

Redesigning Educational Innovation in the Post-COVID- 19 Era

Klinge Villalba-Condori¹[0000-0002-8621-7942], Jari Lavonen²[0000-0003-2781-7953], Lung-Hsiang Wong³[0000-0002-0402-9199] and Aman Yadav⁴ [0000-0003-4247-2033]

¹ Universidad Continental, Arequipa, Perú
kvillalba@continental.edu.pe

² University of Helsinki, Finland
jari.lavonen@helsinki.fi

³ National Institute University
lunghsiang.wong@nie.edu.sg

⁴ Michigan State University, USA
ayadav@msu.edu

Abstract. The context of the COVID 19 pandemic has accelerated the processes of innovation in education, radically modifying the pedagogical practice of teachers and the learning processes of students, in addition to the precariousness of the equipment that in many cases has been shown to hinder the normal development of the educational process. In this edition of CITIE, the variety of educational contexts explains the importance of contextualization in educational innovation processes.

Keywords: Educational innovation, Digital education in times of pandemic, pedagogical practice, educational processes.

1 Prologue

This edition of the 3rd International Congress on Trends In Educational Innovation CITIE 2020, is focused on Digital Education after COVID-19.

COVID-19 has influenced the education sector all over the world and affecting learning of nearly 1.6 billion children and young people in almost 200 countries. Closing of the schools, to prevent the spread of COVID-19, have impacted at least 94% of the world's children and young people population [1]. However, the pandemic has engaged educators, researchers, and administrators in the generation of educational innovations related to the use of digital tools and appropriate pedagogy. Innovations have been designed [2], for example, to expand radio and television-based educational programs and, especially, distance teaching and learning with digital tools. These innovations have helped teachers in the instructional design and boosting digital tools and learning platforms to support learners' learning performance and considering the cognitive load and supporting the development of well-being of learners.

We can cite the large number of studies that were published in 2020, [3] which evaluate the digital transformation during the COVID-19 pandemic and recognized the growth of the use of a variety of digital devices. They described, for example, how two

fifth grade teachers started to work as a team, while using Google Classroom, and shared the workload by sifting online class responsibilities. During the distance teaching period, the school days consisted of 2–4 live lessons a day via Google Meet (half of the lessons held by one, half by the other teacher), after an approximately 20 minutes, live teaching sessions learners had 40–50 minute time for individual work after which the class gathered again to live session to Google Meet. All the tasks of the day were sent for the learners in the previous evening. At the end of the school day the teachers checked children's' daily tasks in Google Classroom and started to plan together the lessons of the next day. This type of team-teaching was recognized as engaging for learners. However, the learners and teachers were familiar with the Google Classroom and teachers and learners had appropriate digital skills and equipment. The school was borrowing the equipment for learners who did not had them at home. In a very different example, [4] analyzed the use of digital tools during the pandemic in the African context. He recognized based on search for examples, that schools have been creative in adopting a variety of technology-based strategies and providing lessons and sharing learning materials and worksheets through videoconferencing and online learning platforms. In some countries, radio programs, and national television were used to broadcast school lessons and educational materials.

According to previous examples, the technology has been successfully used for instruction, delivering learning materials and in returning assignments. However, developed approaches have not supported well schools and teachers to carry out their important role in the socialization of learners and in the provision of services, such as, school meals. Moreover, learners have lacked peer-support and informal collaboration sessions.

In addition to the innovations, the digi-competence of teachers and learners have improved during the COVID-19 era. Moreover, it has not been only a question about digi-competence of teachers and learners but also the nature of competences learned using digital tools. The education policy documents and curricula emphasize the learning of competences needed in rapidly changing societies and working life through the use of digital tools. These competences have been called as twenty first century skills/competences or generic/transversal/future competences and described as the broad range of competencies necessary to participate fully in modern societies and support the employability of the citizens. It is clear the versatile use of digital tools is one of those competences. One of the latest descriptions of these competences is done in the Organization for Economic Cooperation and Development (OECD) Learning Compass 2030 [5], which defines the knowledge, skills, attitudes and values that learners need to fulfil their potential and contribute to the well-being of their communities and the whole planet. In order to learn these future competences teachers and researchers have designed innovative pedagogies, which encourage collaboration, co-creation, and personalized learning with the help of digital tools.

