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RESOURCES

06

THINK PAPERS COLLECTION / 06

Museum education with digital technologies: participation and lifelong learning

Education and learning have been a high priority task for museums. Whether informal and unintentional or structured in educational programmes for different kinds of audiences, museum learning focuses on the learner. Rather than knowledge transmission, it builds upon knowledge construction and an active engagement in personal, social and physical contexts. More than knowledge acquisition, learning in museums is engaging and gives a sense of wellbeing.

THINK PAPERS

This Think Paper is one of a collection of Think Papers issued by RICHES in order to stimulate further debate on the issues arising from the research.

Research undertaken by the RICHES project covers a range of subject areas including digital libraries, virtual performance, crafts, fashion, technologies and spaces.

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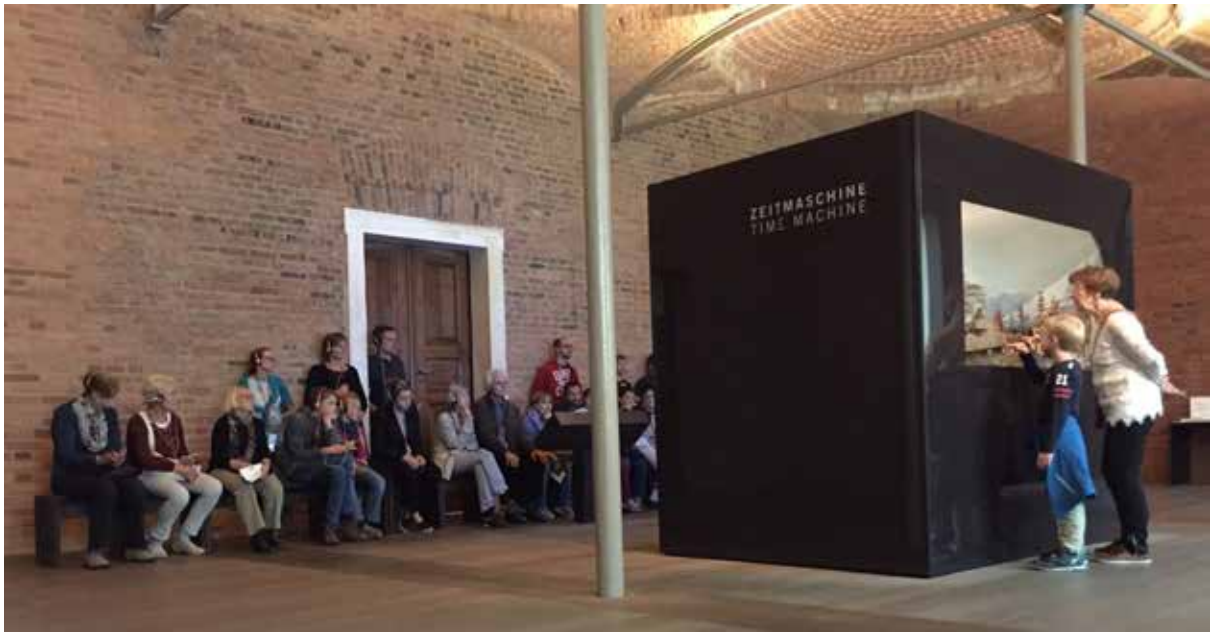


