



Virtual Biomedical and STEM/STEAM Education

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Laboratory hands on skill course Laparoscopy Surgery Simulator Course



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Laparoscopy Surgery Simulator Course

All manipulation skills are practiced via the peg transfer simulation environment in VR.

I. Introduction to Laparoscopic Surgery

- Brief overview of laparoscopic surgery
- Advantages of laparoscopic techniques over traditional surgical procedures
- Benefits of using VR goggles in surgical simulation

II. Structure and Hardware of the Laparoscopic Simulator

- Use of VR goggles and controllers
- Characteristics of the simulation software
- Simulation of laparoscopic instrument handling

III. Basic Movements and Positions in Laparoscopic Surgery

- Proper positioning of tools and anatomy
- Practice of appropriate hand movements in the simulator

IV. Tissue Manipulation on the Simulator

- Simulation of tissue manipulation, shifting, and rotation
- Timed exercises and tasks for performance improvement

V. Feedback and Development

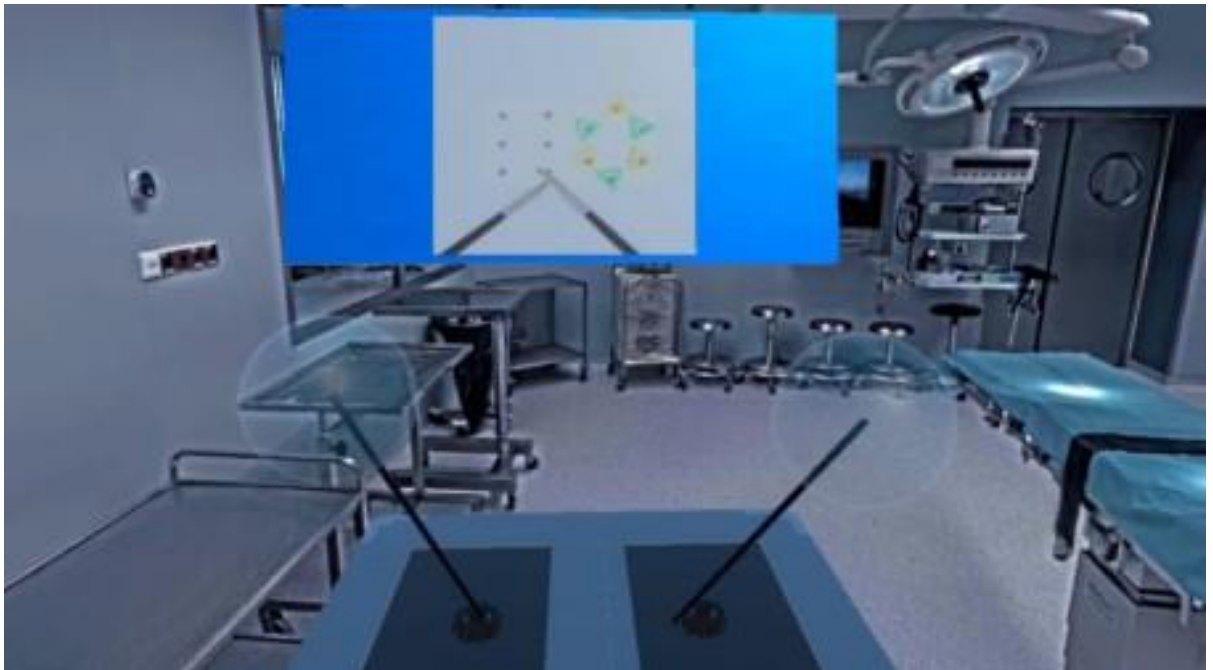
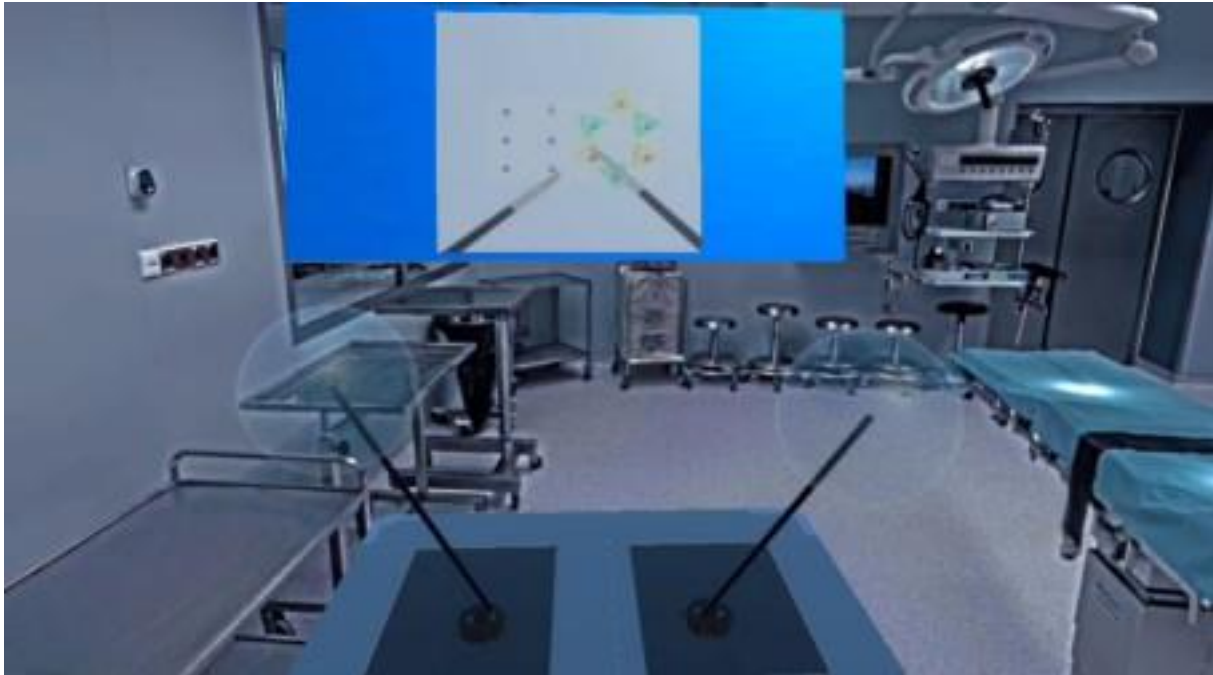
- Evaluation of performance on the simulator
- Use of feedback for performance enhancement
- Gradual increase in difficulty of exercises and scenarios for progress

