work are encouraging for educators.

It is foreseen that if this kind of approach is extended to make appropriate use of social networks and media, then the long tail effect could enable students to come into contact with domain experts and material enthusiasts who will be able to enrich their learning processes. Furthermore, if the learning domain is not directly related to CH, as in the example of Kali et al [10], then the motivation for the students comes from their interest in their primary area of study. Following Skrypaszek [4], the key factor here would be the need to establish an identification or bond with the creators of the artefacts that goes beyond a purely functional, historic understanding or aesthetic appreciation, to one of empathic connection between people in different spatial and temporal circumstances, who share a common desire to understand their own existence and relate to the world in which they live.

The proposal here would be to broaden the spectrum of types of interaction possible with the domain of CH to include a 'bottom up' layer of distributed pedagogic collaboration that would bring together people interested in developing other competences than those directly related to CH. The primary sources could be used for different types of learning, related to knowledge and competences in fields such as languages, science, economics, law, and engineering. A key part of such learning would be its collaborative component, where social networks and media would harness the interaction between students and with other related groups. For example, tools such as Twitter can be used to move questions, discussions, and reflections beyond a given student's peer group and enable related domain experts and CH professionals to share their expertise in an open and unrestricted fashion. The results of such interaction would represent a valuable addition to the

student's work and would awaken or enhance his/her interest in CH.

There are many different educational theories about the way in which online resources and social interaction can potentiate learning (e.g., [9]). It would be beyond the scope of this article to look at them in any detail. It is sufficient here to note that such theories include different processes of gathering, processing, aggregating and tagging content, commenting upon it, remixing and repurposing it, and feeding it forward into their online social learning community. For example, according to Moss [11], online learning has three parts: curation (understanding, filtering and repurposing information, evaluating online content, and defending arguments / content selection), network and information management (correct selection of supporting information apps, skill/time use in viewing/answering/dealing with posts, and choosing who to follow), and socializing (audience/type of material/target group, quality participants and content, meta-language negotiation, tags, exposure, knowing when to post, timing, perseverance, netiquette, and digital citizenship) from within the community.

The direct results of this learning could take the form of Open Educational Resources (henceforth, OER) generated by students, improved and extended within open learning communities, which would remain online as additional complementary resources that can be linked to the actual artefacts. These would indirectly widen the audiences that come into contact with them. If, for instance, exercises are undertaken that focus on economical aspects of particular art works, then future students searching for examples of given economic theories might encounter these resources and, as a result of interacting with them, enter into or engage with the CH Cycle.

Furthermore, while searching for OER related to other disciplines, both the students who generate these resources and those who encounter them online subsequently, the broader educational context considered (e.g., the language being used by the creators or the socio-political context in which a given artefact was developed) could enable the students to reflect upon the original artists/architects. Such a process might help students recognise shared underlying values and uncover a sense of continuity of the past with the present (and future). If, for example, as part of engineering studies, the students understand part of a fabrication process, then they may begin to value the artisans' work and thereby become concerned for how the given item can be cared for and preserved.

Some examples of this process can be considered to illustrate how this might work in practice, although research is still needed to refine these ideas. One example could be the development of second language competences. One or more primary sources related to the notion of families available online in museums could be selected from a given historical period. The goal of the learning activity would be to engage in some collaborative writing, in the language being studied, on the role and structure of the family in the given historical period and how those people would consider modern family dynamics.

Initially, the students could reflect on the task and the representations of the artefacts provided individually and begin to share notes collectively online. The activity description would also contain links to social networks where these types of objects are discussed and relevant hashtags that can be used by the students to ask questions on Twitter. As the students begin to develop their ideas, they would, thanks to the action and interaction on the social networks, also come into contact with people who are able to provide information and help on the subject. Subsequently, a search for other online resources that add to the understanding of the initial learning questions and the sub-questions that have arisen can be undertaken. As the work is being developed, an important part of the reflection process needs to enable the students to relate their lives and times to those behind the artefacts. It is conjectured by the authors that it is this process of historical empathy and identification that may sew the seeds of interest, because the primary sources will be seen in a new light, and thereby foster an entry point for the students into the CH Cycle. The results of the learning activity should remain available online as an OER for future language students to encounter, since arguably it may have the same effect on them.

A more specific example might be a learning activity for economics students on business models present in the geographic communities along The Saint James Way as it passes across the north of Spain. The Way represents an important source of income for many small businesses in the area, so a collaborative study could be proposed on what business models have arisen there and how they can be harnessed to increase new jobs and revenue. Once again, the activity description can include links to Web sites (for example, [3],[4]) and hashtags on Twitter (for example, #CaminodeSantiago), and the students can begin to interact with the people who actually live/work there to ask relevant questions about their first-hand experience. As the work progresses, its results will be shared publically but will hopefully have specific relevance for the people from the area who have helped and volunteered information. Once again, a key part of this type of collaboration, from the CH Cycle perspective, is that the students begin to establish an 'emotional rapport' with these people, The Way, the communities in which they reside and their cultural context. Hence, a new genuine interest may begin to appear in the students which increases the likelihood that they will enter into the CH Cycle.

