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DESIGNS FOR LEARNING 2012

3rd International Conference
Exploring Learning Environments
25-27 April 2012
Copenhagen, Denmark

CONFERENCE PROCEEDINGS

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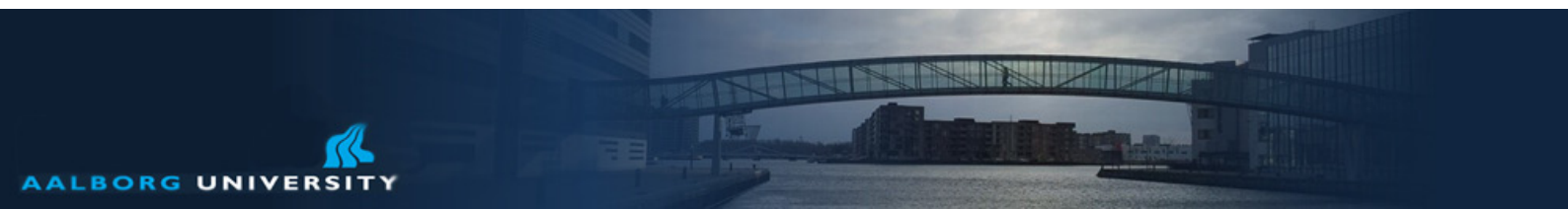

Editorial / Welcome statement

Dear reader,

The following proceeding contains extended abstracts for the Third Designs for Learning Conference, DfL2012. The conference is held on the 25th-27th April 2012 in Copenhagen, Denmark and is preceded by a Master Class for all PhD-students on the 24th-25th April 2012.

The conference and the journal, which both bear the name Designs for Learning, was originally initiated by Professor Staffan Selander from Department of Didactic Sciences and Early Childhood Education, DidaktikDesign, at Stockholm University in 2008, as an intertwined and ambitious exploration of the research field of designs for learning. In 2010 the Swedish group lead by Professor Staffan Selander invited the Danish research group from Aalborg University (formerly affiliated with Aarhus University) lead by Professor Birgitte Holm Sørensen into collaboration regarding the conference as well as the editorial board of the journal. It was decided that the location of the conference should shift between Stockholm and Copenhagen every second year and the 3rd conference is the first one held in Denmark.

The peer-reviewed journal *Designs for Learning* (ISSN 1654-7608) is an academic international online journal, which is published by Stockholm University, Department of Didactic Sciences and Early Childhood Education, DidaktikDesign, Sweden. The editorial staff represents members of both the Swedish and the Danish research groups. The journal is at the crossroad of theoretical development and empirical examples related to learning resources, transformation processes, learning environments, and digital resources. The subject areas covered include learning designs and resources, multimodal texts, didactic science and pedagogy and the target group is mainly researchers. In conference years the journal dedicates an issue for selected papers from the conference.

The First Designs for Learning Conference was held in Stockholm with the theme: Defining the field. The second conference was equally held in Stockholm in 2010, where the theme was a new conceptualization of learning in terms of media, arenas, artefacts and spaces used for learning. This year's conference held in Copenhagen by Aalborg University and Stockholm University in partnership explores learning environments. The conference has been organized around empirical research methods and theoretical development in relation to designs for – and in – learning. The submissions are directed towards three categories:

1. Completed research projects
2. Research and development projects in progress
3. PhD projects

These proceedings contains 62 extended abstracts, written by 112 authors, representing various approaches to exploring learning environments. Just over 100 participants registered so far and the conference is organised around 4 parrallel paper sessions, includes 5 workshops, a PhD poster presentation including a PhD presentation madness/firehose, and last but not least 5 keynote presentors in 4 keynote presentations.

We hope you enjoy reading the proceeding, we wish everyone a happy conference and hope that the conference will bring you new and interesting high quality inputs.

From the organising committee:
Rikke Ørngreen, Birgitte Holm Sørensen, Karin Levinsen, Mie Buhl, Thorkild Hanghøj, Anette Eriksen, Charlotte Weitze, Staffan Selander, Anna Åkerfeldt, Eva Insulander, Tore West, Eva Svärdemo-Åberg, Anna-Lena Kempe, Frederik Lindstrand

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Design Research on Media Tools for Reflection in Learning

By ANNA KEUNE, TEEMU LEINONEN & JUKKA PURMA
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This paper presents research-based design experiments of three media tools to support reflective practices in a classroom. The experiments build on the discussion about the role of slow and reflective technology in learning. The paper presents three media tools for personal, group and community reflection.

