



# Transforming the Healthcare Simulation Spectrum: Now, Next and Beyond

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## First recorded large scale adoption of Virtual Reality as a part of curriculum



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### INTRODUCTION

The versatility of virtual reality is a subject that has been under exploration for over a decade. Many instances of VR usage in the healthcare sector have been documented to be successful, ranging from simulation based learning<sup>1</sup>, cognitive training<sup>2</sup> and even instances of patient management .

Students can interact with a virtual patient, perform skills and practice techniques in real time. VR also allows for an inbuilt assessment of the user's performance and enables them to perfect their skill set. VR gives an edge over mannikin based learning by making training of a large cohort much more feasible, as it reduces the amount of medical resources used for training purpose. Infinite number of scenarios/skills can be simulated and be practiced infinite number of times .

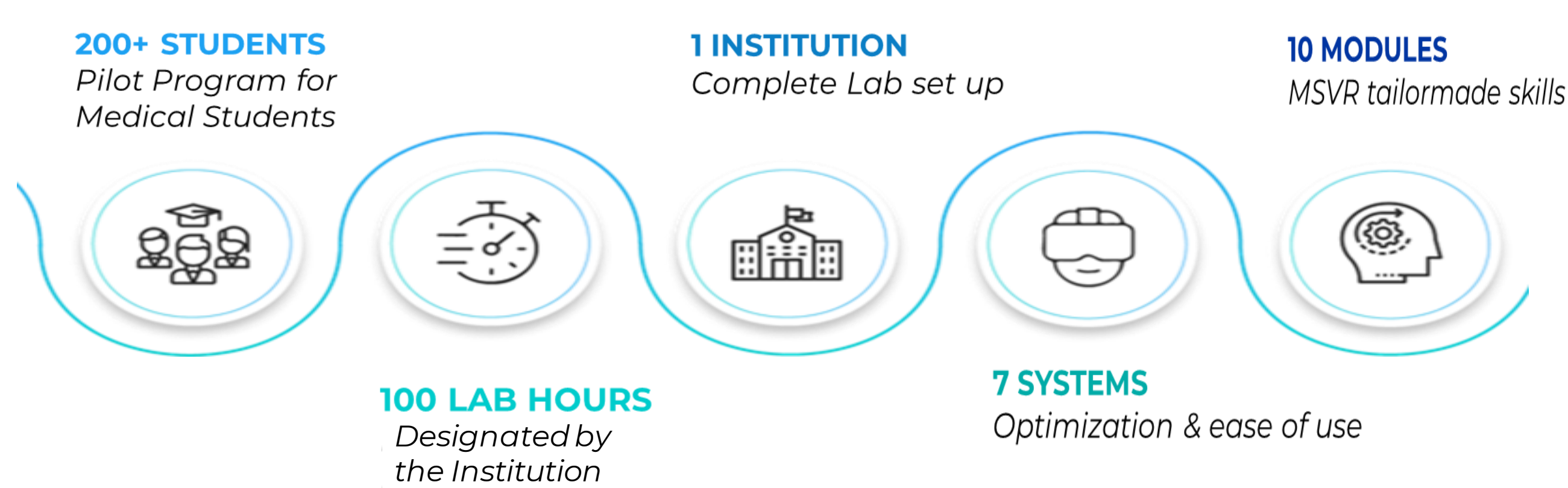
### AIM

To pilot a study with the use of Virtual Reality for training of skills for a large cohort and understand the perception of students receiving the training.



