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Gloria Gomez
OceanBrowser Ltd, New Zealand

Rodney Tamblyn
OceanBrowser Ltd, New Zealand

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Students and Teachers Becoming Co-Designers of Learning

A Virtual Learning Space for Creating, Organising and Sharing Media-Rich Documents

Gloria Gomez and Rodney Tamblyn

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This interactive workshop will introduce a virtual personal learning environment for creating, organising, and sharing media-rich documents. This environment was developed to address issues in online education around student engagement and enabling academic staff to author their own teaching content. Its implementation was informed by design-based research undertaken from an interaction design perspective with bridging design prototypes. Its educational foundations are drawn from the fields of study skills for academic success, good visual design that facilitates metacognition, and networked learning for promoting connection between people. The implementation of a same interface for students and teachers to use has broadened participation in the creation of resources, facilitated opportunities for interesting individual and collaborative study activities, and administrative tasks have been reduced. Inspired by the feature design, these changes in study behaviour have transformed students into co-designers of learning, and teachers into facilitators of learning. These pedagogical innovations have mainly taken place in online medical and health science higher education programmes. However, these could potentially happen in contemporary design education.

Keywords: innovative pedagogical practices; media-rich documents, online learning communities; personal learning environment; students as co-designers of learning

Specific Aims of the Workshop

In this workshop and for the first time, design education researchers will be introduced to a virtual learning space called OB3 – Beautiful Study for Lifelong Learning. It is a personal learning environment that mainly focuses on the educational or learning activities of people rather than a course. It offers more autonomy than traditional learning management systems, and is particularly well suited for independent, lifelong, and self-directed styles of learning.

Since its inception back in 2010, this technology has been mostly used in online medical and health science higher education in Australia and New Zealand. So far, it has deeply transformed two distance higher education programmes in Ophthalmology (Gomez & Petsoglou, 2021) and Midwifery (Daellenbach, Davies, Kensington, & Tamblyn, 2014) for almost a decade. Some novel pedagogical practices undertaken in those programmes might be of interest to the design education researchers using approaches for promoting active learning such as flipped classroom, blended learning, problem-based, among others (Daellenbach et al., 2014; Gomez, Daellenbach, Kensington, Davies, & Petsoglou, 2017; Gomez & Petsoglou, 2021).

Case studies in these fields will be presented to spark conversations around challenges and opportunities in design education research and practice, as they relate to remote/online learning. With the ongoing changes in design education, the increasing number of design programmes around the world, and the democratization of the discipline, there might be an opportunity for OB3 to enhance the online study experience of designers teaching or studying formally, non-formally, and informally. The concept map shows the innovative pedagogical practices afforded by this technology (figure 1).



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The GUI and Interaction Design

The R&D of this *learning space* was undertaken from an interaction design perspective and using a human-centred design method called Bridging Design Prototypes (Gomez & Petsoglou, 2021; Gomez & Tamblyn, 2012a, 2012b; Gomez et al., 2020). Feature design was informed by concepts drawn from university study skills (Bandura, 1986), visual design in metacognition (Kirsh, 2005), and network learning (Goodyear, Banks, Hodgson, & McConnell, 2004; Goodyear & Steeples, 1998). The design process produced a graphical user interface affording academic staff and students to interact with the same feature set to create, co-create and share media-rich documents with embedded discussions. This change in interaction design de-emphasises administration and emphasises support for the development of study activities that promote deep understanding. The innovative features enable an individual (teacher or student) with basic technological skills (i.e. users of MS Office, internet browsers, and email applications) to author media-rich documents, with the option of starting embedded discussions at any point inside the document. Within minutes through using the commands of cut, copy, and paste; drag and drop; and an in-context style palette, he/she can author, share and/or collaborate in content development of different kinds.