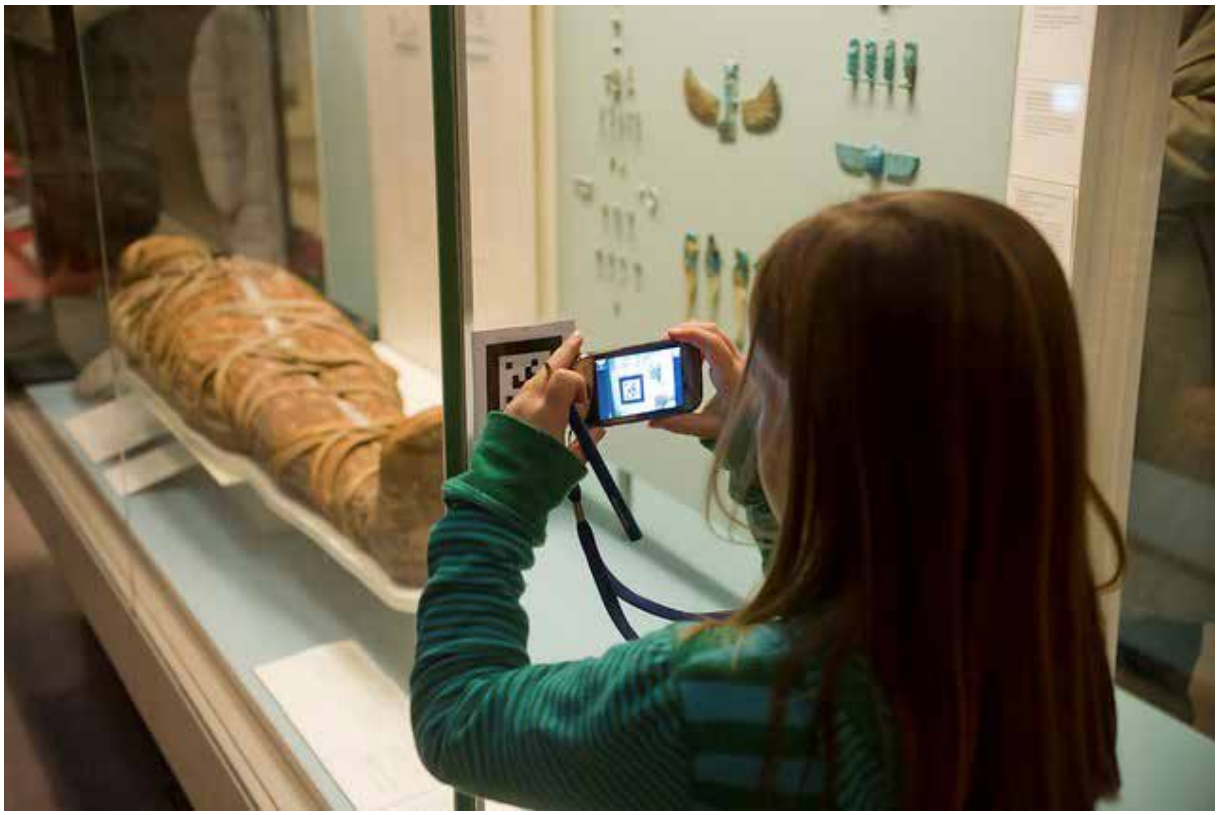
Visitors watching the Time Machine, a digital storytelling exhibit inspired by dioramas, in the learning lounge of the Museum of Prehistory and Early History, Neues Museum, Berlin.

The integration of digital technologies challenges museum learning. How do digital technologies transform museum learning? Are the existing learning frameworks and assumptions still valid? How do they influence encounters with different audiences? Which implications do they have on the role of museums in the 21st century, in a lifelong learning and knowledge society? This Think Paper highlights the potential of digital museum learning through selected examples and discusses the challenges and opportunities that can impact future developments.

Broadening access and engaging learners

Museum learning has become ubiquitous. Responding to a growing demand, a large amount of curated digital heritage content has become available online on museum websites and cultural platforms, on social media and crowdsourced platforms, on mobile devices and onsite, within the museum spaces, thus making knowledge accessible for free-choice learning, when and where the audiences might choose. Thousands of people consult museum online collections for their research, for inspiration and learning or to re-use information and images. Through social media channels museums engage with millions of people - frequent visitors and non-visitors, virtual visitors, online communities, in an

effort to build sustainable relations around cultural heritage. In order to increase cultural participation and learning through co-creation, museums open up their online collections to social tagging, or work with communities of volunteers to transcribe manuscript archives for digital publishing projects[1]. Learning can become more inclusive and accessible to disabled people through digital applications tailored to their needs[2].



