Bournemouth University

Virtual reality for PA teaching

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Problems….

Issues with resources

- Lack of skill room space for simulation
- Lack of staff to run full simulations
- Costly high fidelity manikins

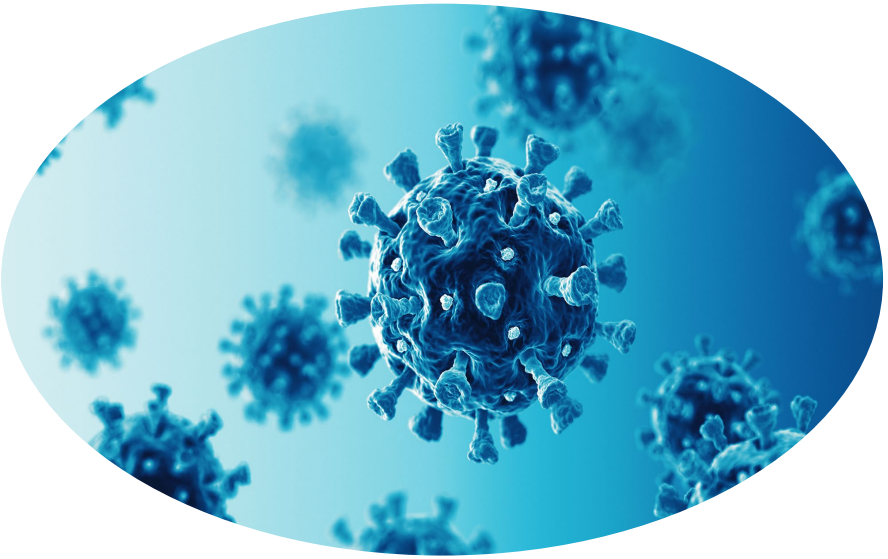
Student expectation

- Simulation is an enjoyable part of course
- Good learning method for placements
- Desire for more

Staff experience

- Lack of time to design PA specific content
- Time restraints for sessions – not everyone can get a go in one session
- Equipment failure

Then along came COVID….



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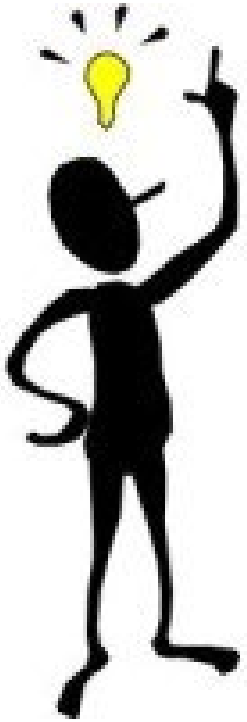
<u>But</u> – our secondary care placement hospitals were open and had:

- Access to simulation……..and
- Online videoing software



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So, we invented Bournemouth University 'Remote simulation'

- Live stream simulation with staff in the hospital and students at home
- Students control the hospital staff
- Investigations shown on screen
- Developed communication skills and clinical reasoning

