Sharing Experiences of Teaching and Learning During COVID-19: Building Responsive and Resilient Curriculum for the Next Normal

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Short Description—**The COVID-19 pandemic has affected educational institutions worldwide. The closure of schools and universities has led to a sudden shift of teaching away from the classroom to online learning. However, with little preparation, both teachers and students struggle with remote teaching and learning. Responding to the situation, IEEE units (including Councils/Sections as well as Education Society and local chapters) and different stakeholders in universities have quickly developed supporting programmes within a short period of time. After months of experimentation, it is beneficial to share experience gained and showcase resources developed, such that we can build responsive and resilient curriculum for the next normal. The session will be started by several invited lighting talk presentations, followed by a panel discussion and networking sessions. The major intended participants would be officers and members of Education Society local chapters. Teachers and other stakeholders are also welcome to participate.**

Keywords—***responsive teaching, remote teaching, COVID-19, professional development***

I. INTRODUCTION

The COVID-19 pandemic has affected schools and educational institutions worldwide [1-5]. The closure of universities has led to a sudden shift of teaching away from the classroom to online learning. For example, in IEEE Region 10 (i.e. Asia-Pacific region), teaching had to transit to online mode suddenly since early February 2020. Moreover, face-to-face high-stake assessments (e.g., examinations) and hands-on workshops or laboratory sessions had to be cancelled as the pandemic just kept growing. However, with little preparation and training, and the challenge of insufficient bandwidth at home and on campus, both teachers and students struggle with online learning and assessments. It was a challenge for teachers to redesign teaching and assessment activities within a short period of time. Teachers who i) are with less IT proficiency, and ii) teach courses with rigid curricula and intensive group activities, are at a disadvantage. Furthermore, both teachers and students also struggled to fully immerse themselves in the online due to technical limitations. Therefore, it is not easy for engaging (a)synchronous online sessions.

Responding to the situation, different IEEE units, including Councils/Sections, IEEE Education Society and local chapters [6], as well as other stakeholders [7,8] have quickly developed supporting programmes for teachers and students within a short period of time. For example, IEEE Education Society and IEEE Educational Activities Board has organized an online conference on effective remote instruction, which can be watched on demand via https://ieee-edusociety.org/educational-activities/webinars. IEEE Education Society Hong Kong Chapter worked closely with e-learning support teams in local universities for quickly developing high-reach and high-impact supporting programmes. Programmes help teachers to overcome challenges in conducting their remote/dual-mode teaching and remote examinations. Teaching development resources have been developed, and the outcome was promising [6].

We believe remote instruction is an inevitable trend for education and all sectors. There is because of the great demand for remote learning, life-long learning and self-directed learning even after COVID-19. Meanwhile, as there may be other unexpected disruptions in the future, teachers and stakeholders in schools and universities should create a responsive, resilient, and sustainable curriculum and learning environment. After months of experimentation, it is beneficial to share experience gained and showcase resources developed. Meanwhile, to cultivate enough talents for educational development for the new/next normal, there is an emergence of resources of training for remote instruction as well as showcases of teaching and educational development during COVID-19. Therefore, it is worthwhile to share experience and resources as well as exchange ideas with local Sections, local education society chapters and stakeholders in the education sector.

II. AIMS AND OBJECTIVES

The theme of this session is about the design and adoption of relevant technologies and pedagogies for remote instruction and other new modes of teaching. This session aims to serve as a venue for researchers and practitioners to start a discussion, find collaborators, or receive input and critique about an idea. The major intended participants would be officers and members of Education Society local chapters. IEEE members, teachers and other stakeholders are also welcome to participate. We hope we can provide an open environment for collaboration in the future.

Some of the probing questions are as follows:

- What support had been developed? How the support had made a significant impact on practices within the community?

- Who are the drivers of these developments? What are the support needed in different levels to enable these initiatives?

- What are the consequences of moving to remote instruction? Is the development sustainable?

- What are the encountered difficulties of supporting remote instruction?

- How can IEEE Sections, local education chapters and units in Asia-Pacific regions can collaborate to develop responsive and resilient curriculum for the new/next normal?

III. KEY SESSION ACTIVITIES

The session will last for 90 minutes. The session will start with several seven-minute lightning talk presentations from invited panelist. Panelists, who are stakeholders of universities in the Asia-Pacific region, will then be served on a panel to engage audiences in questions and discussion. Afterwards, there will be ad-hoc networking sessions.

