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People, Partnerships and Pedagogies

## Investigating learning designers' perceptions of student cognitive engagement in online learning

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Online learning has rapidly grown internationally in Higher Education due to advanced digital technologies and the COVID-19 pandemic. In addition, it offers flexibility and convenience for students. According to Meyer (2014), student engagement has a positive relationship with student satisfaction, persistence and academic performance, particularly in online learning environments. This pilot study aims to investigate how learning designers perceive students' cognitive engagement in online learning to inform the design and creation of online tasks and activities that foster these behaviours. Eight learning designers from two Australian universities participated in semi-structured interviews. They were asked three sets of questions in relation to students' cognitive engagement during three types of interactions (Moore, 1989) – learner-to-teacher, learner-to-learner and learner-to-content interactions in online learning. Research indicates that these interactions foster student engagement in online learning environments (Bolliger & Martin, 2018; Kennedy, 2020; Martin & Bolliger, 2018). Thematic analysis (Braun & Clarke, 2012) was used to analyse the semi-structured interview transcripts. The data revealed three principal themes: (1) learning design considerations at the unit design and activity levels, (2) student learning footprints in an LMS and their artefacts, and (3) teachers' and students' preparedness prior to and during the units and virtual classes. First, eight design considerations were suggested by learning designers to create effective and engaging online learning environments. These design considerations were broad-ranging and encompassed the type of pedagogical strategies, the learning environment, content structure and concept checks to improve cognitive engagement. Furthermore, most of them tended to believe that interactive and collaborative activities could foster cognitive engagement in online learning. Second, the students' learning footprint and their artefacts relate to their qualitative or quantitative contribution during the learning process. In this study, the student learning footprint includes the relevance of responses and individual student's analytics in LMS (e.g., the number of clicks in LMS, the time spent watching videos, etc). It was not decisive which, if any of these, would provide better engagement, but both were suggested by learning designers as indicative of cognitive engagement. Finally, an unexpected descriptor for cognitive engagement, but a reasonably common suggestion from learning designers was that the preparedness of students and teachers was a factor that could impact the cognitive engagement of students. This included whether students had sufficient underpinning knowledge, prior experience of the subject or so much prior knowledge that they disengaged from "too simple" content and concepts. The preparedness of teachers extended to the clarity of instruction, whether they knew the intention of what they were teaching, and whether students were aware of where this was taking them. In future studies, we intend to explore how university teachers and students perceive cognitive engagement while preparing and during online teaching and learning and the correlations between the perceptions of learning designers, teachers and students. We hope the final findings can shape the teaching and learning process in Australian universities to provide an effective and engaging learning experience for students.

Keywords: Learning designer perception, Cognitive engagement, online learning

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