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Funding

+

Oxford Medical Simulation

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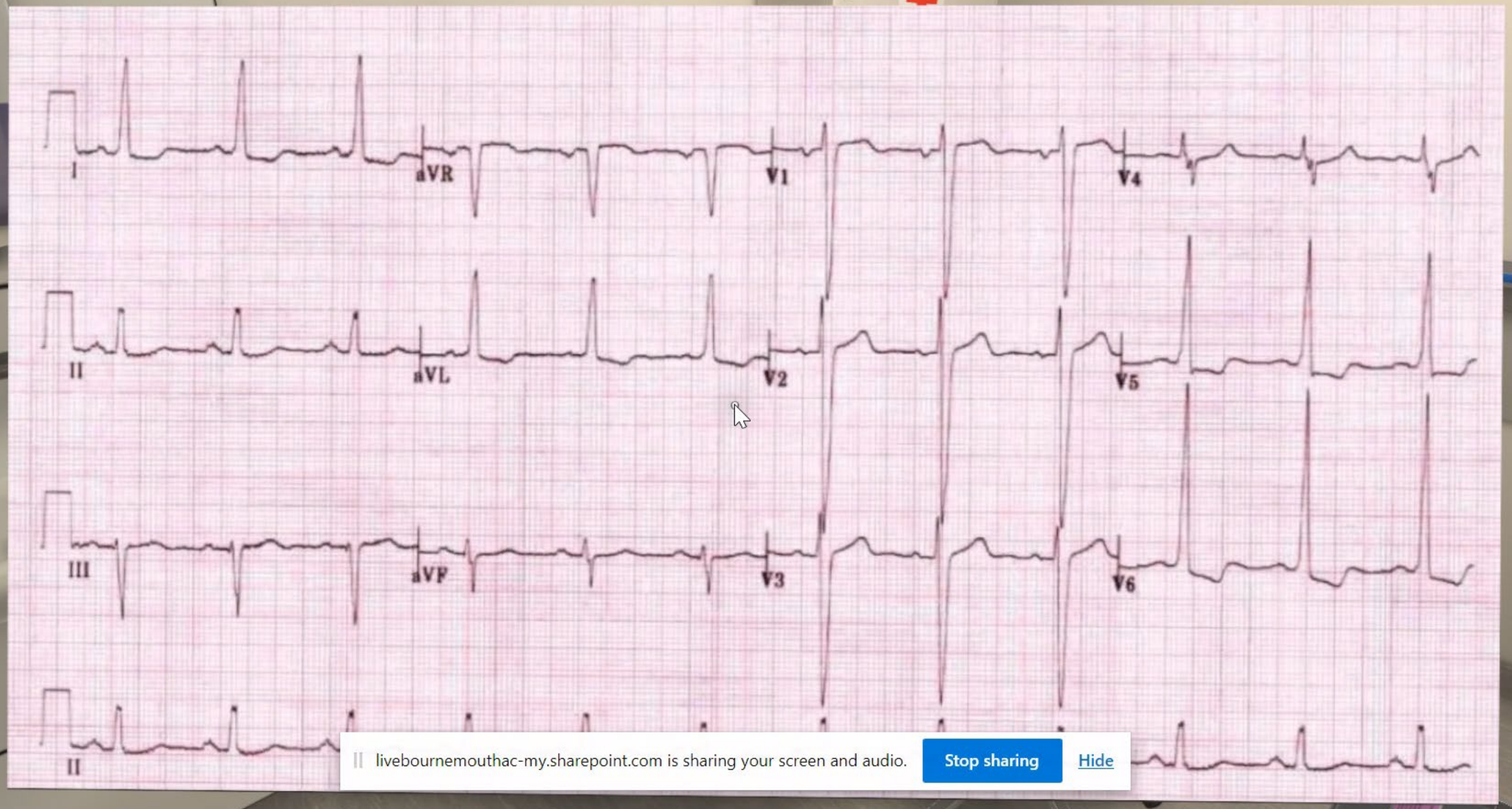
Trial of VR for PA teaching

Oxford Medical Simulation (OMS)

- Leading provider of Virtual Reality (VR) simulation
- Creates a digital, interactive environment
- No PA specific content, but plenty of scenarios designed for medical students and doctors in training
- Medical cases focused on emergency presentations, but also have some paediatric, mental health and primary care senarios.



The project: Planning

- Integrated OMS into our PA programme
  - Individual access for students
  - Faculty access to allowing planning
  - Initially we tried this with just the first two units of the programme: Introduction to Medicine and Emergency Medicine

- Headsets
  - Oculus Quest 2
    - -No need for leads or laptop
    - -Need to install software first

- Room set-up
  - Very easy-Oculus shows you how
  - Does not require a lot of space - perfect for seminar rooms

The project: Getting started

- Easy to set student accounts
- Required one session to demonstrate OMS
  - First on desktop
  - Then on Oculus