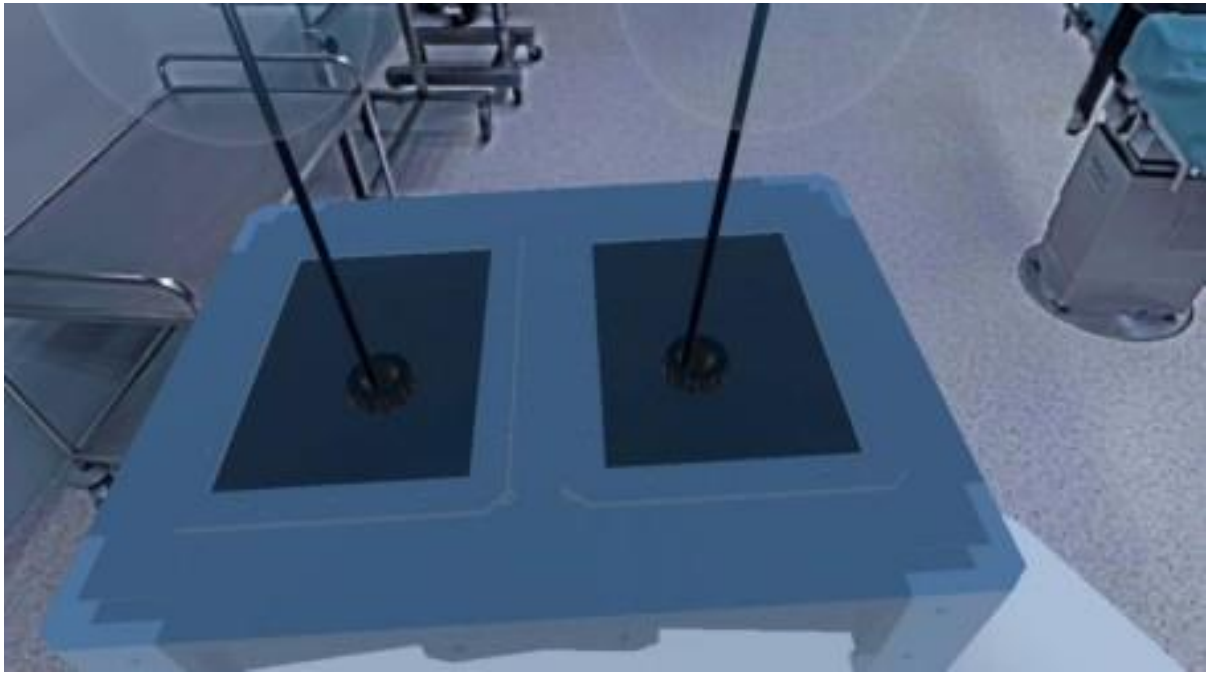
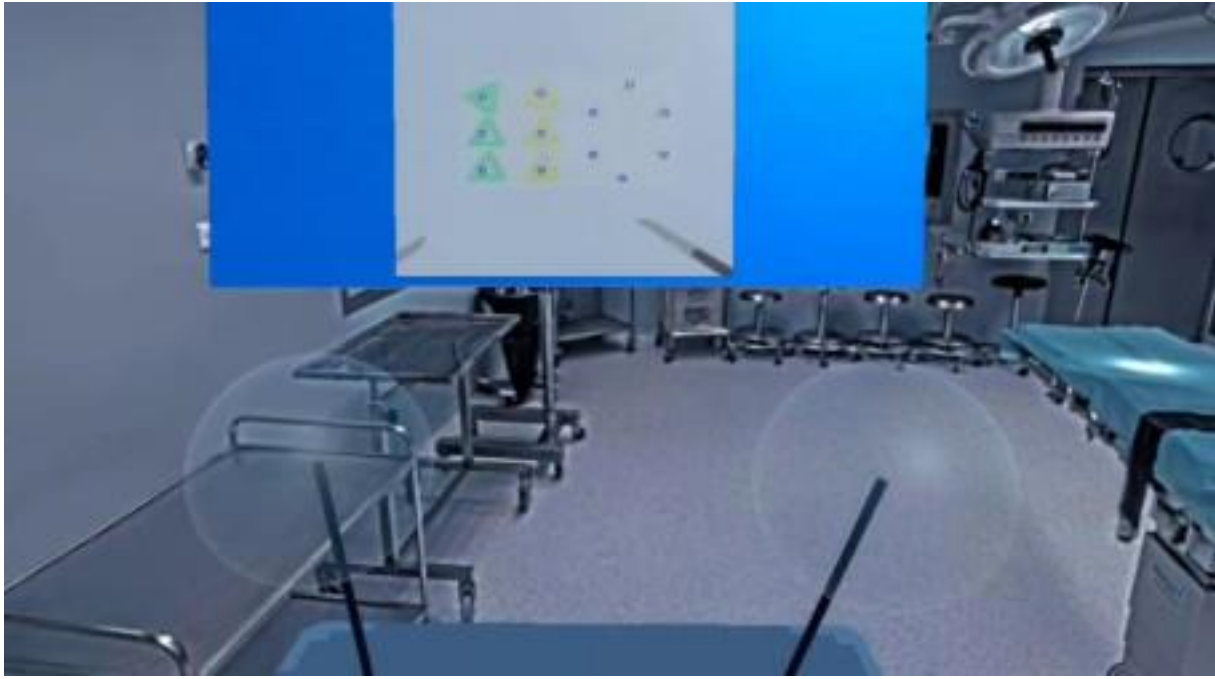


