Differences in Learning Environment: The Effectiveness of Online Learning platforms in Higher Education

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The aim of this study was to assess the efficiency of online education platforms for learning in higher learning institutions through a systematic quantitative analysis. It analysed various areas such as student interaction, involvement, performance, access, and technological barriers and opportunities within online learning environments. For the purpose of including participants from various fields and to achieve diversity of population, the study used a stratified random sampling technique utilizing online structured questionnaires. It also reviewed records of institutional data, and conducted interviews. In order to attend to accessibility and inclusiveness concerns, particular attention was paid to the students with learning disabilities. The participative investigation involved a case- based application of the proposed instrument to measure the usability and accessibility of Learning Management Systems (LMS) to investigate technological issues and possible solutions. The study demonstrated the positive effects of the use of materials which can be used interactively, and the results of the continuous assessment, quizzes and discussion forums. The current study focused on an analytical component of promoting Universal Design for Learning (UDL) to enhance teacher student accessibility. It also discussed the potential of emerging technologies like Artificial Intelligence (AI) and Virtual Reality (VR) to improve interactive learning experiences. It is essential to understand that, although there are apparent benefits when it comes to flexibility and accessibility of online learning platforms, some technological and inclusiveness problems must be solved in order to enhance effectiveness. The research calls for plans for constant trainer use information communications technology, and formative approaches in line with new learner and trainer needs.

Keywords: *online learning, higher education, student engagement, learning outcomes, technological challenges.*