Mobile X-Space design, teaching strategies and undergraduate students collaborative learning behaviour: a case study in Taylors University, Malaysia

ABSTRACT

Purpose: The availability of new innovative learning spaces together with the introduction of new teaching and learning strategies have shifted the nature of the classroom from a place of instruction towards a place that produces authentic learning. Students in the 21 st century are inclined to learn with peers, through the use technology to produce the information as the result of their collaboration. This research examines the effect of learning space design and teaching strategies on undergraduate students' collaborative learning behaviour in the Mobile X-Space classroom. Methodology: This study used a quantitative survey research design to measure students' learning experience in the Mobile X-Space classroom. A set of online self reported questionnaire was posted through the official Learning Management System of the university to collect data from 467 undergraduate students in a Malaysian top private university. Through exploratory factor analysis, three factors were identified: (a) teaching strategies, (b) collaborative learning behaviour and (c) space design. Pearson's correlation and multiple regression were run to assess the relationship between learning space design and teaching strategies conducted by the lecturers on the collaborative learning behaviour of the students. Two-way factorial ANOVA with Post Hoc tests were performed to determine the effects of gender and study semester of the students on their collaborative learning behaviour. Findings: The results from the multiple regression analysis revealed that both (i) teaching strategies, and (ii) space design were positively correlated with collaborative learning behaviour of the students. The results from Person's correlation showed a significant, strong and positive relationship between teaching strategies conducted by the lecturers on the collaborative learning behaviour among the students. Also, there was a statistically significant, strong and positive relationship between learning space design on the teaching strategies of the lecturers. In addition, the results from two-way factorial ANOVA showed that collaborative learning behaviour was different for groups in different study semesters. However, there was no statistically significant difference for collaborative learning behaviour between different genders in all semesters. Significance: The outcomes of this research will be beneficial in enhancing the support and design of future learning spaces and add value to the present educational model. It is also beneficial in guiding academics in determining the practical teaching and learning approaches in the flexible learning spaces, which could be more suitable for the millennium youth who are more tech-savvy and favour Internet of things in their daily lives. This type of learning space will help to improve the students' soft skills and collaborative skills, that are very useful in their future employability in the actual work settings.

Keyword: Learning spaces design; Active learning; Gender differences in collaborative learning; Next generation learning; Collaborative learning behaviour; Mobile X-space