There are quite many studies on teachers and learners' digital competence during the COVID-19 time. For example, [6] surveyed early career teachers experiences during the COVID-19 pandemic and how they adapted online teaching. According to the survey, almost all teachers reported having maintained communication with students and

their parents. Most teachers reported having introduced new learning content in addition to assigning tasks and providing feedback to their students. However, teachers met challenges in online teaching and assessment. Teachers' reported that they were able to provide task differentiation and feedback to students.

The policymakers, educators, researchers and families are interested to become familiar with the designed digital innovations and pedagogy related to the use of these innovations during the COVID-19 time and learn how these innovations have been used in various countries. Moreover, they are interested to learn about learners' learning of future competences, engagement and well-being during the COVID-19 period. Especially, policymakers and researchers are interested to know how the COVID-19 has accelerated the use of digital tools in education and in the development of teachers' pedagogical practices. Consequently, conferences, like the CITIE 2020, are needed for sharing the experiences and research outcomes related to the new pedagogy and the use of digital tools in education. The CITIE 2020 presented conferences and papers, a selection of which appear in this volume, which introduce innovations related to the use of digital tools in education and innovative pedagogies developed and researched during the COVID-19 pandemic.

Finally, we must underscore the importance of innovation in education considering the context of interventions, including the sociocultural issues, citing the old adage that the only permanent thing is change, for which we must prepare and constantly adapt in education [7].

References

- [1] UNESCO (2020). Policy Brief: Education during COVID-19 and beyond. New-York: United Nations. https://www.un.org/development/desa/dspd/wp-content/uploads/sites/22/2020/08/sg_policy_brief_covid-19_and_education_august_2020.pdf
- [2] Villalba-Condori, K. O., García-Peñalvo, F. J., Lavonen, J., & Zapata-Ros, M. (2019). What Kinds of Innovations Do We Need in Education? In K. O. Villalba-Condori, F. J. García-Peñalvo, J. Lavonen, & M. Zapata-Ros (Eds.), *Proceedings of the II Congreso Internacional de Tendencias e Innovación Educativa – CITIE 2018* (Arequipa, Perú, November 26-30, 2018) (pp. 9-15). Aachen, Germany: CEUR-WS.org.
- [3] Livari, N., Sharma, S. & Ventä-Olkkonen, L. (2020). Digital transformation of everyday life – How COVID-19 pandemic transformed the basic education of the young generation and why information management research should care? *International Journal of Information Management*, 55. <https://doi.org/10.1016/j.ijinfomgt.2020.102183>.
- [4] Gyimah, N. (2020). Assessing Technological Innovation on Education in the World of Coronavirus (COVID-19) SSRN: <https://ssrn.com/abstract=3670389> or <http://dx.doi.org/10.2139/ssrn.3670389>
- [5] Schleicher, A. (2019). *The OECD Learning Compass2030*, Directorate for Education and Skills. Paris: OECD. <http://www.oecd.org/education/2030-project/teaching-and-learning/learning/>
- [6] König, J., Jäger-Biela, D.-J. & Glutsch, N. (2020) Adapting to online teaching during COVID-19 school closure: teacher education and teacher competence effects among early career teachers in Germany. *European Journal of Teacher Education*, 43(4), 608-622, DOI: 10.1080/02619768.2020.1809650

- [7] Villalba-Condori K.O., Adúriz-Bravo A., Lavonen J., Wong LH., Wang TH. (2020) Importance of the Concept of “Competency” in Science Teacher Education: What Are the Professional Competencies for Science Teachers?. In: Villalba-Condori K., Adúriz-Bravo A., Lavonen J., Wong LH., Wang TH. (eds) Education and Technology in Sciences. CISETC 2019. Communications in Computer and Information Science, vol 1191. Springer, Cham. https://doi.org/10.1007/978-3-030-45344-2_1