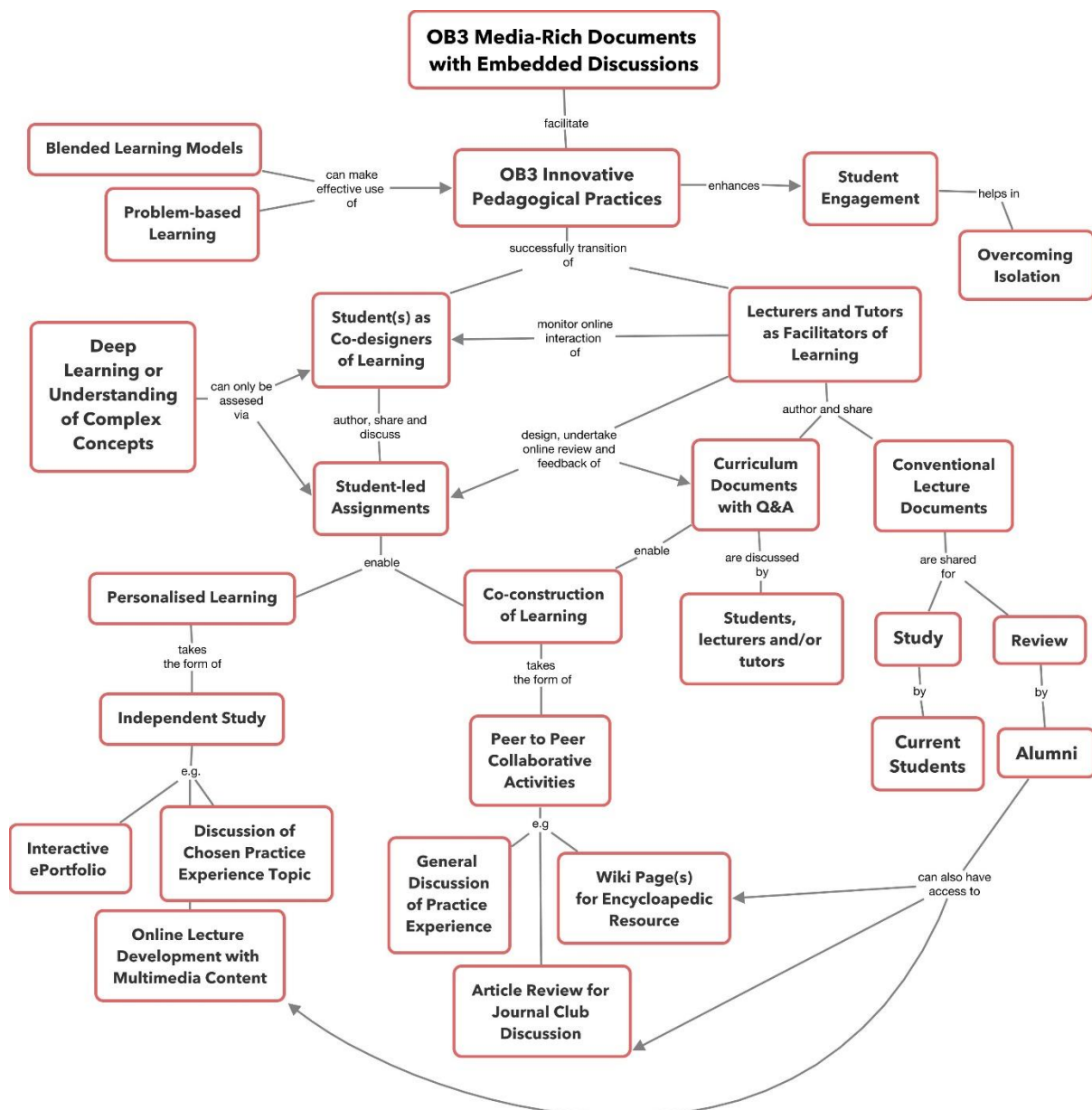


Figure 1. Concept map on the type of innovative pedagogical practices that OB3 users could develop

The changes in interaction design *guide people's behavior* in a manner that lifts learning performance in three

ways. Firstly; academic staff can prepare curriculum content without the direct support of a technologist (e.g. course builder, multimedia consultant, learning designer). Secondly; students engage in asynchronous discussions with lecturers inside an OB3 document. Thirdly; students engage in authoring curriculum topics or reflective practice as part of individual and collaborative assignments.

A media-rich document could be created using text, embedded videos, audio-recordings, links to web pages, podcasts, etc. Very quickly people are able to create collections of media-rich documents on diverse topics, favourite podcast topics, curated lists of YouTube videos, movies, books etc. The collections can take the form of directories, glossaries or encyclopaedic resources. People could share them with the groups you create in formal, non-formal, and informal learning situations. Discussions could be started on any element (e.g. paragraph, image, tweet, embedded video or survey, etc.) inside the document.

Qualitative Research Evaluations

Qualitative research analyses using two frameworks have shown that the educational practices enabled by the creation, discussion, and sharing of these media-rich documents can be qualified as innovative pedagogical practices, according to the Creative Classroom Framework (S. Bocconi, P. Kampylis, G., & Y. Punie, 2012; S. Bocconi, P. G. Kampylis, & Y. Punie, 2012), and have enabled trends (e.g. deeper learning approaches and blended learning designs) and addressed challenges (e.g. students as co-designers of learning and rethinking the role of educators) identified by the NMC Horizon Reports (Adams Becker et al., 2017; Adams Becker, Cummins, Davis, & Yuhnke, 2016; Johnson et al., 2014; Johnson, Adams, & Cummins, 2011). A more detail description is available in Gomez and Petsoglou (2021, p. 9).

The personalised learning aspect makes it a game changing educational technology. It shifts the power from institutions to the individual educator or learner. It presents a situation in which an individual manages his/her own teaching or study activities to a greater extent. This finding is relevant because personalised learning has been identified as a difficult challenge to address in education with technology (Adams Becker et al., 2016). Some users have expressed the following as their preferred features or activities with OB3: privacy, academic attribution (tracking authorship across the system/platform), inter-institutional teaching collaborations, discussions happening inside the media-rich document, co-creation for understanding with students.

