

## Submissions Abstract Book - All Papers (All Submissions)

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To what extent do board games facilitate deep learning in higher education?

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**Research Domain:** Learning, teaching and assessment (LTA)

**Abstract:** Table top educational tools are easily merged into higher education teaching practice, however, teaching practitioners hold different viewpoints on the value of board game-based tools in their professional practice, but one positive common theme that does emerge is that these types of tools and games have the potential to develop social skills, critical thinking and facilitate deeper learning. The journey from surface learning to deep learning is a complex space; this landscape is undulating, rugged, and lacking in landmarks but is navigable with the right tools and signposts. To explore this landscape, our research question is: To what extent can a board game nudge students' away from surface learning and facilitate their navigation towards becoming deep learners?

Based on cognitive engagement, social engagement, and pedagogy theories, the paper begins by defining the terms "nudge", "wayfinding" as conceptual terms that can help the learner navigate the landscape. As this research is ongoing, we will report what the latest data (qualitative and quantitative) is suggesting and the impact that we are seeing in real terms.

**Paper:** This paper reports on a project currently being undertaken at Nottingham Trent University. Using board games in higher education is often seen as a strategy that can be easily merged into educational practice (Whitton and Moseley, 2014; Farber, 2015). Teaching staff hold different viewpoints on using games in their professional practice, but one common reason that is often cited is to develop critical thinking and facilitate deeper learning ([Boller and Kapp, 2017](#)). The journey from surface learning to deep learning is a complex space (Hattie and Donoghue, 2016); this landscape is undulating, rugged and lacking in landmarks, but can be navigated with the right support and signposts. To explore this space, our research question is: To what extent can a board game nudge students away from surface learning and move towards becoming deep learners? The paper has two objectives, the first being to contribute to the understanding of how to move students from surface learners to deep learners. A second objective is to evaluate the creative connections learning tool as

a visual ontology that supports students moving towards becoming deep learners.

There are many definitions of surface and deep learning, and this project has adopted the following definitions: for surface learning, AdvanceHE defines surfacing learning as: “The short term memorization of facts and knowledge with the aim of passing an assessment and without the engagement required for deep learning.’ Conversely, the definition of deep learning provided by NNC (2017) is adopted “the mastery of content that engages students in critical thinking, problem-solving, collaboration and self-directed learning.”

Based on cognitive engagement, social engagement and pedagogy theories, the paper begins by defining the terms “nudge” (Thaler and Sunstein, 2008) and “wayfinding” (Chia, 2017) as conceptual terms that can help the learner navigate the space. By using a board-based learning tool, we use the term “nudging” to illustrate that the steps involved in students moving from surface learners to becoming deep learners, which we argue, cannot be achieved in one movement. In this project, we used the learning tool “Creative Connections” for its flexibility in terms that it can be used at any level of study and on any topic. The purpose of the tool is to help students make connections between topics at a deeper level of cognition.

Understanding how topics and sub-topics are interconnected can be challenging for both learner and tutor — for the tutor, facilitating how these pieces that when pulled together, make a holistic picture of connections and sub-connections. In other words, as Skrzypulec (2016) suggests a “visual ontology” is developed. We introduce a learning tool that has been specifically designed to overcome this potential barrier. The purpose of the tool is to make connections between topics, capture responses and facilitates verbalizing connections.

Understanding how each piece informs each other can often challenge learners to explain how these pieces fit together, and to close this gap. By using the tool, enables learners to make connections between the various pieces of information and themes through a visual platform that facilitates visual thinking (Brand, 2017). These joining of the dots (Guerin, 2015) provide a unique way to help learners interpret the connection of themes through the lens of ‘connectivism.’

Siemen (2005), argues that ‘connectivism’ is explored by chaos, network, and complexity. As information, knowledge, and understanding are acquired and developed decision-making becomes fluid, moving away from being sporadic or constricted (Hickson et al,1989). It is in this regard that the tool has the potential to support learners navigate their pathway away from being surface learners by holistically gazing on how the juxtaposition of each piece of subject matter is informed and it, in turn, informs other pieces. It is the interrelations and the value of these connections that increase confidence as described by Hattie and Donoghue (2016), and we argue that nudging students to help them navigate the surface – deep learning space is an important role for the tutor to undertake. For some learners, becoming ‘fixed’ at one level can create challenges; one example of this is those students whose grades are centred around a certain assessment make and struggle to gain higher marks. This view is supported by Hattie and Donoghue (2016), as they discuss the challenges in the [consolidating surface learning phase] of their model. We build on Hattie and Donoghue’s work, by suggesting that this is perhaps the most difficult phase for students to navigate beyond, and this is where the creative connections tool can be useful to help students who are stuck in this phase. In our

full paper, we will articulate what this means in practice for the student.

To date, we have been collecting both qualitative and quantitative data using a mixed methods approach (Cohen, Manion, Morrison, 2018; Plano Clark and Creswell, 2018) Data has been collected from students and staff across several disciplines, and this analysis is on-going. The first cut of data suggests that there is movement towards deeper learning that has been facilitated by using the learning tool. In terms of analysis, using the three dimensions of student engagement first reported by Bloom (1956) and more recently by [Fredricks, Blumenfeld and Paris \(2004\)](#). These three dimensions behavioural, emotional and cognitive engagement are indicating some encouraging early results. This data is revealing some interesting movement for students in terms of engagement levels, examination results, emotional and cognitive dimensions.

Furthermore, feedback from students has been positive; the research suggests that the tool facilitates navigation of the space from surface to deep learning; it helps some students identify landmarks, places to rest and reflect on the journey. The findings of this research will be of interest to practitioners and teachers in the areas of management learning, teaching and learning and researchers on pedagogy. Furthermore, some consideration will be given to how we developed the learning tool that helps educators in their professional practice and provides a simple and easy tool to use. It supports learners transitioning the space from surface to deep learning in an engaging and fun way.

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