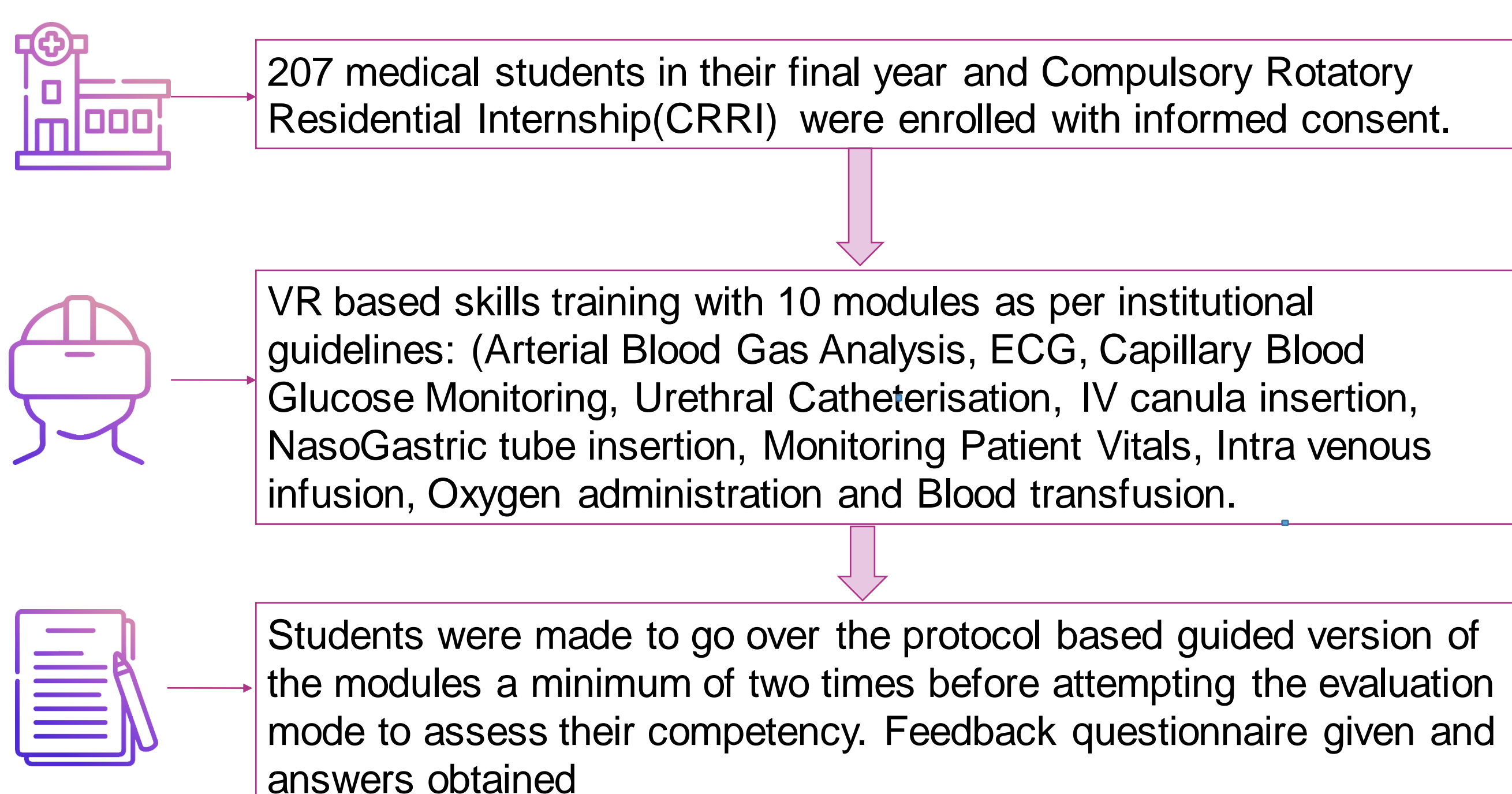
### STUDY CONSTRUCT

VR based clinical skills lab was setup in an Indian medical institute where MBBS students were registered for a year long program. The program involved a set of 10 different VR based clinical skill simulations, which was adopted into the curriculum by the institution .