Background of panelists are as follows:

- **Mr. Miguel GOMES DA COSTA Junior**: He is a Senior Instructor of the University of Macau, Macau. He is intensively involved in integrating technology with teaching and learning in the university.

- **Miss Abarnah Kirupananda**: She is a Senior Lecturer of Informatics Institute of Technology, Sri Lanka. She does not limit her teaching activities within the campus, but also actively participates in public IT trainings.

- **Dr. Leon Lei**: He is an eLearning Technologist in the University of Hong Kong, Hong Kong. He supports autonomous design and development of e-learning solutions in the university. He is also the current chair of IEEE Education Society Hong Kong Chapter.

- **Miss Michal Teague**: She is an Associate Lecturer of the RMIT University Vietnam, Vietnam. She would like to connect Higher Education Research and Development Society of Australasia (HERDSA) network with communities in Vietnam for advancing teaching and learning.

- **Prof. Tsuyoshi Usagawa**: He is the Vice President (Chief Information Officer) of the Kumamoto University, Japan. He leads the ICT utilization and digitization of teaching and learning activities of the university.

- **Sir Jason De Villa**: He is the Director for ICT of University of Asia and the Pacific, Philippines. He has been instrumental in setting up the e-learning capacity of all the faculty members in the university.

IV. INTENDED PARTICIPANTS

Dr. Chi-Un Lei, Leon is an E-learning Technologist at Technology-Enriched Learning Initiative, The University of Hong Kong (HKU). He has been actively participating in various e-learning development projects in HKU. His teaching development interests include learning analytics, open licensing and education, MOOC, and chatbot tutor. He received several best paper awards in conferences, including IEEE International Conference on Teaching, Assessment, and Learning for Engineering (2014 & 2017). Five of his teaching development projects have been shortlisted in QS Reimagine Education Award competitions (2017 - 2020). He also received HKU Teaching Innovation Award 2020 and HKU Professional Service Award 2018. He is a HEA/Advance HE Senior Fellow and an IEEE Senior Member. He is also the current IEEE Hong Kong Section Education Chapter.

Mr. Donn Emmanuel Gonda is an Instructional Designer at the Centre for the Enhancement of Teaching and Learning (CETL), HKU. He is an expert in Chatbot development and learning analytics, and his specialties cover both instructional design and educational technology. He has led several e-learning projects including MOOC, SPOC, blended learning and flipped classroom. His research interest is in technology-enhanced learning, learning analytics and gamification.

REFERENCES

[1] "Education: From disruption to recovery," *UNESCO*, 15-Jun-2020. [Online]. Available: https://en.unesco.org/covid19/educationresponse. [Accessed: 18-Jun-2020].

[2] Hodges, C., Moore, S., Lockee, B., Trust, T., & Bond, A. (2020). The Difference between Emergency Remote Teaching and Online Learning. *Educause Review*, *27*.

[3] Crawford, J., Butler-Henderson, K., Rudolph, J., & Glowatz, M. (2020). COVID-19: 20 Countries' Higher Education Intra-Period Digital Pedagogy Responses. *Journal of Applied Teaching and Learning (JALT)*, *3*(1).

[4] CRAWFORD, Joseph, et al. COVID-19: 20 countries' higher education intra-period digital pedagogy responses. *Journal of Applied Learning & Teaching*, 2020, 3.1: 1-20.

[5] Bao, W. (2020). COVID-19 and online teaching in higher education: A case study of Peking University. *Human Behavior and Emerging Technologies*, *2*(2), 113-115.

[6] C. Lei *et al*., "Responsive Remote Teaching Capacity Building in Hong Kong During COVID-19," *2020 IEEE 9th International Conference on Teaching, Assessment, and Learning for Engineering (TALE)*, Japan, 2020, accepted.

[7] Cohn, J. and Seltzer, B., 2020. *Teaching Effectively During Times Of Disruption*. [online] Google Docs. Available at: <http://bit.ly/stanfordteachingdisruption> [Accessed 19 June 2020].

[8] Huntemann, N., 2020. *Resources For Remote Teaching*. [online] Docs.google.com. Available at: <https://bit.ly/2Y92JfU> [Accessed 19 June 2020].