# Revolutionizing Training: SVRGICAL a Realistic Gamified VR Training App for Surgical Assistants

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The current healthcare workforce shortage requires us to reevaluate our approach to training future healthcare professionals. This study assesses a virtual reality application with gamification elements designed to enhance crucial surgical assistant competencies including, instrument knowledge, anticipation, and proper passing techniques. Developed in Unity for the Meta Quest 3, the VR system incorporates hand-tracking, 3D models made in Blender, instant feedback, and progress tracking. Thirty-six participants were randomized to receive training using the Meta Quest 3 VR headset (n=18) or traditional training from an experienced surgical assistant (n=18). Before starting the training, both groups completed a pre-test assessment to establish baseline knowledge, followed by a post-test to evaluate skill acquisition after training. The precision rate was also measured to assess the correct execution of tasks. In addition, participants in the VR group completed a questionnaire with the following measurements: engagement, confidence, and physical symptoms. The average knowledge gain of participants exposed to the VR training was slightly higher than participants who were exposed to traditional training (4.83 vs 4.44). However, this difference was not significant. Similarly, the VR-trained group tended to make fewer mistakes (73.50 % vs 68.66% ) and had more consistent performance than the traditional group. This study demonstrates that the VR system tested in this study offers a scalable, standardized, and immersive learning experience, enabling surgical assistants to develop skills faster and with greater confidence.

**Awards Won:**