

Perception Towards Using E-learning with Stem Students Whose Programs Require Them to Attend Practical Sections in Laboratories during Covid-19

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Abstract : Covid-19 has changed and affected the whole world dramatically in a new way that the entire world, even scientists, have not imagined before. The educational institutions around the world have been fighting since Covid-19 hit the world last December to keep the educational process unchanged for all students. E-learning was a must for almost all US universities during the pandemic. It was specifically more challenging to use eLearning instead of regular classes among students who take practical education. The aim of this study is to examine the perception of STEM students towards using eLearning instead of traditional methods during their practical study. Focus groups of STEM students studying at a western Pennsylvanian, mid-size university were interviewed. Semi-structured interviews were designed to get an insight on students' perception towards the alternative educational methods they used in the past seven months. Using convenient sampling, four students were chosen from different STEM fields: science of physics, technology, electrical engineering, and mathematics. The interview was primarily about the extent to which these students were satisfied, and their educational needs were met through distance education during the pandemic. The interviewed students were generally able to do a satisfactory performance during their virtual classes, but they were not satisfied enough with the learning methods. The main challenges they faced included the inability to have real practical experience, insufficient materials posted by the faculty, and some technical problems associated with their study. However, they reported they were satisfied with the simulation programs they had. They reported these simulations provided them with a good alternative to their traditional practical education. In conclusion, this study highlighted the challenges students face during the pandemic. It also highlighted the various learning tools students see as good alternatives to their traditional education.

Keywords : eLearning, STEM education, COVID-19 crisis, online practical training

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