Keywords: reflection, new media, slow technology, ambient display, classroom

INTRODUCTION: REFLECTION, LEARNING AND NEW MEDIA

The importance of reflection in learning has been widely discussed by scholars. Reflection is an essential concept in cultural-historical psychology, developed by Lev Vygotsky and his colleagues in the 1920s and 1930s. For Vygotsky individual development happens in interaction with others, and through conscious reflection on that interaction. Key question in a learning process is: What was experienced and learned? (Vygotsky 1978) In his seminal book on the Reflective Practitioner, Schön (1983) discusses experts' ability to reflect on their activity in and on action.

We consider that carefully designed new media tools may support reflection in learning. Using technology for reflection can present potential advantages: media technology can be used to record dialogue, to categorize contributions and to step back, reconfigure, evaluate and compare them.

RESEARCH BASED DESIGN

In a research-based design the design forms an essential part of the outcome of research activities, which acknowledge that the design will be embedded in the everyday context and activities of people. The process is iterative and phases may happen side-by-side. Research-based design takes place in close collaboration with people concerned with the design. (Leinonen, 2010)

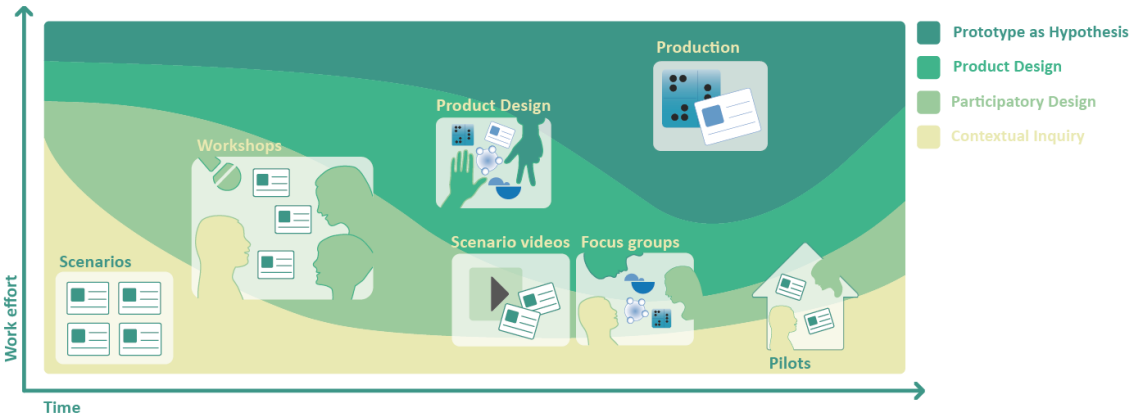

Figure 1: The four phases of the research-based design process (based on Leinonen, 2010)

The phases of the iterative process are illustrated in relation to theparticular design experiments in Figure 1. The first phase, **contextual inquiry**, is formed around understanding the context, in which it is aimed to place the design. Here, classroom teaching and learning. In the **participatory design phase,** teachers and students across Europe were asked to participate in workshops and focus group sessions to gather their input on preliminary defined challenges, opportunities and prototypes. Through pre-pilots and pilots prototype designs

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were tested with teachers in classrooms across Europe. The prototypes were designed in the **product design** phase. The insights gained from the workshops and sessions with teachers and students were translated into concrete design ideas by the researchers and design professionals without the teachers and students. The **production of software as a hypothesis** phase represents the development of non-functional and functional prototypes that are thought to improve the way in which learning activities are performed in the classroom.

In the following, we present three new media prototypes that were designed in the context of this design research, and we discuss the tools' afforded levels of reflection.

THREE NEW MEDIA PROTOTYPES

The main contributions of this research are the prototypes, the illustration and the analysis of three tools that are expected to support reflection in learning: ReFlex, TeamUp and Ambire.

