RESPONSIBLE ATTITUDE TOWARDS VIRTUAL TEACHING IN FUTURE PEDAGOGUES

Ovkhunov Iqboljon Abdunabievich
Independent researcher of Andijan State University, Andijan, **UZBEKISTAN**

ABSTRACT

The need for virtual teaching is increasingly being embraced by the educational system in Uzbekistan due to the COVID-19 pandemic which made the conduct of the traditional classroom instruction an implausible means for the continuous delivery of education. Thus, it becomes a pressing need to determine teachers' attitude toward the virtual teaching. This case study reports on an investigation of the attitude of future teachers toward virtual reality (VR) as a tool in the educational process, and toward virtual learning environments on specific disciplines. Our results indicate a favorable attitude towards VR in the educational process. Although immersion is not supported at this study, half of the future teachers declare immersion experiences. There is a need for further investigation, currently being in progress by our group. The study enlisted purposively selected graduate students assigned to teach their subjects. Moreover, the investigation intended to determine whether there is a gender divide among variables of the study, and whether a significant relationship exists among the respondents' attitude toward online teaching, technological competence and access. The study disclosed interesting results.

Keywords: Modes of education, Virtual Reality (VR), face-to-face learning, Attitude toward Virtual Teaching, Competence, Access, case study.

INTRODUCTION

Virtual Reality (VR) is a highly interactive computer based environment, where the user takes part in a "virtually real" world through multiple sensorial channels. Freedom in navigation (exploratory VR) and interaction (interactive VR) is essential for a computer environment to be characterized as a VR environment (virtual environment, VE).[1] A virtual environment designed to educate and/or inform the user is called a virtual learning environment. A VE should have an educational objective and provide users with experiences they would otherwise not be able to experience in the physical world. Research on virtual reality suggests that it could be a powerful tool for education based on its main characteristics. These are the first-person user viewpoint and free navigation, as well as the ability to manipulate the virtual environment in real time.

As VR is a new technology, its use as an educational tool is quite recent with few reports on empirical research. Some articles on virtual reality in specific disciplines have appeared and started to be evaluated on Newtonian mechanics and environmental education. There are some empirical research papers on the attitude of users toward VR in education. Merickel (1993) reports on the relationship between VR and the ability of elementary school children to create, manipulate and utilize mental images for spatially related problem solving using an immersive VR system.[2] Although children had some difficulties in using the peripheral devices, they had become quite proficient in the system by the end of the study. Byrne and Furness III (1994) conducted a study where 69 students, aged 9 to 16, created and visited virtual worlds in a fully immersive VR system.[3] They report that students performed well in using VR and enjoyed

their experience. They also note few significant differences in terms of race or gender, and that VR has a definite role in education from a merely motivational viewpoint.[4]

Guasch, Alvarez and Espasa (2010) coined the term virtual learning, which is also known by many other terminologies such as online schooling, distance learning education, tele-mentoring and electronic mentoring or e-mentoring, and virtual education. For Javier (2020), the concepts revolve around the key idea of technology as espoused by the terms distance, electronic, online tele-, and virtual.[5]

The demand for virtual teaching is increasingly being embraced by the educational system in Uzbekistan due to the COVID-19 pandemic which made the conduct of the traditional classroom instruction an implausible means for the continuous delivery of education. Moreover, Javier (2020) discussed that the pandemic caused the shift in teaching modality. In response to this situation, teachers now are working and attending sets of training through webinars to learn and explore e-learning technologies which is perceived to be an effort of educating and capacitating teachers for the new role they are soon to take – that is to become managers of virtual classes.[6]

Considering the claim of Myers and Haplin (2002) that the level of success on the implementation of virtual learning is highly dependent on the attitude of teachers involved. It is surprising to note that no empirical investigation was conducted intending to determine teachers' attitude toward virtual teaching, technological competence, and access with the study of Javier (2020) as an exception. Her investigation, however, was directed toward a specific population group, the teachers instructing the subject Filipino.[7]

Teachers have always been the key agents in the utilization of any reform-based innovations (e.g., online or virtual teaching, distance education, flexible learning). According to Semerci and Aydin (2018), attitude can be defined as an element that guides the behavior of an individual in line with his feelings and thoughts. In addition, attitude has come to be considered as the level of positive or negative effect related with a specific object or belief.[8]

Huang and Liaw (2005) argues that the positive attitudes of teachers towards their competence in using computers will affect how they deliver knowledge to the students. In the study of Keeton (2004), he found out that teachers have positive attitudes towards the online instructional resources that they use for which they believe is significant in creating an online environment that stimulates learning to the students.[9]