Workshop Structure

The workshop will be run, delivered online, in a timeframe of 60 minutes. It is structured in five parts that are:

- Part 1 (10 min): Set up free accounts and introductions
- Part 2 (5 min): Present current use cases in other disciplines in which teachers and students have become co-designers of learning as described by Johnson and colleagues (2014)
- Part 3 (20 min): Interact, play and explore OB3 features. Attendees will learn to create a media-rich document, organise information in different media formats and share it with other participants
- Part 4 (20 min): Brainstorm about its potential uses and support to design education and its challenges. The brainstorming will be inspired by envisioned scenarios of use on how this tool could advance contemporary design education. In a group discussion we will envision scenarios and media-rich documents will be created with the ideas produced. This activity is further explained in section “how the workshop is relevant to the aims of track 09”
- Part 5: Wrap up activity (5 min)

Expected Outcomes and Benefits

The participants would have had a chance to:

- Create organise and share media-rich documents and start a personal or group collection
- Create activities for transforming students and teachers into co-designers of learning
- Explore through conversations with participants (guided by presenters) the potential role this technology could have for traditional and contemporary design education, and associated challenges

Participants

- Minimum and maximum numbers of participants: 1 to 25 participants.

How the Workshop is Relevant to the Aims of Track 09

Part 4 of the workshop (20 minutes) will be used to brainstorm and discuss potential scenarios of use in design education. The following “questions of interest” extracted from the CFP will guide discussions.

Contemporary Design Educational Concepts and Types of Spaces Do They Require

Could OB3 be a learning space for advancing contemporary design educational concepts, novel curriculums or practices? For example design thinking, inclusive design education, pluriversal design education, speculative design, sustainable design, transition design, decolonising design, co-design, design for learning, among others. This learning space could be used to prototype formal, non-formal or informal online learning situations around these concepts and topics worldwide. Collaborations between different types of designers following a similar goal could come together in spaces like this one to advance issues for example “diversity and inclusion in design education”.

Identifying Hybrid or Virtual Counterparts of Physical Space for Design Learning

Case studies in other disciplines will be presented in which approaches such as flipped classroom, blended learning models have been used in connection with OB3. See figure 1.

Learning Space Capturing, Displaying, Archiving, Transferring and Instigating (New) Design Knowledge

OB3 enabling people to capture media has provided a way for academics and students to collaborate in the creation of resource collections (Gomez et al., 2017; Gomez & Petsoglou, 2021). The collections could take the form of journal or book club discussions, encyclopaedic resources, directories, glossaries, conventional lecture notes, documentation of practice experience, reflective practice portfolios, electronic note-taking (events attended, brainstorming activities, research notes). Video and audio collections to be used in user research. This technology could be considered a type of tool “that would facilitate the development process of [virtual] creative spaces” (Thoring, Desmet, & Badke-Schaub, 2019, p. 303).

Learning Spaces Providing Affordances to Guide People’s Behaviour?

Boys (2010) wrote about a learning myth: “informal and formal learning are binary opposites” (p.3). OB3 appears to challenge such myth because individuals and groups can transition from informal to non-formal or formal learning. The GUI design addresses learning needs of individuals and not institutions. In doing so, learning situations are created for addressing two wicked challenges in education, rethinking the role of the teacher (Adams Becker et al., 2017; Adams Becker et al., 2016) and students becoming co-designers of learning (Johnson et al., 2014). OB3 could be used to investigate Boys’ statement, and also Temple’s (2008) call for research:

We need a better understanding of the role of space in the dynamics of creating more productive higher education communities and its connections with learning and research. This should be the subject of further research. The literature throws almost no light on managerial decision-making about space issues affecting students or staff; this is a topic where further work would be useful (pp. 238-239).

Disclaimer

The presenters would like to disclose that we are not only the researchers but also the owners of the educational technology that will be used in the workshop. Presenter 1 is also an honorary lecturer at a university, and her design research has informed this technology development. In this workshop we do not intend to market or sell it. We truly believe that it meets the criteria for track 09’s CFP. Under the lead of presenter 1, we undertake “design-based research that develops and implements new learning environments and tools and studies their possible impact.”

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Gloria Gomez

OceanBrowser Ltd & University of Sydney, New Zealand

gloria@oceanbrowser.com

Gloria is an applied design researcher in novel educational practice. Her research involves undertaking studies and explorations from an interaction design perspective in technology enhanced learning for sustainable innovation. Currently, she is co-founder at OB3, honorary senior lecturer at the University of Sydney, scientific committee member in the postgraduate programmes in Diseño y Creación at La Universidad de Caldas, and executive committee member at the Flexible Learning Association of New Zealand.

Rodney Tamblin

OceanBrowser Ltd, New Zealand

rodney@oceanbrowser.com

Rodney is co-founder and CEO at OB3. His background includes 30-year experience in creating and supporting innovative educational technologies for Higher Education.