Marker scanning during the session Passport to the afterlife, a mobile Augmented Reality trail for families in the Samsung Digital Discovery Centre at the British Museum.

1. Decker, J (Ed.) (2015), Engagement and Access. Innovative Approaches for Museums, Lanham: Rowman and Littlefield, 5-10.

2. 3D printing in an art exhibition for the visually impaired at the Prado Museum, www.openculture.com/2015/03/prado-creates-first-art-exhibition-for-visually-impaired.html; handheld devices for deaf and hard-of-hearing visitors, Proctor, N (2005), “Providing Deaf and Hard-Of-Hearing Visitors With On-Demand, Independent Access To Museum Information and Interpretation Through Handheld Computers”, in J. Trant and D. Bearman (Eds.). Museums and the Web 2005: Proceedings, Toronto: Archives & Museum Informatics, www.archimuse.com/mw2005/papers/proctor/proctor.html.

Innovative interpretations and learning interactions

Digital media are used for engaging interpretation, to increase motivation and awaken interest and curiosity for learning[3]. Virtual exhibitions, online collections and experimental catalogues integrating digitised and digital-born works of art cater for the information needs of specialists as well as amateurs[4]. Transmedia content and games offer engaging interactions[5]. Curators' blogs and stories about objects personalize museum narratives and make them attractive to a wider audience[6]. Even "dialogic" apps on smartphones allow visitors to chat in real-time with museum educators who answer their questions about works of art, thus adapting learning provision to the visitors' lifestyles and learning preferences[7]. Natural user interfaces (touch, eye-tracking, gesture) stimulate multi-sensory perceptions through lively, participatory scenarios inspired from the museums' themes and collections[8].

Participating in the learning ecology of the 21st century

Digital technologies are transforming the traditional educational programmes for schools. Online learning opportunities range from educational resources to prepare for a museum visit or to memorize it afterwards by keeping a contextual link[9]. Additionally, online environments with digital resources and tools allow teachers and students to personalize, annotate and

3. Samis, P. (2007), "New technologies as part of a comprehensive interpretive plan", in H. Din, P. Hecht (Eds.). The Digital Museum: A Think Guide, Washington, DC: American Association of Museums, 19-34; de Vet, M, van Kregten, J (2014), "Touch Van Gogh and Be Touched – How New Media Are Transforming the Way We Present Complex Research", Museums and the Web 2014, mw2014.museumsandtheweb.com/paper/touch-van-gogh-and-be-touched-how-new-media-are-transforming-the-way-we-present-complex-research

4. www.staedelmuseum.de/de/angebote/digitorial; www.walkerart.org/magazine/2015/its-complicated-institution-publisher; www.berlinischegalerie.de

5. www.staedelmuseum.de/de/angebote/staedel-digitale-sammlung; www.vam.ac.uk/designawig

6. samarrafindsproject.blogspot.com; www.britishmuseum.org/explore/a_history_of_the_world.aspx

7. museumtwo.blogspot.com/2015/06/asking-about-art-at-brooklyn-museum.html

8. ABBA, The Museum, www.abbathemuseum.com

9. LeMO, The Living Museum Online, www.dhm.de/lemo

share museum resources, or to create their own materials[10]. Museum MOOCs (Massive Open Online Courses) are transforming thousands of people of different age and background from all over the world into a virtual community of online learners[11]. Digital learning centres and makerspaces within museums offer visitors, with different levels of digital literacy, an in-depth experience of the museum's digital collections, or participation in digital crafting workshops[12]. Such interactive spaces, frequently launched in partnership with high-tech companies, can work as hubs for digital learning innovation by providing well-designed and thoughtful learning programmes encompassing a wide range of 21st century skills for young learners, or what has been termed, digital natives[13]. As recent studies show, young generations are increasingly becoming co-creators, co-authors and co-producers of digital content, initiating the shift from interactive technologies towards a participatory culture[14].

