



# eLearning Papers 34

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## Design for Learning Spaces and Innovative Classrooms

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## Editorial

# Design for Learning Spaces and Innovative Classrooms

During the last couple of decades our perception of what constitutes a good learning environment has changed. Educational institutions are facing new challenges resulting from technologically driven changes in teaching and learning, globalization of higher education and changes in the economic climate. Efficient use of facilities is becoming increasingly important as the funding mechanisms of educational institutions are becoming more results oriented. The design of spaces to support the generation of knowledge by students themselves is an important yet neglected field.

We need to re-conceptualize, re-design and rethink the use of space. Schools and campuses need to be well connected with the surrounding urban fabric and society. Learning spaces should be inspiring and stimulating. They should encourage collaboration and embrace informal learning and serendipity by means of providing facilities for informal meetings and functioning extensions in the cyberspace. As universities compete for the best students, having a diverse range of services that reach beyond the cafeteria are considered important characteristics of an attractive campus.

How can we inform, guide and support the sustainable development of learning and teaching spaces and practices, maximizing flexibility and usability? The selected articles emphasize the importance of user-centered approaches when designing learning environments. It is generally recognized that the quality of design increases if the stakeholders' interests are considered in the design process. Not having learners and teachers participate in the design decisions concerning their learning and working environment would be beyond all reason. A learner centered approach can also improve the space efficiency. Examples demonstrate how lobbies and cafeterias could double as spaces for group work and informal learning. Let's make every space a learning space!

**Mike Keppell**, Executive Director and Professor, Australian Digital Futures Institute, University of Southern Queensland

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## Tags

history learning, didactics  
of history, history teaching,  
educational technology,  
mobile learning

## Moving through time and space - Learning history on the move

Mobile devices enable students and other non-professional historians to decode edificial remains, symbols etc. through giving access to additional information. In other words, mobile devices enrich reality: They reveal the historical value of topographic places and surfaces. **This article delivers ideas for inquiry- and design-based learning with mobile devices. The authors try to develop a concept for mobile learning in history lessons focusing the aspect of mobility to pass the borders of the school classroom for learning history outdoors.** Mobile history learning is product oriented. Students create different and innovative forms of collaboratively generated products like geocaches or digital stories. These products help to initiate the discussion about history between peers but can also be seen as important elements of social participation and commitment when using social networks for historical learning. Furthermore mobile history learning lets students understand public debates on history, politics, culture, memory and identity.

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## Tags

learning space, knowledge  
triangle, innovation  
ecosystems, triple helix,  
societal impact

## Learning Spaces as Accelerators of Innovation Ecosystem Development

**This article examines learning spaces as a broad concept, addressing them both as an abstraction and as venues and facilities supporting learning on individual, organisational and regional levels.** Our two simultaneous perspectives are top-down (Europe 2020 strategy) and bottom-up (learning and innovativeness of individuals). As an abstract concept, learning space refers especially to the mental dimension of the space emerging when individual experts collaborate. It draws from the culture of modernising the Triple Helix collaboration coloring the learning environment, and the quality of interaction between the classroom and industry agents, either hindering or supporting better synergy between research, education and innovation, as well as different initiatives focusing on creativity and entrepreneurial discovery.

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## Tags

augmented reality,  
emotional mapping,  
mobile learning, smart  
city, ubiquitous learning,  
absolute performative.

## The ritual and the rhythm: interacting with augmented reality, visual poetry and storytelling across the streets of scattered L'Aquila

Mobile smart devices and augmented reality applications may exemplify access points to navigate a city, to detect different layers of reality, to offer different narratives of the urban geography and to explore the real environment. It may represent an emotional journey where familiar places are represented through unusual perspectives. A sliding between reality and virtuality, an invite to participate and discover public spaces. "Street Poetry in augmented reality" exhibitions are urban paths to engage people (e.g. students, citizens, tourists etc.) with art and smart technologies while performing something. **In this article, the format "Emotional Mapping of Museum Augmented Places" (EMMAP) is discussed using the evaluation of the trial that was implemented in L'Aquila (Italy).**

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## Tags

social media, language  
learning, informal learning,  
collaborative learning

## Research challenges in informal social networked language learning communities

How does the design of social networked language learning communities have an impact on the way evidence based research is conducted? **This paper critically examines the degree to which the design of data accessibility and data ownership impact the research activity and the challenges faced by researchers who take these communities as object of analysis.** To illustrate these challenges, I take as example web 2.0 language learning communities, the most well-known being Babbel, Busuu and Livemocha, among all possible types of informal, social network based language learning. This study illustrates the tension between on the one hand, the need for a more evidence based understanding of the under-explored field of informal social network based learning, and on the other hand, the obstacles to this scientific exercise. Finally, I discuss how this tension is situated in the current landscape of global research activity that calls for more open, transparent and participatory structures for data sharing and collaborative research.