VI. Examination and Assessment

- Evaluation of skills and knowledge achieved by students
- Assessment and documentation of learning outcomes from this instructional material

Screenshots from the VR simulator:



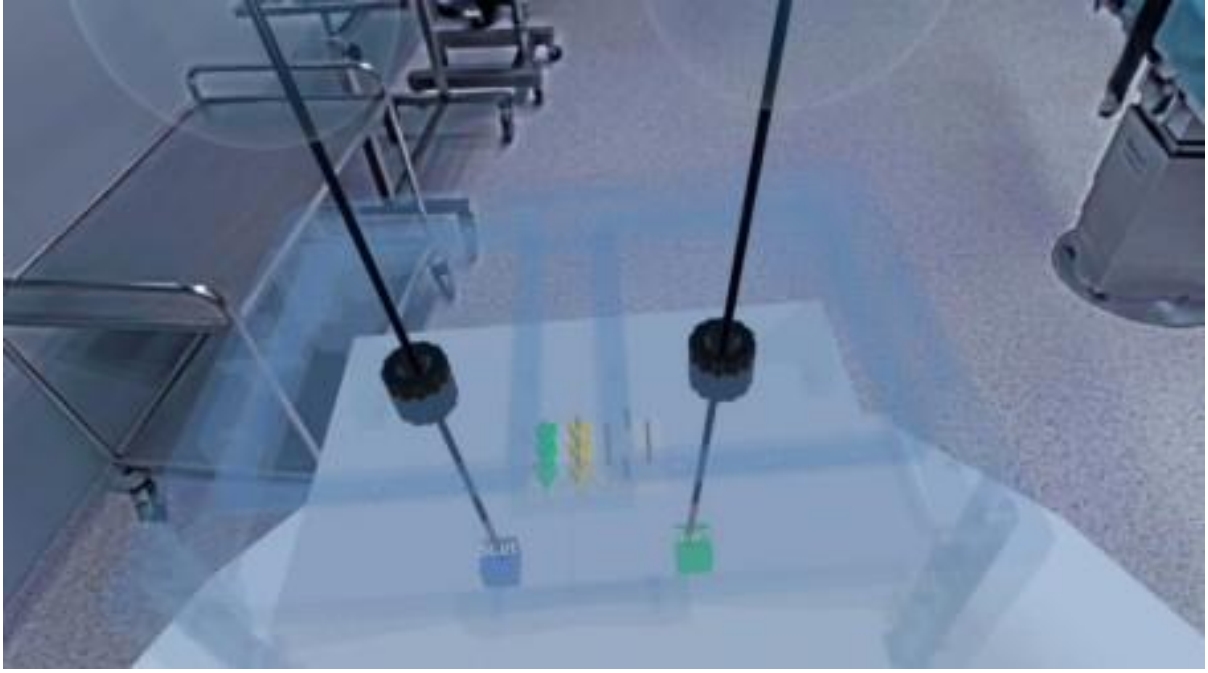


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