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IMMERSION AND IMPLOSION: ENABLING SOCIAL SPACES THROUGH THE DESIGN OF INTERACTIVITY AT SCALE

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Abstract

The didactic lecture is a well-established but contentious practice in higher education. It is an essentially mono-directional experience delivered in purposefully designed spaces that entrench modes of learning and expected behaviours by both staff and students. This paper will challenge the ongoing primacy of the didactic lecture in higher education and posit a dialogical alternative that supports students to interact and connect at scale through the creation of social spaces. A case study of a program at the University of Sydney Business School will interrogate the role of technology in simulating an immersive hyperreality for students in large-group teaching settings that blurs the boundaries of disciplinary knowledge and the abstractions and realties of their work, life, play and learning.

Keywords:

Immersion; Interactivity; Large Group Pedagogy; Higher Education; Learning Technology

Introduction

The use of didactic (or traditional) lectures in higher education is an extensively debated practice, despite their relatively ubiquitous status as the at-scale pedagogy *de rigueur* for most institutions (Gibbs, 1981; Nordmann et al., 2021). There is a persistent debate in both institutional and pedagogical contexts as to the primacy of the didactic lecture, supported in equal measure by passionate defences and disruptive rebuttals (see Black, 1993; Richardson, 2008). There have been several waves of technological innovation that have challenged the efficacy and future of the didactic lecture including flipped learning (Zainuddin et al., 2019), personal response systems (Sun, 2014) and the emergence of online polling platforms like Menti (Compton & Allen, 2018). In the face of these changes, the lecture continues to thrive as key component of the modern education experience. Lecturing in large theatres is one of the defining stereotypes of the university journey, reinforced in popular culture, and one where expectation does not always equal the reality of experience (Schei et al., 2018). The patterns of lecture attendance by students, the flexibility facilitated by lecture recording technologies (amplified by the growth of do-it-yourself media capabilities) and transactional models of engagement all bring into question, in both literature and through social media, the operational and pedagogical benefits of didactic lecturing (Nordmann et al., 2022).

Some scholars valorise the traditional lecture model arguing that it provides students with structure and necessary scaffolding of key concepts and skills at scale, and the shared oratorial experience can contribute a sense of identity and belonging (French & Kennedy, 2017; Fulford & Mahon, 2020). The rise of scale as a business model in higher education has further entrenched the lecture as both an economic and logistical necessity (Schlegelmilch, 2020). Scale offers productivity benefits to the institutional bottom line and leverages the finite resource of academic 'facetime'. The imperative to massify class or cohort sizes or expand the scope of programs and units of study has arisen from a confluence of several factors, including the increased reliance of university funding models on international students (Song & McCarthy, 2018), the financial affordances of economies of scale (Mahat & Goedegebuure, 2016), the leveraging of scarce space on campus (Fisher et al., 2021) and the possibilities of technology to magnify and recreate education with little or no decay to large audiences (Ryan et al., 2021). There are also pedagogical benefits created by students being in large cohorts that include leveraging the processing power and collective intelligence that is catalysed by immersing yourself in the noise and chaos of a large group (Allais, 2014) and the epistemic benefits from listening and reflecting in lectures (Abedin et al., 2009).

The detractors of the didactic lecture argue that they are ineffective for learning, do not develop transdisciplinary skills like critical thinking and through low attendance and monological communications leave students cognitively disengaged (Schmidt et al., 2015). Kalantzis et al (2020) argue that 'sitting in classes and listening to lectures is an absurdly sub-optimal cognitive load for today's students who on their personal devices have become habituated to designing their own information feeds then skipping through their messages.' The student has limited opportunities to exercise agency over their learning in didactic lectures, other than through attendance. They cannot influence the structure, pace, absorption, and connections of the information presented to them. The larger the lecture gets, the more difficult it becomes for the teacher to engage and interact directly with students and to support engagement and interaction between students, which Jerez et al (2021) argue is critical to ensure the pedagogical effectiveness of the lecture as a large group teaching activity. The student experience in didactic lectures can become receptive and passive. Interaction is one way, between the teacher as the performer and the students acting as the audience. Intra-audience interaction is thereby shunted to technology-mediated messaging apps and social media, acting as an unedited, unfiltered but efficacious backchannel which frequently offers positive support for learning but rarely involves the teacher (Kjærgaard & Hachmann, 2022).