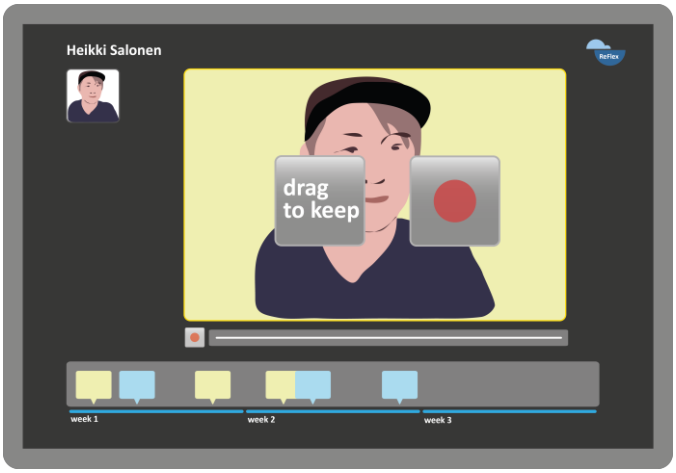

Figure 2: Illustration of ReFlex

ReFlex is a tool prototype (non-functional) for learners to record and share 1-minute audio updates of their personal learning experience (see Figure 2). The time limit is intended to support learners in practicing meta-cognition, presentation skills, and teachers to receive updates about the learners' progress in a compressed form.

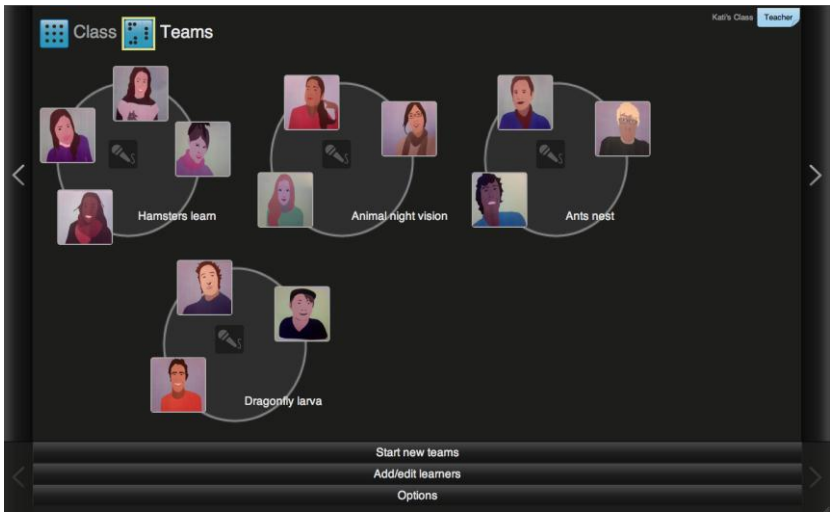

Figure 3: TeamUp interface

TeamUp is a web-based and open source software tool (functional) for forming teams based on interests, and for recording teamwork progress (see Figure 3). Teams can record 1-

minute audio updates about their inquiry group work progress, challenges and planned next steps. The recordings can be revisited; also by members of other teams and by teachers.

Figure 4: Illustration of Ambire in use

Ambire is an ambient display for 1:1 laptop/tablet classroom reflection, in which the content of each learner's screen rotates continuously on a large screen in the classroom (see Figure 4). The tool is promoting transparency, commons, sharing and reflection. Transitions and exact information about whose view is on the large screen are intentionally difficult to notice in Ambire.

On the basis of Fleck and Fitzpatrick's research (2010) and Focus Groups with teachers and students, the media tools' afforded reflection levels were analyzed. The interaction design and use of the tool support all five levels of reflection (see Figure 5).

