TAPPING INTO PEDAGOGICAL KNOWLEDGE THROUGH THE USE OF SMARTPHONES

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Abstract

The advancements in mobile phone technology over the last decade has enabled educators and students to adopt smartphones in their teaching and learning. However, historically, the utilisation of digital devices in the classroom was not prevalent as a pedagogical tool within Higher Education. The uncertainties surrounding the impact of these devices on students' engagement and performance have been a phenomenon within educational and teaching practices. Although these portable devices can be powerful learning tools, whether students from diverse cultural backgrounds, age groups, disciplines, and study levels can accept and engage with these tools in the classroom requires further exploration. As such, this research investigates students' engagement and perceptions, considering the use of smartphones within the classroom from a UK university. Mixed methods approach was adopted with both questionnaires (n=48) and focus groups (n=6*2). Mann-Whitney U test and Kruskal-Wallis tests were used to examine the differences in perceptions among grouping variables of continents, age, subject of study, and year of study. Moreover, regression analysis was adopted to explore the impact of the influencing factors on the effectiveness of the use of smartphones. Finally, principle component analysis was applied to evaluate how these factors might be correlated according to the responses from the questionnaire. Results showed that: (1) The use of smartphones has a positive influence on students perception of their engagement and performance; (2) there is no significant differences in students' perceptions when they come from difference continents, age groups, year of study, and subject of study; (3) support from the software/websites, their interface design, students' awareness of peer performance, and learning styles appear to have a significant impact on the effectiveness of the use of smartphones according to students' perception; (4) The appropriateness of the difficulty level and type of the tasks students required to do on their phone, the length of time they spend on the phone, and the amount of tasks required, these three variables from the context of learning activities are correlated to the responses. Additionally, the conceptual framework, the Smartphone-based Learning Onion Model for designing and implementing smartphones in the classroom within Higher Education is developed accordingly to both the results from a questionnaire and focus groups.

Keywords: Engagement, Expectation, Higher Education, Perception, Performance, Smartphones