Psychological Implications of Virtual Learning Environments: Perspectives in the Post-Covid Period

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Abstract

Virtual learning has gained considerable attention in the past few decades. In the post-Covid period, digital transformation in education has metamorphosed into social transformation, paving the way for Education 5.0. In this context, it is important to consider the psychological implications of Virtual Learning Environments (VLEs), which in turn will enhance the acceptance and better utilization of technology in VLEs among educators and learners around the globe. This article discusses the implications of VLEs in the post-Covid period and the underlying psychology of teachers and learners using this technology around the globe. Further research must be done to address the issues and challenges related to the acceptance and usage of VLEs in the current education system.

Keywords: Virtual Learning Environments; Covid Era; Education 5.0; Learners; Digital Technology

Abbreviations: VLEs: Virtual Learning Environments; ICTs: information and Communication Technologies; AICTE: All India Council for Technical Education; AI: Artificial Intelligence; TAM: Technology Acceptance Model.

Introduction

Virtual Learning Environments (VLEs) are defined as web-based learning systems where students can virtually interact with their classmates and teachers, access learning materials whenever they want, and make use of the most advanced information and Communication Technologies (ICTs) [1-3]. The last couple of years witnessed an accelerated development in the use of VLEs in today's education system as a result of changing learning methods [4] and the need for "lifelong learning" for individuals [5]. Unfortunately, the traditional mode of learning is insufficient for accommodating the learner's needs.

The use of VLEs in the education system has been in existence for more than several decades now [6]. Nonetheless, the Covid-19 pandemic has augmented the application of VLEs to a great extent across the globe. People faced social isolation, consecutive lockdowns for months together, and educational institutions remained closed for almost two years at a stretch in various parts of the world. Consequently, the entire teaching-learning process had to be shifted to virtual mode, starting from the elementary grades to the university level. This changed process imparted a considerable impact on the social and economic levels worldwide. Forbes predicted that the online education market will grasp a whopping $350 billion by the end of 2025, expanding from $107 billion in 2015 [7,8].

Virtual Learning and the Covid-19 Pandemic

Liesa, et al. [9] observed that the teaching-learning process in higher education in the 21st century is almost

impossible without the use of information technology, chiefly because it influences the development of necessary skills and capacities suitable for today's world. Hence, there is no denying the fact that the digital transformation of higher education is a necessity for the development of the teaching-learning process, learning materials, and training process in education [10]. The pandemic accelerated the adaptation of VLEs in higher education, but not without several challenges. One of the biggest hurdles in this context includes the lack of knowledge of teachers about technology, advanced training, and economic support for the implementation of VLEs [11], although most teachers possess a positive attitude towards the inclusion of ICTs in curriculum and use of VLEs [12-15]. Nonetheless, the Covid-19 pandemic paved the way for more online learning courses due to several reasons. Means, et al. [16], in a meta-analysis, observed the following reasons for the increased popularity of VLEs for learners: (a) providing easy access to course materials anytime and anywhere; (b) providing an opportunity to the learners who are not comfortable in a traditional learning system to avail learning materials as per convenience; (c) disseminating course content and instructions at a lesser cost and time; (d) enabling the course instructors to include more learners without compromising the course quality. In a similar line, Kristóf, et al. [17] noted that the benefits of learning in VLEs include the possibility of accessing the coursework from anywhere, efficient management of time, extended view of the world, asynchronous learning through peer interactions, instantaneous feedback on tests, and enhanced skills in digital technology. There have been several pieces of research suggesting the benefits of VLEs in the teaching-learning process [18,19]. These factors have been crucial in facilitating the acceptance of VLEs at a larger scale during the pandemic period. Moreover, there has been enormous growth in the initiation of VLEs for global audiences during this period. For instance, the All India Council for Technical Education (AICTE) took an initiative in 2016 to offer online courses in an online portal named "Swayam", meaning "Self" in Sanskrit, an acronym for 'Study Webs of Active-Learning for Young Aspiring Minds'. Although the portal has been active since its conception, the number of learners enhanced to a great extent during the pandemic period. Today, the portal has been operating under the Ministry of Education and the course contents are being developed by nine major educational bodies in India. Courses are being offered at the school level, out-of-school level, undergraduate level, and post graduate level, with a massive number of learners across the country [20]. Similar initiatives were taken by several reputed universities and institutes across the world, to introduce free courses and seminars in VLEs.