Overcoming barriers

As highlighted in a recent European Parliament resolution, digital cultural heritage is important for preserving our past, but also as "a source for education research opportunities, quality job creation, better social inclusion, access and sustainable economic development"[15]. However, evidence shows that not all museums are harnessing the potential of digital technologies for engaging with audiences and strengthening their learning provision. Some of the reasons for this include insufficient funding or funding cuts, lack of awareness and training in digital skills. Significant differences exist between European and American

10. Sayre, S, Wetterlund, K (2008), "The Social Life of Technology for Museum Visitors", Visual Arts Research, 34(2), 85-94.

11. MoMA on the Coursera platform, www.coursera.org/moma

12. The Taylor Digital Centre at the Tate, www.tate.org.uk/whats-on/tate-britain/daily-activities/taylor-digital-studio-public-access-drop

13. The Samsung Digital Discovery Centre at the British Museum, www.britishmuseum.org/learning/samsung_centre.aspx

14. Jenkins, H., et al. (2009), Confronting the challenges of participatory culture: Media education for the 21st century. A MacArthur Foundation Report, Cambridge Mass., London: The MIT Press; Arnone, M., Small, R, Chauncey, S, McKenna, P (2011), "Curiosity, interest and engagement in technology-pervasive learning environments: a new research agenda", Educational Technology Research and Development, 59(2), 181-198.

15. Towards an Integrated Approach to cultural Heritage for Europe, European Parliament resolution of 8 September 2015 (2014/2149(INI) (item 45). www.europarl.europa.eu/sides/getDoc.do?pubRef=-//EP//NONSGML+TA+P8-TA-2015-0293+0+DOC+PDF+V0//EN

institutions, where digital engagement and the provision[16] of digital learning opportunities are a high priority. According to a recent report, in the UK approximately one third of nearly a thousand art and heritage institutions invest in digital technologies for content dissemination and only forty per cent of heritage institutions are now producing content for schools, down from sixty-five per cent in 2013[17].

Today, digital strategies to enrich education and interpretation should be a part of the museum's mission, adapted to its goals and financial means. Partnerships with private companies, participation in learning networks and collaborations between museums open up new opportunities to reach out to and engage with audiences and to increase the visibility of their multimedia digital assets for educational reuse. Moreover, museum education has to consider current transformations in formal education, where new models of learning overcoming the traditional school's boundaries are being created. To become an instrumental part of the learning ecosystem and bridge the gap between formal, non-formal and informal learning, museums should develop frameworks to shape a coherent and sustainable pedagogy for digital learning. Metadata standards for learning applications, open licenses formats for digital learning materials free for co-creation, reuse and remix and maintained in the public domain for the benefit of all learners, are necessary. Finally, a framework for measuring and evaluating the outcomes of learning with digital technologies for different kinds of audiences would support museums in recognizing their place as lifelong learning providers[18]. Digital technologies as part of the museum's educational mission have the potential to strengthen the public value of museums by providing inspiring and engaging lifelong learning opportunities for all.

16. NMC Horizon Report 2015 Edition, www.nmc.org/publication/nmc-horizon-report-2015-museum-edition

17. Digital Culture 2015, How arts and cultural organisations in England use technology, Report commissioned by Arts Council England, Nesta and the Arts and Humanities Research Council, artsdigitalrnd.org.uk/wp-content/uploads/2015/12/Digital-Culture-2015-Final.pdf, p. 6.

18. Hooper-Greenhill E (2007), Museums and Education. Purpose, Pedagogy, Performance, London: Routledge, 44-62; Scott, C., Dodd, J., Sandell, R. (2015), Cultural Value. User value of museums and galleries: a critical view of the literature, Leicester: Research Centre for Museums and Galleries, www2.le.ac.uk/departments/museumstudies/rcmg/publications/cultural-value-of-museums; LEM - The Learning Museum Network, www.ne-mo.org/about-us/the-lem-network.html.

"Bringing cultural heritage and people together in a changing Europe and finding new ways of engaging with heritage in a digital world"

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