[3] http://www.spain.info/en/que-quieres/rutas/grandes-rutas/camino-santiago/

[4] http://www.re-create.pl/kursen/entrepreneurship.html

A final example could be a learning activity for engineering students on the Roman occupation of the Iberian Peninsula and the way they built aqueducts, bridges, dams and reservoirs. A collaborative study could be undertaken on the technology, materials and techniques used at the time for these projects, focussing specifically on the question of why these Roman structures have lasted so long. The learning materials would contain links to relevant documentation, Web sites (for example, [5],[6]) and hashtags on Twitter (for example, #Roman #Engineering) that the students could use to gather information and make contact with relevant experts/interested people and organisations. If the study were undertaken online via the social networks, it might attract the attention of others who become interested and can share information. Once again, if the engineering students undertaking the work can begin to identify with the Roman engineers who undertook the projects, then they might be more inclined to remain interested in the artefacts and their agents once the project finishes.

However, a question remains to be answered, once the three examples above are considered: even if certain students begin to be more interested in the primary sources that they have studied, how can they actually become more proactively involved with them? Once again, this is a matter for further research. However, initial work suggests that they need to be provided with "what to do next" steps, "how to find out more", "how to get involved", etc., that represent a gradual pathway to establish a sociocultural connection with these primary sources and the context in which they once existed. Something that needs to be developed as part of future work would be a taxonomy that could map the conceptual space of involvement that exists for different type of CH so that this process could be undertaken systematically.

CONCLUSION

In this article some early ideas have been laid out regarding the way in which new pedagogical and technological approaches to learning can be used to include CH primary sources within seemingly unrelated learning scenarios in order to enter into or engage with the CH Cycle. The potential for open online interaction and the long tail effect can greatly outweigh anything that could be achieved in face-to-face classrooms using standard teaching devices.

This approach needs to be further explored but may provide a way to harness CH. However, as part of the learning process which students may embark upon because they need the relevant knowledge and skill set (language learning, economics, etc.), they could come into contact with CH, that may, in turn, open a window in their minds and enable them to start to gain understanding, value, care, and enjoyment of the primary sources within CH.

The ideas presented here represent very early work in this multidisciplinary research to continue. Collaboration with experts in different areas of CH will be of great value to the successful progress of this work.

[5]http://www.popularmechanics.com/technology/infrastructure/a13395/roman-concrete-how-it-lasted-2000-years-17535354/?src=spr_FBPAGE&spr_id=1457_122448082

[6]http://blog.browntechnical.org/2014/01/did-you-know-that-some-roman-roads.html

REFERENCES

1. *ICOMOS, International Cultural Tourism Charter. Principles And Guidelines For Managing Tourism At Places Of Cultural And Heritage Significance*. ICOMOS International Cultural Tourism Committee. (2002).
2. Thurley, S. Into the Future. Our Strategy for 2005-2010. Conservation Bulletin, 49 (2005).
3. European Commission. Towards an integrated approach to cultural heritage for Europe (2014). http://ec.europa.eu/culture/library/publications/2014-heritage-communication_en.pdf
4. Hofstede, G. Dimensionalizing Cultures: The Hofstede Model in Context. Online Readings in Psychology and Culture, 2(1). (2011).
5. Skrzypaszek, J. Cultural Heritage: Transformational and Inspiriational Framework for Future Education. Theology Conference Papers. Paper 4 (2014).
6. Evans, B. *Mobile is eating the world*. *Benedict Evans Blog* (2013). http://ben-evans.com/benedictevans/2013/11/5/mobile-is-eating-the-world-autumn-2013-edition
7. Sharples, M., Adams, A., Ferguson, R., Gaved, M., McAndrew, P., Rienties, B., Weller, M., & Whitelock, D. (2014). Innovating Pedagogy 2014: Open University Innovation Report 3. Milton Keynes: The Open University.
8. Anderson, C. The Long Tail. Wired 12.10 (2004).
9. Downes, S. Connectivism and Connective Knowledge. Essays on meaning and learning networks (2012). http://www.downes.ca/files/books/Connective_Knowledge-19May2012.pdf
10. Kali, Y., Sagy, O., Kuflik, T., Mogilevsky, O., & Maayan-Fanar, E. Harnessing technology for promoting undergraduate art education: A novel model that streamlines learning between classroom, museum and home. IEEE Transactions on Learning Technology, 7(99), 1-13 (2014).
11. Moss, P. Why Learning Through Social Networks Is The Future (2013). http://www.teachthought.com/technology/learning-through-networks-is-the-future