The need to change the way we lecture

Max Muller in the *New Review* (1890) observed the controversy around lectures noting presciently that '…the system of imparting instruction by means of lectures, has for some time been subjected to an uncompromising criticism', arguing that they were too long and too large. Gibbs (1981) excoriates many of the myths and excuses that he claims define the defence of the lecture arguing that we continue to lecture out of fear and mistrust, asserting that 'we do not trust [students] to work alone or find out for themselves and we feel more secure when they are sitting in front of us doing exactly what we want them to. The security this brings may be much greater than the insecurity which comes with knowing that what we want them to be doing is not necessarily of much benefit to them'. Many writers argue that large-group teaching can be made more effective with the introduction of non-lecturing activities such as peer-to-peer interaction, problem sets and multimedia (Jerez et al., 2021; Kuepper-Tetzel, 2021; Robson et al., 2022). There have been various methodologies enacted to overcome the communicative and architectural limitations of lecture theatres and the didactic lecturing mode and encourage peer-to-peer interactivity, including personal response systems (Gauci et al., 2009), collaborative lecture theatre design (Swinnerton, 2021) and flipped learning pedagogies (Seery, 2015). Whilst each methodology has their advocates, none of the approaches have challenged the continued primacy of the one-to-many monologic of didactic lectures. Through the proliferation of digital learning tools, interaction has been shunted out of the lecture theatre and into polling platforms, asynchronous discussion forums on learning management systems and deferred commentary on lecture recordings (Ludvigsen et al., 2015).

The purposeful design of models of effective interactivity at scale to replace the didactic lecture poses epistemic, pedagogical, and technological challenges for educational developers, learning designers and academics. Interactivity must transcend the abstraction of some of the previous models of lecture mode transformation (such as flipped learning), which effectively replaced the lecture with another passive form of sociality. The passive reception of knowledge compromises the ability of students to actively solve problems, to reflect and apply learning in situ, to be immersed in a context or scenario or create experiences that feel like the reality in a *yet to be experienced* future. These higher-order transdisciplinary skills require active learning, the leveraging of resonant intra-cohort connections and the exposing of disciplinary and creative tensions between theoretical, practical, and personal positions. Designing for interactivity at scale must engage with the different spaces that teaching and learning inhabit to deliver an effective and sustainable inclusive pedagogical experience that achieves learning outcomes, builds a true and lasting sense of connection and collaboration within a cohort, whilst not compromising the embedded institutional benefit of offering at-scale learning. The lived experiences and the remembered perceptions of chaos and the calm that interactivity at scale can generate as a learning experience remain powerful antecedents to any redesign of the lecture to become more interactive.

Social space as a design principle for interactivity at scale

Henri Lefebvre in his seminal 1974 work 'The Production of Space' argues that spaces appropriated for and enabling social relations (social spaces) are complex constructs that defy analysis. He notes that 'from the point

of view of knowing (connaissance), social space works…as a tool for the analysis of society. To accept this much is at once to eliminate the simplistic model of a one-to-one or 'punctual' correspondence between social actions and social locations, between spatial functions and spatial forms' (Lefebvre, 1991, p. 34). In Lefebrve's conceptualisation, the triad of social space (*conceived space*, as articulated by designers, *perceived space* as it exists in practice or in the day-to-day mundanity of use, and *lived space*, as space is experienced by those within it) fractures the structural limitations of power-informed 'correspondence' between a student and the teacher and exposes the cohort to the possibility of analysis of complexity, rather than the sharing of the functions of it, however abstract that might be. Didactic lectures and the spaces they are delivered in do not generally inhabit Lefebvre's notion of social spaces as they offer limited purposefully designed opportunities for sociality and collaboration. For the student they become dominated spaces that are 'transformed – and mediated – by technology, by practice" which is "usually closed, sterilized, emptied out' and experienced passively by the receiver (Lefebvre, 1991, pp. 164-165).

Audio-visual technology and architecturally designed lecture spaces privilege monological practices that elevate the academic as dominant in the space, further entrenching the dynamic of didacticism. The symbols and images associated with lecture spaces, such as the tiered seating, the large teaching desk, and the control of the technology to amplify sound and share vision determine how the experiences are lived, rather than supporting students to appropriate their space for their own learning experience. As opposed to being social spaces despite their intrinsic relationship to communication, didactic lectures are more closely aligned to the affordances of consumption space and the role of the 'consumer' within them. In urban studies, consumption spaces are retail areas, recreational facilities and other places purposefully designed for the consumer to enable consumption (in a consumerist sense) (Song, 2023). Most lecture theatres are designed to create a lived consumption experience for the majority of users as a in the same way a restaurant or music venue is designed to facilitate consumption over production and sociality (Gottdiener, 2000).

Social spaces designed or appropriated for the purposes of large-group teaching support a production of knowledge that transcends the singular interactions of an audience member interpreting and receiving the intentions of the lecturer. The creation of social spaces that trigger and facilitate interactivity at scale offer opportunities for knowledge production arising from the quantum and breadth of the interacting crowd, facilitated effectively in and through technology mediated platforms and spaces. Interactivity triggers deeper learning, more active engagement with lived and living experiences and more challenging, curious, and creative learners. The design of a social space to enable interactivity at scale is not independent of the architecture, or the technology or the relationships teachers and students have with the space but can transcend the affordances and limitations of the physical and representational structures. It is the interactivity itself that imprints onto the space. It challenges the expectations of embodied behaviour that defines the didactic lecture and its spaces.

