

## Fidelity in Teaching in Enhancing Student Learning

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As teachers, we have long recognised that one key way to enthuse and engage students in learning is by helping them see the connection between what is learned in class and how the knowledge can be applied beyond the confines of the class. We have also acknowledged that for learning to occur, context is important for relevance and authenticity; and tasks that are realistically demanding can challenge students cognitively so that they move toward a higher level of maturity in thinking. Teachers have trialed, implemented, revisited, and studied designs and approaches to ensure student learning. Shulman (2000) terms this continuous pursuit as *fidelity*, or a strong commitment to our role as "teacher, mentor, steward, and public servant" (p. 95). He further unpacks *fidelity* as integrity to (a) the domain or discipline; (b) student learning; (c) the respective communities; and (d) educators' own identities.

Responding to the unprecedented COVID-19 pandemic that started in 2019 and is still continuing to plague the entire world, there is an increase adoption and adaptation of information technology (IT) by teachers in higher education in order to facilitate student learning. In doing so to mitigate disruptions and to facilitate student learning, teachers are, in fact, reinforcing Shulman's concept of *fidelity*.

Each case presented in the two articles and four reflections in this issue exemplifies Shulman's definition. Specifically, they attest most strongly to the authors' faithfulness to ensure and strengthen student learning with skilful deployment of technology in education, fortified by their compassion and conviction for effectiveness.

The two articles in this issue discuss motivational approaches and tools in moving student learning from surface (unreflective) to deep level. Lim et al. piloted AdventureLEARN, a gamification platform, to investigate the extent to which the gamification intervention had an impact on three types of learning approaches: unreflective, organised, and deep. Based on a large respondent size of 700 Year One students from two cohorts, one major finding is that there was a statistically significant decrease in the respondents' unreflective learning. However, there was no increase in their organised and deep learning approaches. Lim et al. attributed this to Year One students' stress in managing the transition and hence did not report an increased application of organised and deep learning approaches.

From a large scale study, we turn to a small action-research involving 19 music students reading an English for Academic Purposes (EAP) module. **Tan and Fong** wanted to find out the effectiveness of three teaching strategies in motivating students to learn. Introducing goal setting, reflective writing, and vocabulary presentation as interventions, they analysed students' reflections and presentations. In addition, a self-perception survey questionnaire was administered to the participants. They found that these three teaching strategies did have a positive effect on the participants' motivation and learning.

The four reflective pieces in this issue follow the line of thought on *fidelity* in enhancing student learning, with the aid of relevant technologies aptly adopted and carefully monitored for evidence to ascertain results. **Christabelle and Mrinal** reflected on 88 biomedical engineering students' feedback on the use of augmented reality (AR) and virtual reality (VR) tools in delivering content which used to be conveyed via conventional lectures. In a separate reflection, **Chan** made use of chroma key compositing with a green screen to project the lecturer's non-verbal behaviours more clearly in livestream lectures. Similar to Christabelle and Mrinal, Chan collected feedback from his students using a questionnaire consisting of items with Likert scale and open-ended questions. Analysis of quantitative and qualitative feedback from these separate groups of students show increased student engagement and motivation.

Wrapping up this issue are two reflective pieces by **Chew et al.** and **Han et al**. Instead of employing technological tools only, their reflections are about a fundamental shift in curriculum design. Chew et al. interrogated the possibility of integrating computational thinking into pre-university biology and offer concrete examples for implementation on an online platform. Han et al., on the other hand, reflected on the implementation of synchronous online team-based learning for pharmacy students. Based on their experience and drawing on literature in grounding their approach, they shared insights and concrete ways for optimal implementation.

We started this Editorial connecting Shulman's rhetoric of *fidelity*. It seems befitting that we conclude by sharing a quote from Shulman. He posits that teaching is "perhaps the most complex, most challenging, and most demanding, subtle, nuanced, and frightening activity that our species has ever invented" (Shulman, 2004, p. 504). We contend that perhaps because of this, as teachers, we are compassionate in making use of appropriate tools, technological and/or otherwise to help our students learn more effectively. Furthermore, we are also enthusiastically engaged and faithful in our continuous pursuit in the scholarship of teaching and learning.

## REFERENCES

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