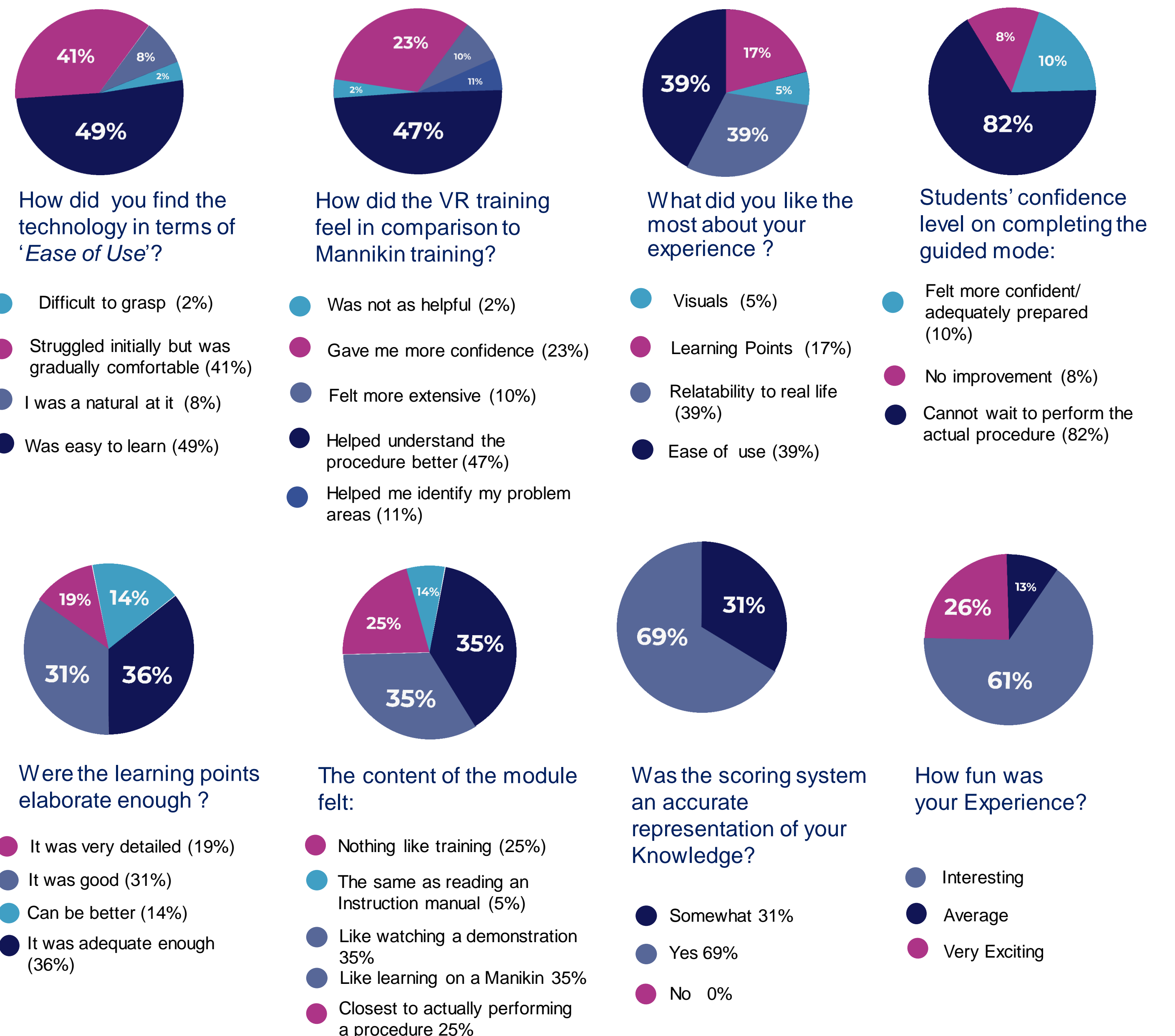


### METHODOLOGY

Each student was provided a PC-Tethered Virtual Reality Headset (Oculus Rift) along with two controllers with **proprietary software developed by MedisimVR**. Trained lab personnel provided assistance with inducting them into the process.



### RESULTS



### DISCUSSION

As per the feedback obtained from the students,

- Virtual Reality
  - They took easily to the VR environment and enjoyed the session
  - Considered this a fun way of learning.
- Educational component
  - They stated that the learning points were satisfactory and majority of the students felt that it was close to learning on a simulated environment
  - Only 39% felt it was close to a real life experience. This indicates the VR environment needs to be refined to resemble reality more closely
  - Happy with the assessment part of the module.
  - Their confidence improved after VR based training, although not to the level of performing independently on a real patient.
  - Majority felt that it was better than manikin based training.

### CONCLUSIONS

- VR based training was perceived as a fun way of learning procedural skills
- It is a good modality to deliver educational content and assess the students thereafter
- Students need repetitive practice in order to improve their confidence levels
- VR environments need to be made more realistic to provide more immersion

**“Looking ahead, MSVR aims to provide through its platform, access to a vast library of training modules, a chance for students to interact with AI powered virtual patients, enable collaborative learning and bring together medical professionals across the globe”**

### REFERENCES

- Gideon Blumstein, Research: How Virtual Reality Can Help Train Surgeons, oct 16 2019 , Harvard Business Review
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