Hyperreality and interactivity at scale

The University of Sydney Business School (USBS) has 15,000 students, primarily in pre-experience undergraduate and postgraduate commerce programs. It is part of the larger research-intensive institution University of Sydney (Australia). In 2020, the School designed a program of leadership education called *Leading in a Post-Crisis World* (LPC). The LPC program had the ambition to support student's capabilities to acquire and then apply transdisciplinary knowledge to understand the liminality of crisis and to both navigate and lead others through the rites of passage it triggers. LPC was built engaged students with different perspectives and transdisciplinary capabilities critical to being a leader through and past crisis. The program was designed with a deliberate sense of exposing students to connected experiences, drawing on the principles of social spaces to encourage students to explore, discover, play, take risks, feel a little unsafe and uncertain and through those experiences, enable the opportunity to develop their identity as a leader for good.

Replacing the primacy of the didactic lecture, content was reimagined as chunked asynchronous multimedia delivered through the digital stories of over 100 academics, leaders, community members and students. Using the flexibility of HTML5, students were able to create their own journey through the content, finding associations and representations of leadership that resonated or challenged them, and that were invariably different to any other student in the cohort. The personal lived and living experiences of students were brought together in four purposefully designed large group interactive sessions that were structured to enhance the smaller-group

workshops in the unit and initiate the transitional experiences critical to developing the leadership skills of students. The design moved past the mediated structuralism of flipped interaction and enabled learning through the integration of epistemic and connected experiences within a constructed and accessible social space. These sessions were run in standard lecture theatres but with an ambition by the designers and academics to break the dominator/dominated nexus. This was achieved by the design of immersive experiences informed by a sense of hyperreality.

Baudrillard (2001) positions hyperreality in a simulacrum of simulation and imitation that finds fulfilment, happiness, or joy (and I would add learning) in simulated rather than a real reality. The simulation in a hyperreality is grounded in the authenticity of the experiences of reality. Didactic lectures are abstracted from reality in part because of the consumerist stance that enable, either explicitly or tacitly a transactional mindset to higher education (Wong & Chiu, 2019). I am using the concept of hyperreality here in its Baudrillardian, postmodernist sense, where technology can be used to blur the boundaries between abstraction and reality, between disciplinary knowledges and between the teacher and the student, in what Baudrillard refers to as implosion. LPC used implosion and hyperreality to undermine the safety of knowledge acquisition and engage students with connected learning opportunities that simulated the pressures, fears, and possibilities of a leader in crisis. The hyperreality took the form of an immersive theatre performance, where live actors had their narrative directly controlled by the cohort using polling tools and collective discussions in the room that built to a scenario on ethical and responsible decision making. A second session was led by an AI bot personified as a human character on the screen who posed the questions to a panel and then the students. Once revealed to be artificial, the bot asked students to discuss what it would be like to find out that your line manager was in fact not human (Peterson et al., 2022). A third session was led by an indigenous community leader who, in the traditions of his people, told the story of a crisis he was involved in part to ensure the life of that story and then to engage students in an active debate as they took on the personification of roles within that crisis, with the elder offering a sense of both simulated and real realities, reacting to their discussions in real time through the lens of his lived experiences.

In all of these large group sessions, the space was transformed into a canvas where interactivity defined how students and staff represented their learning. For brief moments, people in the room forgot they were in a university lecture theatre and through the immersion in these constructed forms of hyperreality, were applying their knowledge in a board room of a land rights group or were faced with the real possibility of being led by an AI bot, or in a fourth session, were directly confronted with the issue student homelessness and how their ideas and input could help solve the problem. These moments of implosion were not sustained across the entire duration of the class as the realities of grades and the connection of learning content to student achievement is a kinetic force against hyperreality. They did, however, succeed in creating an immersive hyperreality that allowed students the opportunity to apply their skills, knowledge and lived experiences to a simulation of the *yet to be experienced* future.

Conclusion

The evaluation of the learning gain effectiveness of creating and leveraging social spaces through interactivity at scale at USBS is ongoing as the project is still in its infancy. Further research is critical to ascertain whether some of the impediments to learning that didactic lectures have been accused of (low attendance, distraction, consumerism, and replacement with recordings) are ameliorated by the purposeful design and deployment of immersive interactivity at scale. The current set of projects whilst located within the transdisciplinary context of leadership has only been deployed in business education programs.

The displacement of monological interaction with dialogical using a modification of Baudrillard's hyperreality has provided a medium for mediated, technology-enabled interactivity by creating an immersive environment that simulates reality and enables students to learn and apply skills and knowledge to a reality that is not real but replicates the constructs, emotions, and pressures of a *yet to be experienced* crisis. The role of technology in the design and delivery of a hyperreality informed social space cannot be underestimated but requires of designers and academics to acquire and apply highly developed senses of creativity, communication, empathy with students and the imagination to develop highly engaging narrative storytelling approaches and technology to trigger longer periods of immersion that satiate the learned desire to mirror content to achieve outcomes.

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