VIRTUAL SIMULATION AS A VALID EDUCATIONAL STRATEGY FOR STUDENTS WITH DIFFERENT LEARNING STYLES

Authors

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Introduction: It is imperative for nurses to be qualified in neonatal care, especially given the high rates of mortality among premature newborns (Liu et al., 2015). A virtual simulation was developed as a serious game (Fonseca et al., 2015) to offer students the opportunity to perform clinical evaluation and care of a premature in a safe environment, before going to clinical setting. Learning styles reflect the preferred way to learn and were measured in this research.

Objectives: Evaluate the effectiveness of virtual simulation given the varying learning styles of nursing students examining for differences by learning style.

Methodology: Experimental and randomized study for learning evaluation mediated by virtual simulation (intervention). In the context of an extracurricular course, pretest and posttest compared performance before and after exposure to a serious game in 47 students randomly divided into control and experimental groups. Statistical analysis was parametric (t test), considering normal distribution by Shapiro-Wilk test, and Fisher's Exact Test. Learning styles were measured with the Index of Learning Styles, by Felder and Silverman (Felder & Spurlin, 2005).

Results: The study demonstrated that when learning styles were compared, the virtual simulation was not more effective for visual style or active style learners, (learning styles potentially favored by virtual simulation) [Fisher's Exact Test: p=0.234 (visual) and p=0.363 (active) respectively]. There was no statistical significance for other dimensions of learning styles: sequential and global (p=0.836) or sensorial and intuitive styles (p=0.553). This virtual simulation although graphically interesting also uses sound feedback to identify users' errors and hits and it narrates the clinical case through a virtual nurse. Given all these options for learning, it is relevant to students' learning regardless of their learning style, for example, benefiting verbal learners inclusive. For students who present active and reflective styles, simulation allows both action and reflection on the theme, which may explain why the virtual simulation is a valid strategy for all students regardless their learning styles.

Conclusions: Virtual simulation is a useful addition to support clinical education in the care of premature newborns, regardless of students learning styles. It is important to highlight that learning styles are dynamic and changeable through time. That is, the improved performance of students after using virtual simulation as learning tool favored all students equally. Therefore, we conclude that virtual simulation is a technological innovation with great potential to be used in higher education in nursing, even when there is a heterogeneity of learning styles given a large number of students.

Keywords: Educational technologyNursing students

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