

Assessing Female Students' Understanding of the Solar System Concepts by Implementing I-Cube Technology

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Abstract : This study examined the female students' understanding for the solar system concepts through the utilization of the I-Cube technology as a virtual reality technology. The study conducted in Qatar University for samples of students of eighth and ninth preparatory grade students in the State of Qatar. The research framework comprises designated quantitative research designs and methods of data collection and analysis including pre- and post-conceptual exams. This research based on experimental method design that focuses on students' performance and conceptual questions. A group of 120 students from the eighth and ninth groups were divided into two pools of 60 students each, where the two 60-student groups represent the designated control and treatment groups. It must be mentioned that the students were selected randomly from the eighth and ninth grades. The solar system lesson of interest was taught by teacher candidates (senior students at the college of Education at QU), who taught both the experimental group (integrating I-cube) in virtual lab in Qatar University and control group (without integrating this technology) in one of independent school in the State of Qatar. It is noteworthy to mention that the students usually face some difficulties to learn by imagining real situation such as solar system and inner planet lesson. Collected data was statistically analyzed using one-way ANOVA and one-way ANCOVA using SPSS Statistics. The obtained results revealed that integrating I-Cube technology has significantly enhanced female students' conceptual understanding of the solar system. Interestingly, our findings demonstrated the applicability of utilizing integrating I-Cube technology toward enhancing the students' understanding regarding subjects of interests within the landscapes of basic sciences.

Keywords : virtual lab, integrating technology, I-Cube, solar system

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