SCHOLARSHIP OF TECHNOLOGY ENHANCED LEARNING

Connecting enaction and indigenous epistemologies in technology-enhanced learning

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Abstract

Within educational scholarship, and in particular technology-enhanced learning research, the 'enactivist' conception of cognition has been steadily gaining in prominence over the past few decades (Begg, 2002; Leonard, 2020). Enactivism can be defined as a philosophical proposition contending that cognition emerges by way of active interplay between an organism and its context. Enactive theory sees that organisms create experiences and understandings through their actions and are not passive receivers of input from an environment. They are 'actors,' such that what they experience is shaped by how they act (Varela et al., 1991). Enactivist understandings of learning see education as emergent processes in which 'knowing' for an organism stems from, and is embedded in, complex systems of relations between individuals and how they influence and are influenced by cultural contexts. These in turn are also influenced by, and influence environmental circumstances (Begg, 2002). Concerning educational technology (edtech), enactivist approaches have gained attention due to this cognitive position being based upon circular forms of influence, in which tools used, environments, social interactions and more, all contribute to cognition occurring (Videla et al., 2021). Additionally, indigenous epistemologies and worldviews are also being looked to by many within edtech research, to define and conceptualise learning technology in more ecological, embodied, and co-relational ways (Hradsky, 2023; Meighan, 2022; Reedy, 2019). Indigenous worldviews offer more interconnected, ecological, and systems-oriented ways of viewing education and edtech, connecting to circular enactivist positions. Indigenous worldviews and enactivism relate in that both are interconnected and holistic viewpoints, which see less separation between individuals, other beings, environments, and 'the world.' This is important, as in a world full of 'wicked' socio-ecological problems, bridges need to be built between ecological and relational indigenous viewpoints, and traditional western science and philosophy (reductionist and rationalistic) (Aguayo & Smith-Harvey, 2021).

In this presentation, we posit that there are potential unexplored links between enactivist educational approaches which utilise technology (such as XR interventions. See: Aguayo et al., 2020; Smith, 2018; Videla et al., 2021), and indigenous approaches and philosophies of technology enhanced learning (Smith-Harvey & Aguayo, 2022). Such contemporary projects which contribute to this conversation include O-Tu-Kapua (Jowsey & Aguayo, 2017), Kō Rimurimu (Smith, 2018) and Pipi's World (Aguayo et al., 2021; Eames & Aguayo, 2019). In particular, Kō Rimurimu (2018) fostered an educational 'ecosystem' in which students could engage and interact with the learning using a variety of different technologies, approaches, and through stimulation of different senses. Embodied and holistic methods were utilised to stimulate learning in not purely rationalistic/cognitive ways. These approaches tied both enactive and indigenous perspectives of knowing and building knowledge experientially and sensorially. Here we present some initial research and conceptual propositions around potential links between these theoretical areas and highlight some proposed methodological approaches to investigating and detailing these connections. Such links between enactivism and indigenous worldviews we have identified include circularity regarding learners to their tools/devices and environment, embodied views of cognition and learning, holistic and interconnected paradigms, and a shift away from Cartesian conceptualisations of separation between mind and body.

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