The fast-forward digitization of education during the pandemic, facilitated by Artificial Intelligence (AI), Internet of Things (IoT), and Data processing tools, paved the way for Education 5.0 [21]. While Education 4.0 focused on the integration of educational practices with advanced technology by introducing AI, Gamification, and IoT in educational practices, Education 5.0 is described as an extension of the former level where the chief emphasis is on bringing social transformation through digital transformation. A more integrated VLE with the right amount of information can prove to be a very efficient tool for bringing in social transformation. Hence, the implications of VLEs are far-reaching, both for learners and society.

Virtual Learning in the Post-Covid Period

There is no newness anymore in the "new normal" virtual life that we had to live during the pandemic period. In this post-Covid period, we have very efficiently got adapted to the digital way of life. Most learning and training sessions are now conducted either in virtual mode or in a hybrid mode since people have gotten used to the practice of interacting with far-off people from the comforts of their own homes. A major factor influencing this social change is the attitude of people toward VLEs. Attitudes toward virtual learning have been studied from both the teachers and the student's perspectives. Tan, et al. [22] noted that the VLEs mostly used the cognitivism, connectionism, and constructivism theories in imparting learning. Students positively perceived satisfaction and motivation in virtual classes, while negatively perceived a lack of social interaction in VLEs. Specifically, the quality of instruction used in VLEs is emphasized as an important factor influencing learners' motivation. Tan, et al. [22] found that favorable perceptions of online instructions result from the motivation, satisfaction, and effectiveness perceived, the level of engagement experienced, ease of navigation, comfort and flexibility perceived, and the level of acceptance acquired among the learners. On the other hand, negative perception of VLEs exists due to lack of interaction, the ambiguity of instructions, lack of technological skills and efficiency, Inadequate support, and dishonesty in online classes. From the teachers' perspective, acceptance of VLEs is at a moderate level [23]. Moreover, the acceptance is impacted by the readiness of the teachers and their perception of VLEs as being useful and easy to use. This is in line with the Technology Acceptance Model (TAM) that recognized the teachers' perception of technology use in teaching [23]. The TAM explains the association between features of the system, perceived usefulness, and ease to use, with the attitude towards using and actual use of the technology in the education system. It also predicts user behavior while interacting with information technology [24-26]. Undoubtedly, the relevance of the TAM in promoting teachers' motivation in VLEs is profound. This is even more significant since VLEs have not only been accepted as a popular mode of teaching in the post-Covid period, but also the fact that VLEs play important role in bringing social

transformation through the digitalization of the education system. Hence the post-pandemic implications of VLEs are prolific.

Concluding Remarks

Globally, we are living in the age of technology and digitalization, our education system is no exception. Nonetheless, it is important to consider the psychology underlying the acceptance and usage of VLEs in the post-Covid period. This is because the role of VLEs in transforming the education system is vital. In this "new normal" period where global educators and learners are in constant touch, interacting, and sharing knowledge, the acceptance of VLEs is indispensable. Specifically, with the advent of Education 5.0, digitalization is coupled with social transformation. Thus, the significance of VLEs in transforming the education system is undeniable. Educators and learners should emphasize the benefits of using VLEs, rather than rejecting the technology. More research should be focused on improvising the existing VLEs considering the needs of the learner and the constraints of educators across the globe. Efforts should be undertaken to enhance the acceptance of VLEs among educators and learners, especially those with limited access to technology and infrastructure. Undoubtedly, the coming years will be witnessing a major transformation in classroom teaching and learning process and VLEs are the most potent agents of bringing this change. Hence, understanding and accepting this process is important for a sustainable education system across all nations.

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