Divulging the Emerging Technology for Pre-service Teachers' Field Experience during COVID-19

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COVID-19 is an infectious disease caused by severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2) that has been declared as a pandemic as the results of the clinical analysis showed person-person transmission (Li et al., 2020; Paules et al., 2020; Wang, and Cheng, et al., 2020). The outbreak of coronavirus resulted in sudden closure of all types of educational institutions including kindergartens, schools, colleges and centers of higher education are forced to shut down their academic activities. The lockdown has had a negative impact not only on the schools but also on the higher educational institutions, especially, among the colleges of teacher education in India.

In the curriculum of teacher education, pre-service training practices have been incorporated to provide authentic experiences for teaching in classrooms. According to the new regulations of National Council for Teacher Education (NCTE, A statutory body of the Government of India), student teachers should undergo the training for four weeks during the first year and for sixteen weeks in the second year. Usually, the practicum begins in August and ends in November. Due to the pandemic situation, student teachers are unable to undertake teaching practices in schools. Currently, nationwide lockdown is in force with some relaxation, the schools and colleges still remain closed. Besides, the provision of NCTE guidelines mentioning that internship and field engagement shall be followed as per the direction of the affiliating universities under the prevailing situation. Hence, Tamil Nadu Teachers Education University, Tamil Nadu and Pondicherry University, Puducherry have announced to commence online classes from 1st week of August 2020 to its affiliating colleges of education. But, no instruction was found about the internship of second-year student teachers. In such a situation, it is of dispute that they could resume the program with internship activities.

The colleges of education in Tamil Nadu and Puducherry region shifted the teaching mode from traditional classrooms into online learning platforms in which the internship programs have been excluded. Consequently, teacher educators had concerns about practical experiences on teaching, in order to prepare the student-teachers' to be trained and qualified. Moreover, educationists suggest that gaining teaching experience through online mode among the peers and teachers

will make student-teachers learn the online teaching methods and strategies which are considered as a valuable and required commodity in today's context (Schmidt and Ramot, 2020). Despite the fact that they can practice through synchronous and asynchronous modes to receive feedback, the absence of real classroom essence such as teacher-student interactions, analysis of student behaviors and classroom management skills will lead the teaching to be less intensive. In such conditions, engaging the student-teachers through a virtual learning environment is one possible solution to encounter the issue. Employing a blend of artificial and human intelligence inclines learners to immerse in realistic experiences. Artificial Intelligence (AI) is one such emerging technology, termed as immersive simulation, where teachers find more opportunities working with Virtual Reality (VR). Mursion is a virtual reality simulation training software, which provides simulated classrooms where the student teachers can upskill their own teaching competence by interacting with on-screen student-avatars in real-time (Dieker, Hughes, Hynes, and Straub, (2017). Furthermore, the secured and harmless learning environment will scaffold the students for effective teaching and learning (Voelkel, Johnson, and Gilbert, 2016; Hudson, Voytecki, and Zhang, 2018).

Many researchers have also found that Mursion is an efficacious tool for novice student teachers to engage in teaching practice (Thompson, et al. 2019). Initial research regarding the effectiveness of Mursion software reported that more than seventy five universities

in the United States had significant and positive effects (Voelkel, Johnson, and Gilbert, 2016). In addition, a study reported that the simulated version has increased student teachers' higher-order questioning strategies (Dieker, Hughes, Hynes, and Straub, (2017). Results of another study evidenced that it was used as an effective practitioner tool for graduate students at the university level (Voelkel, Johnson, and Gilbert, 2016). Similarly, a research reported that the student teachers had significant and huge improvements in their teaching skills with the help of the software (Cohen, Wong, and Krishnamachari, 2020). Likewise, another research was conducted to evaluate the effects of teaching experiences using Mursion for the undergraduate special education student teachers' to test their readiness in managing classrooms. Results indicated that they have learned to manage undesired behaviors in the classrooms. Interestingly, Mursion was found as an effective tool to practice new skills and the student avatars seemed like real students (Hudson, Voytecki, and Zhang, 2018).

Mursion, the most innovative and emerging technology is an essential requirement for the student teachers to gain the field experience in teaching particularly during the pandemic. Regardless of the multiple benefits of the advanced technological software, challenges will also be taken into concern while incorporating in-service training programs, as it is cost effective. The implementation of such advanced technological software in developing countries like India is possible when there is a collaboration between the

statutory bodies of higher education and private software companies like Mursion. For instance, the American Association of Colleges for Teacher Education (AACTE) associated with Mursion provided access to the institutions to practice teaching during COVID-19. Such efforts in India will definitely take a step further in the path of Teacher education and the student teachers will also be benefitted from the immersive experiences.

References

Cohen, J., Wong, V., & Krishnamachari, A. (2020). Teacher coaching in a simulated environment. *Educational evaluation and policy analysis,* 42, 208-231. doi: https://doi.org/10.3102/0162373720906217.

Dieker, L. A., Hughes, C. E., Hynes, M. C., & Straub, C. (2017). Using simulated virtual environments to improve teacher performance. School University Partnerships (Journal of the National Association for Professional Development Schools): Special Issue: *Technology to Enhance PDS,* 10(3), 62–81.

Hudson, M.E., Voytecki, K.S., & Zhang, G. (2018). Mixed-Reality Teaching Experiences Improve Preservice Special Education Students' Perceptions of their Ability to Manage a Classroom. *Journal of virtual worlds research,* 11, 1-16. Retrieved from http://jvwresearch.org.

Li, Q., Guan, X., Wu, P., Wang, X., Zhou, L., Tong, Y., Ren, R., Leung, K. S., Lau, E. H., Wong, J. Y., & Xing, X. (2020). Early transmission dynamics in Wuhan, China, of novel coronavirus–infected pneumonia. New England Journal of Medicine, 382, 1199–1207. doi: https://doi.org/10.1056/NEJMoa2001316.

Paules, C. I., Marston, H. D., & Fauci, A. S. (2020). Coronavirus infections – more than just the common cold. Jama, 323(8), 707–708. doi: https://doi.org/10.1001/jama.2020.0757.

Schmidt, S.D. & Ramot, R. (2020). Opportunities and challenges: Teacher education in Israel in the Covid-19 pandemic. *Journal of Education for Teaching,* doi: https://doi.org/10.1080/02607476.2020.1799708.

Thompson, M., Owho-Ovuakporie, K., Robinson, K., Kim, Y.J., Slama, R., & Reich, J. (2019). Teacher Moments: A Digital Simulation for Preservice Teachers to Approximate Parent–Teacher Conversations, *Journal of Digital Learning in Teacher Education,* 35:3, 144-164, doi: https://doi.org/10.1080/21532974.2019.1587727.

Voelkel, R.H., Johnson, C.W., & Gilbert, K.A. (2016). Use of immersive simulations to enhance graduate student learning: implications for educational leadership programs. *Online journal of distance learning administration,* 19, 1-7. Retrieved from https://www.westga.edu/~distance/ojdla/summer192/volkel_johnson_gilbert192.html.

Wang, C., Cheng, Z., Yue, X. G., & McAleer, M. (2020). Risk management of COVID-19 by universities in China. In Adedoyin, O.B., & Soykan, E. (2020). Covid-19 pandemic and online learning: the challenges and opportunities. Interactive learning environments, 1-14. doi: https://doi.org/10.1080/10494820.2020.1813180.