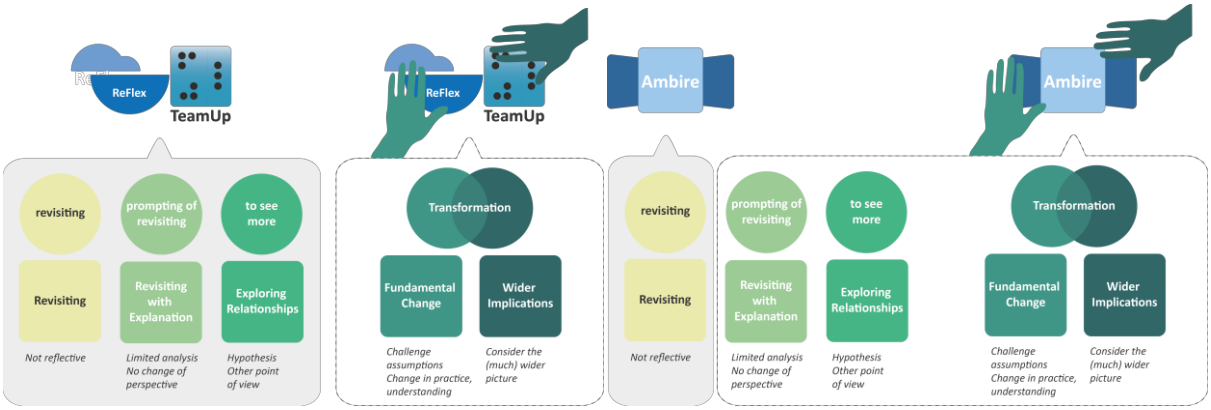

Figure 5: Reflection levels of the tools (based on Fleck & Fitzpatrick, 2010)

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The room in higher education – a space for learning?

By MARIE LEIJON
The Faculty of Learning and Society at Malmö University, Malmö, Sweden.

This paper presents an ongoing postdoctoral research project with the ambition to contribute with knowledge on the interplay between space, interaction and learning in higher education. What kind of rooms do students meet in formal campus activities and how are they designed? How are students and teacher interacting using resources afforded by the room? These are some of the questions that the project aims to examine.

Keywords: space, interaction, learning, higher education, Designs for Learning

INTRODUCTION

This postdoctoral research project focuses the interplay between space, interaction and learning in higher education. Traditionally on-campus education is associated with lecture theatres and tutorial rooms and the physical room as such is often taken-as-given. Thus the performance of the room in higher education as a place for learning is open to question.

Space, place and room are familiar words, denoting common experiences. Space is used to discuss the room the interplay between interaction and learning. Spacecan also refer to a physical organization of the environment while place refers to social aspects, that is, we are located in spaces but acting in places. In this early stage of the postdoctoral project I am using space for both the physical and the social room.

Space, interaction and learning in higher education areunder-researched topics compared to similar research with focus on schools.Literature reviews (cf. Temple, 2008) illuminates that studies on higher education tend to focus on either architecture or design of learning environments in connection to digital media or e-learning. There is, however, a field in multimodal studies focusing on the interplay between human interaction, space and learning in schools. A multimodal approach also highlights how physical environment, as part of the setting, constitute an essential element in communication (cf. Jewitt, 2008). My own thesis (Leijon, 2010) connects to the field discussing interaction in a teacher education context, where the setting plays an important part. By focusing on both space and learning in higher education the ambition with my postdoctoral project is to further contribute to the field.

PURPOSE OF THE STUDY

One could discuss space as a conveyor of meaning and interaction as dependent on the affordances in a room. The design clearly communicates what is possible and allowed to do. Space shapes interaction, but interaction also shapes the space. It is essential to think about space in relation to negotiation and transformation. Even a strong setting is open for change (cf. Leijon, 2010).

Thus, a point of departure for my postdoctoral project is to examine space in higher education in relation to interaction and learning. I am doing this by following two groups of students during one course in their formal campus learning activities. I am also interested in the informal spaces that are shaped by students in connection to the formal activities. The study is guided by the following research questions: What kind of rooms do the students meet and how are they designed? How are students and teacher interacting using resources afforded by the room? What resources do the participants bring into the room and how are they used? What kind of informal rooms connected to the formal activities are designed by the students?

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DESIGN

For theoretical anchoring, the research preliminary draws upon a design theoretical perspective called "Designs for Learning" (cf. Selander & Kress, 2010) to understand the activities in the room and space as a part of a setting, all in relation to the concept of design. This will be connected to Goffman and his concept on interaction and framing.

The projectcombines video observation with interviews. Video observation affords a multimodal perspective in combining visual and auditory information connecting to the idea that humans use a variety of semiotic resources including speech, gesture or text, in order to communicate. I am also inspired of "stimulated recall" and will meet some of the participants shortly after the recording to discuss interaction in the room. Data is gathered from two different settings within higher education,including a group of students and teachers in teacher education and a group of students and teachers in specialist nursing education. In the first step of my postdoctoral project I have followed the teacher education group at four occasions, first observing the empty rooms, then the interaction in the formal spaces. I have then conducted interviews with both students and teachers.

FINDINGS

This is very much a project in progress. The design for the postdoctoral project and some preliminary findings will be presented and discussed. Furthermore examples will be given from different video observations and interviews from the initial phase of the project.

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