

Editorial Note: Understanding and Bridging Gap in Multi-mode Digital Learning during Post-Pandemic Recovery

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ABSTRACT: COVID-19 pandemic had changed the world-wide education landscape as the whole society is adapting to the “new normal.” We organised a special issue collecting research papers that shed insights on how teaching and learning designs will be affected, and how novel educational technologies will help in a fast post-pandemic recovery. 26 papers were received but only 11 papers were finally selected to publish, after two rounds of rigorous reviews. This editorial note discusses the background, quality management and thematic topic groups of the papers.

Keywords: Multi-mode learning, Post-pandemic, Pedagogical, Learning behavior

1. Introduction

At the doorstep of the third decade in the 21st century, fast-growing computing technologies boost the adoption of diverse devices and applications in the educational area, which dazzle instructors and learners. The outbreak of COVID-19 since the beginning of 2020 made all learning activities online in many countries and territories, which adopted social distancing approaches to contain spread of virus. Unfortunately, many teachers and students have felt overwhelmed by such a drastic change in learning behaviour, though digital learning had been around for decades, including big efforts put in MOOC movements in different sectors. Quick adoption of digital means of learning and teaching might quickly fade out when the lifestyle get back to normal. It is thought-provoking to know if the unexpected pandemic brings the yet-to-come education evolution earlier.

Although being still demanding, the post-pandemic recovery is on the agenda. How the educational sector can stand with the contingency and bounce back stronger with insights gained during the pandemic pose interest. It pictures how the post-pandemic human development and learning looks like, allowing it to potentially shift from just content dissemination to augmenting relationships with teachers, personalization, and independence.

Evaluating the effectiveness and knowing in which environments the advanced technologies work better, and improving learning activities from both the students’ and instructors’ perspective are critical for the next generation delivery of the learning content. Given their comparative novelty, to what extent instructors and learners can accept and get accommodated to them sustain the ongoing update and development of new technologies. There are huge challenges ahead for understanding and bridging the gap in implementation of multi-mode digital learning over the coming decade.

2. Paper solicitation and review

From a timely standpoint, we had invited submissions reporting research studies on the development and application of advanced learning technologies on multi-mode learning, and understand their insights for education in post-pandemic recovery from the pedagogical and practical perspective. Accepted papers are anticipated to provide comprehensive results collected from empirical data and the corresponding analysis to consolidate research validity.

We fortunately received 26 submissions from many different countries and territories including Australia, China (incl. Hong Kong), India, Indonesia, Italy, Korea, Malaysia, Pakistan, Spain, Taiwan, Thailand, Turkey, United Kingdom and United State. We are pleased to noticed some highly cited researchers and top research universities in digital learning fields also contributed their latest work to be considered in this special issue.

After initial check, we desk rejected 2 papers due to scope discrepancies. Then we sent the remainder 24 papers for reviews. We are grateful to have nearly 60 internationally acclaimed academics from more than 20 countries helping us out in this process. Every paper was reviewed by 3-4 reviewers. Most paper were rigorously checked

by reviewers in two rounds of reviews to ensure the best papers were accepted and the published articles in this special issue to represent the highest quality suitable for this prestigious journal. Therein, we only selected 11 papers for final production, which we would briefly introduce next.

3. Accepted articles and topics

In this special issue, the articles cover different groups of topics.

3.1. Multi-mode course design during COVID-19 pandemic

Firstly, Pérez-Marín et al. (2022) are interested in applying VARK model in multi-mode of teaching HCI. Then, McLaughlan's (2022) article focuses on teacher training programs which are evaluated through contribution analysis. Huang et al. (2022) has implemented a video-facilitated transdisciplinary STEM curriculum during the pandemic. With a slightly different angle from other papers in this collection, Rof et al. (2022) reflects deeply on how the learning value proposition of higher education institutions has been affected by the COVID-19 accelerated digital transformation.

3.2. Observational studies on teaching and learning behaviour

The paper co-authored by cross institutional team Hong et al. (2022) investigates the ineffectiveness of online learning related to cognitive and affective factors by paying attention to students' mind states during COVID-19 lockdown. Lin et al. (2022b) reports their comparative study on students' performance and attention to Khan-style video lecture (VL) and online practice (OP) group. Next, Sun et al. (2022) presents their empirical observation how primary school students respond to robots used in life sciences teaching. Guo et al. (2022) studies the effectiveness of 3D design in developing students' spatial ability.

3.3. Novel technology mediated teaching and learning for faster pandemic recovery

Yong et al. (2022) proposes to apply AI technologies in improving art courses' teaching, by highlighting the challenges with regard to online sharing of learning resources. On the other hand, Lin et al. (2022a) further applies natural language learning technologies in recommending micro learning materials. Zhai et al. (2022) observes effects of multi-mode stimuli on students' metacognition through novel eye tracking techniques.

4. Summary

Same as all sectors in the society during the pandemic, the whole process in organising this special issue took longer time and more coordinated efforts from the guest editorial team in order to collect high quality reviews. We are indebted to all reviewers' unselfishness and all authors' patience. Everybody has dedicated a lot of time and efforts to putting together this special issue.

Finally, we hope this collection of articles will contribute to the literature for the related research communities.

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