In his quantitative study that employed online surveys and supplemented by short phone interviews, Gasaymeh (2009) examined the attitudes toward internet-based distance education by the faculty members from two Jordanian public universities. The researcher also explored the relationship between the faculty members' attitudes toward internet-based distance education and their perceptions of their level of computer and internet access, their readiness for time commitments required for internet based distance education, level of institutional support, their level of computer and internet skills, and their perceived value of internet-based distance education. Results indicated that faculty members tended to have moderately favorable attitudes toward internet-based distance education.[10]

In their non-experimental study using a survey-technique that aimed to analyze the attitudes toward Information and Communication Technologies (ICT) among 867 university professors in Spain, Guillen Gamez and Mayorga-Fernandez (2020) found that despite having a great

responsibility to train students in digital technologies based on their continual growth, university professors have an average attitude on the use of ICT. To a large extent, this attitude determines how they make use of ICT in the teaching-learning process given that the more positive the attitude towards the use of ICT, the more efficient will be the use of such technology.[11]

Certainly, to a great extent, attitude is a determining factor with respect to the success and failure of any educational practice and policy. From the survey of literature, different variables were claimed to influence the attitude toward virtual teaching. Thus, in this study, the factors technological competence and access of the respondents were accounted to determine whether they are significantly associated with the teachers' attitude toward the virtual teaching.

METHODS
The research was contacted during the academic year 2020 - 2021. The sample consisted of 200 students from Andijan State University of Uzbekistan, future teachers in primary schools. Sixteen of the participants were females, common fact in Education Departments in Uzbekistan and all over the world. The age of them was 18 - 26 years old with the 70% being 21 years old. All the students had a prior computer use experience. The present research is a part of a more general one on virtual realities in environmental education.

The participation in the project was voluntary, out of the scopes of any course, with no extra credits. An initial questionnaire was given to the students, concerning demographic data, previous experience in information technologies, type of computer use (kind of applications, peripheral devices), and level and source of information about VR. Students read some notes on what VR is and how to navigate in virtual worlds using the different peripheral devices. After that, they visited two virtual worlds.

In order to investigate how responsible future teachers are towards virtual teaching, our group has made an experiment among the graduate students. A list of questionnaires was taken from the participants anonymously. They were asked which type of education is suitable during the period of COVID-19. The next questions were about if they would last their education even after the pandemic period, how much time they spend on online learning, how they approach to the virtual reality. According to the results of the taken questionnaire, 70% of students accept virtual reality positively, whereas the other 30% show criticism.

CONCLUSION
Concerning the hypotheses of this research on the attitude of education students - future teachers toward virtual reality as a tool in the educational procedure, the results are as following.

There is a positive acceptance of VR in the educational process, with a critical attitude of few of the students. It is remarkable that more than half of the students declare that they have immersion experiences, although the VR system did not support such a technology at the time of the research. Our results are similar to those of Byrne and Furness III (1994), indicating that VR has a definite role in education from a merely motivational viewpoint. We also have the same as Grove's (1996) indications, that most of the students enjoyed their experience of VR not mainly because it looks more like reality.

As Rana (2012) points out, positive attitude is an important indicator of willingness and initial step in effective integration.[12] Teachers are the key players in schools. They are catalysts who play significant roles in technology in the school and classrooms. It is therefore necessary

for teachers to develop positive attitudes towards online teaching since it has been found to be linked to usage and intention to use. As Tsai, Finger, Chen and Yeh (2008) and Gibson et al. (2014) opined, teachers are they key stakeholders of education and their attitude on adoption of e-learning (i.e., virtual/online teaching) has also significant impact on students' attitude formation towards it.[13]

In order to instill the awareness and competencies on virtual teaching among teachers, seminars on virtual teaching development and management may be conducted in series covering topics related to development, operations, delivery, maintenance, repair, administration and security. The training may start with technical staff, who will assist faculty members in implementing virtual teaching in their respective classes. Likewise, educational leaders may venture on training teachers on how to convert their instructional materials to an electronic format as well as on the familiarity with the different functions and features of elearning platforms including how to facilitate learning and support learners in a particular learning platform. [14]

As regards the implementation of virtual teaching in the education sector under the "new normal", more of the teacher factors are yet to be explored, hence it will continue to get the attention of scholars, academicians, curriculum developers and educational leaders in implementing educational reforms in response to the changing societies. As Rana (2012) observed, a number of studies done in various settings continue to enrich the literature on technology integration by providing perspectives on the complex issue of teachers' demographics, influential in technology use. Discovering common patterns related with the teachers' demographics may enable taking joint action or simply, be inspiring and directive for those who are tasks from transforming education in their own contexts. Therefore, researchers who will endeavor on future studies that will look into teachers' behavioral intention to adapt virtual teaching vis-à-vis their demographics may use the findings of the study as their springboard in including other variables.

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