Examining Audiology Students: Clinical Reasoning Skills When Using Virtual Audiology Cases Aided With no Collaboration, Live Collaboration, and Virtual Collaboration

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Abstract : The purpose of this study was to examine the difference in clinical reasoning skills of students when using virtual audiology cases with and without collaborative assistance from major learning approaches important to clinical reasoning skills and computer-based learning models: Situated Learning Theory, Social Development Theory, Scaffolding, and Collaborative Learning. A quasi-experimental design was conducted at two United States universities to examine whether there is a significant difference in clinical reasoning skills between three treatment groups using IUP Audiosim software. Two computer-based audiology case simulations were developed, and participants were randomly placed into the three groups: no collaboration, virtual collaboration, and live collaboration. The clinical reasoning data were analyzed using One-Way ANOVA and Tukey posthoc analyses. The results show that there was a significant difference in clinical reasoning skills between the three treatment groups. The score obtained by the no collaboration group was significantly less than the scores obtained by the virtual and live collaboration groups. Collaboration, whether virtual or in person, has a positive effect on students' clinical reasoning. These results with audiology students indicate that combining collaboration models with scaffolding and embedding situated learning and social development theories into the design of future virtual patients has the potential to improve students' clinical reasoning skills.

Keywords : clinical reasoning, virtual patients, collaborative learning, scaffolding
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