Virtual Reality Gaming: Reducing Student Anxiety and Increasing Skill Mastery

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Abstract
The purpose of this study is to evaluate the level of performance anxiety student’s experience when participating in various learning modalities, and investigate student modality preference in practicing nursing skills.

Two survey questions were included as part of a post-test survey in which nursing students at were asked to 1) use a Likert scale to rate their level of performance anxiety when participating in each of the four learning modalities used at the School of Nursing and 2) to indicate their preferred modality to use when practicing nursing skills.

Preliminary results indicate performance anxiety is highest in simulation scenarios and lowest in the Virtual Reality environment. No practice modality preference has emerged.

The anxiety student’s experience in simulation has been studied and the outcomes indicate that at certain levels, heightened anxiety negatively effects the learning experience. The Virtual Reality modality allows students the opportunity to gain confidence in performing a skill prior to practice in simulation or the clinical environment. It may also provide a platform to instill skill mastery and improve skill retention. Using VR to enhance learning and increase skill retention are two areas that should be investigated further based on the preliminary findings.

This student presentation is available at ScholarWorks: https://scholarworks.boisestate.edu/under_conf_2018/24
This research is part of a mixed methods study evaluating the usability of Virtual Reality in nursing education. Two questions were included as part of a post-test survey in which students were asked to:

1) Rate their level of performance anxiety using a Likert scale when participating in each of the four learning modalities used at the Boise State University School of Nursing: simulation, deliberate repetitive practice (DRP), skills lab, and virtual reality (VR). (1 = no anxiety, 7 = extremely high)

2) Indicate their preferred modality to use when practicing nursing skills.

Simulation is an integral part of nursing education programs. Research exists on the merits of this modality and its inclusion in nursing education, but the literature is scarce regarding student perceptions of participating in simulation scenarios. Evidence suggests that nursing students experience a high level of performance anxiety when participating in simulations, which may detract from the intended learning experience. Little information is available on how students prefer to practice skills outside the clinical setting.

Methods

This research is part of a mixed methods study evaluating the usability of Virtual Reality in nursing education. Two questions were included as part of a post-test survey in which students were asked to:

1) Rate their level of performance anxiety using a Likert scale when participating in each of the four learning modalities used at the Boise State University School of Nursing: simulation, deliberate repetitive practice (DRP), skills lab, and virtual reality (VR). (1 = no anxiety, 7 = extremely high)

2) Indicate their preferred modality to use when practicing nursing skills.

Students, on average, reported highest anxiety when participating in simulations, and lowest using virtual reality. Students with experience in all four modalities prefer DRP over the other options followed by VR, simulation, and skills lab. When analyzed by class level, modality choice varied noticeably with Senior students preferring VR, and Junior students preferring DRP. Sophomore students did not have a clear preference. Data from the freshman students surveyed was not included in this analysis since they did not have experience with all four modalities.

Some limitations encountered in this study include small sample size (n=24), and technology challenges which may have negatively influenced modality preference results. Future research could include:

- Pre and post test evaluations of anxiety in simulation for students who have mastered a skill compared to those who have not
- Number of times students practice a skill in each modality in a set time frame

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