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## Tags

mobile digital libraries,  
DSpace, education,  
developing countries

## Easing access to digital libraries with m-DSpace

There are currently a lot more mobile phones than computers in the world, including in developing countries. Thus, considering the challenges faced in these countries in accessing print-based publications and also their existing challenges regarding accessing ICT resources such as computer and Internet, mobile access to digital libraries might be a good alternative. This paper features the design of an application for easing the access to DSpace-based digital libraries, using user-centered design approach. Such application integrates mobile, web and desktop interfaces, aiming, on one hand, to provide alternative mechanisms for accessing such libraries in developing countries, using mobile devices, and on the other, to facilitating the usage of digital libraries in educational contexts.

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## Tags

innovative learning spaces,  
elearning, informal physical  
learning spaces

## The e-Learning Café project of the University of Porto: innovative learning spaces, improving students' engagement in active and collaborative learning

This paper reports the ongoing research project headed by the University of Porto and the research group Centre of Spatial Representation and Communication, from the R&D Centre of its Faculty of Architecture (FAUP), which aims the design and study of hybrid spatial environments: E-Learning Centres. Our main objective is to present and discuss the contribution of the E-Learning Café project of the U.Porto and of the successful implementation of its program, focused on learning physical spaces able to combine social interaction with diverse pedagogical and cultural activities. All these have proven to be an important relational dimension for all the people working or studying at U. Porto and an asset to foster the openness of the University to the society.

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### Tags

school desk, inclusive design, accessibility, student achievement, learning

## A New Direction for the Learner Experience. Engaging Students in Participatory Design of a 21st Century Classroom Chair-Desk

Classroom chair-desks tend to be uncomfortable and not appealing to the student. A patent search using the term “chair-desk” reveals that students today are sitting in exactly the same rigid plastic seat, bolted to a metal-frame, high-pressure polyurethane-topped student chair-desk as their parents or grandparents did more than a half century ago in 1953. When the five major school furniture manufacturers in the United States were asked what research they relied on for their furniture designs, the response was that they did not rely on any and so have adopted a one-size-fits-all philosophy (Parcells 1999). In an effort to put an end to one-size-fits all design of learning environments this paper presents a detailed account of the participatory design approach followed by a high school engineering technology class from Hopewell High School, Virginia, USA to re-design the traditional school chair-desk as part of their efforts in the 2010 Lemelson-MIT InvenTeams program. With a belief that students should experience an optimum state of active-dynamic learning the team used a participatory design approach to innovate an inclusively designed, accessible student chair-desk that adapts to its user's need of healthy, ergonomic movement resulting in an improved chair-desk experience and ultimately an enhanced learning experience. Key milestones achieved, challenges encountered, and relationships forged during the design and fabrication process of this desk are also highlighted.

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### Tags

mobile library, service design, interaction design, spatial design, creative learning

## A service, interaction and spatial design for engaging and creative learning

In Finland, mobile libraries play an important role in providing library services to city suburbs and villages. This paper describes the research design and the results of the study. It addresses service, interaction and spatial solutions, for a new library bus built and implemented by the City of Espoo in Feb. 2013. The final service design for the library bus is an empty, modular and reconfigurable space that can be adapted for various thematic purposes. To illustrate the service, a model of the standard bus is presented, along with four thematic variations (Starry Skies, Mini-Cinema, Storytelling, Gardening).

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### Tags

spatial design, context change, user perspective, learning space, vocational education

## Translating user perspective into spatial design

A rapid adoption of ICT innovations transforms the context of human activities and collaboration, the educational settings included. The context change at the same challenges the traditional spatial design paradigm calling for tools and approaches that are applicable to ICT enhanced practices. We take here an ecological approach presenting a work in progress in which we aim to develop a tool for capturing and translating user perspective in order to design innovative learning spaces for vocational education; the case is one of practical nursing. We apply a combination of quantitative and qualitative methods. By focusing on the local practices and user perspective in cultural transition, we expect the refurbishment of educational settings to be informed in a way that makes it better rooted in the local conditions, and the transition thereby less disruptive for the users. Applying the same tool in post-implementation research for the assessment of the impact of the spatial rearrangements on training and learning would yield findings helpful in the design of hybrid educational settings.

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### Tags

computer-assisted language learning, language learning

## ICT and class design at the CLCS language modules in Trinity College Dublin

This paper discusses computer-assisted language learning through the prism of learner autonomy. It describes the first evaluative study that was conducted at the Centre for Language and Communication Studies (CLCS) at Trinity College in 2011 regarding the potential of ICT to promote learner autonomy, based on the incorporation of computer work in the language courses offered by CLCS. The methodology used for this research is presented along with a brief questionnaire and interview data account to offer an overall view of the students' and teachers' opinions of computer work and how this affected their learning process. Finally, conclusions are drawn along with suggestions for future improvement.

**Full text:** [http://www.openeducation.eu/sites/default/files/asset/From-field\\_34\\_6.pdf](http://www.openeducation.eu/sites/default/files/asset/From-field_34_6.pdf)