The project: Data collection

Following unit: QR code to Microsoft form

Two sets of questions

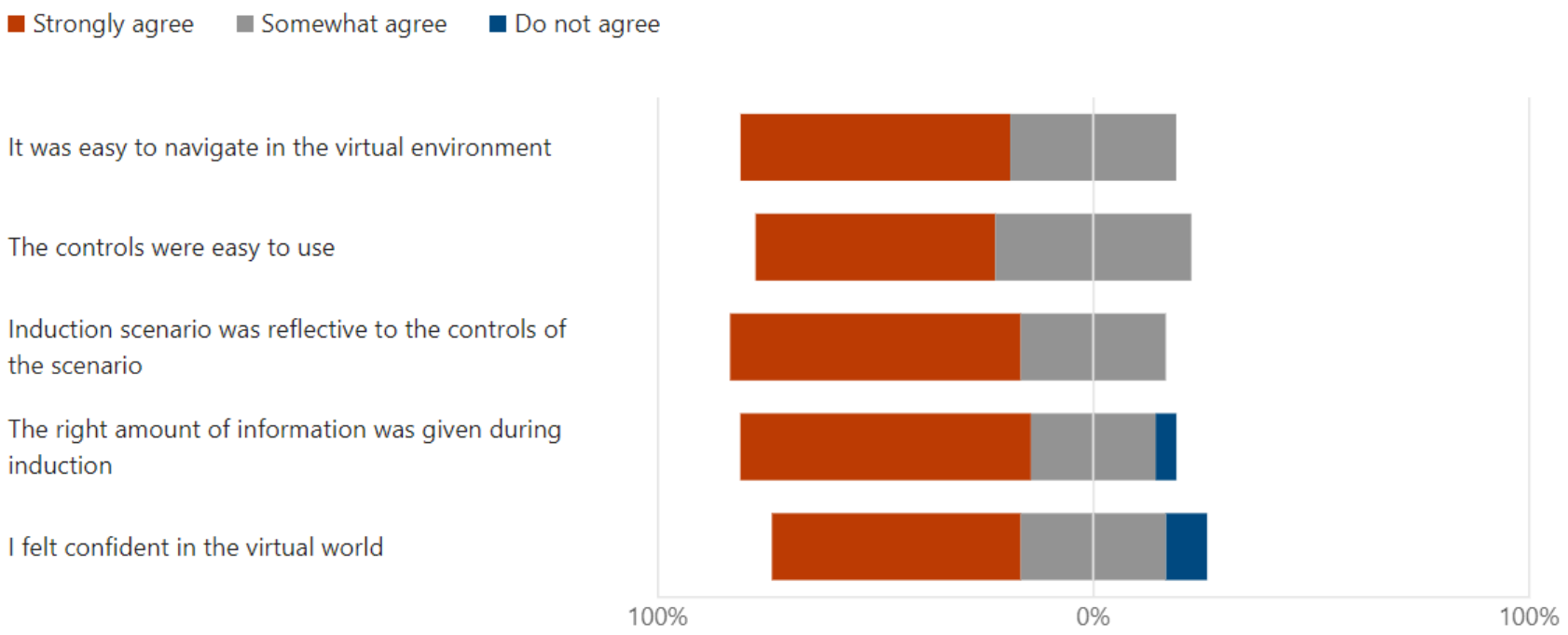
- First for technical aspect: how students found setting up cases
- Second based on Simulation Effectiveness Tool-modified (SET-M)

Data was collected over a month once students were used to using OMS

Students worked with both the Oculus and desktop versions of OMS and were asked about both

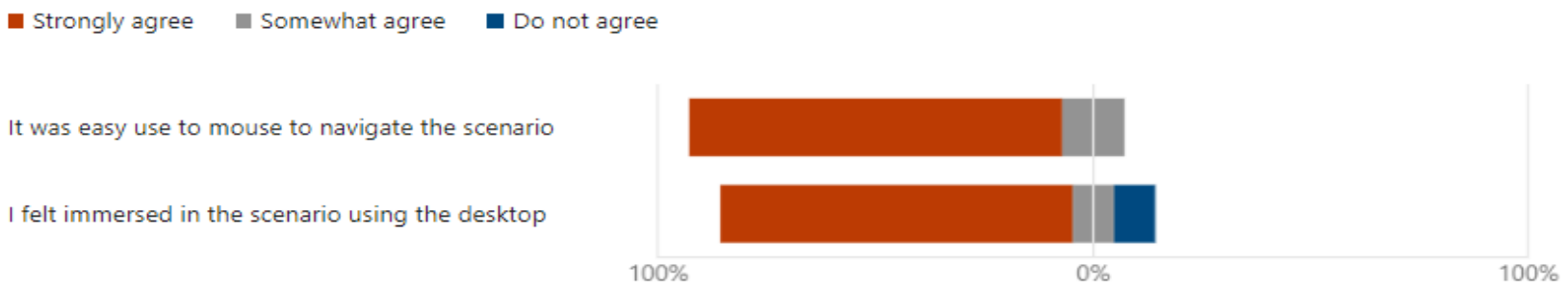
The project: Results – technical aspects

21 students provided answered the questionnaire (all the students in our year 1 cohort)



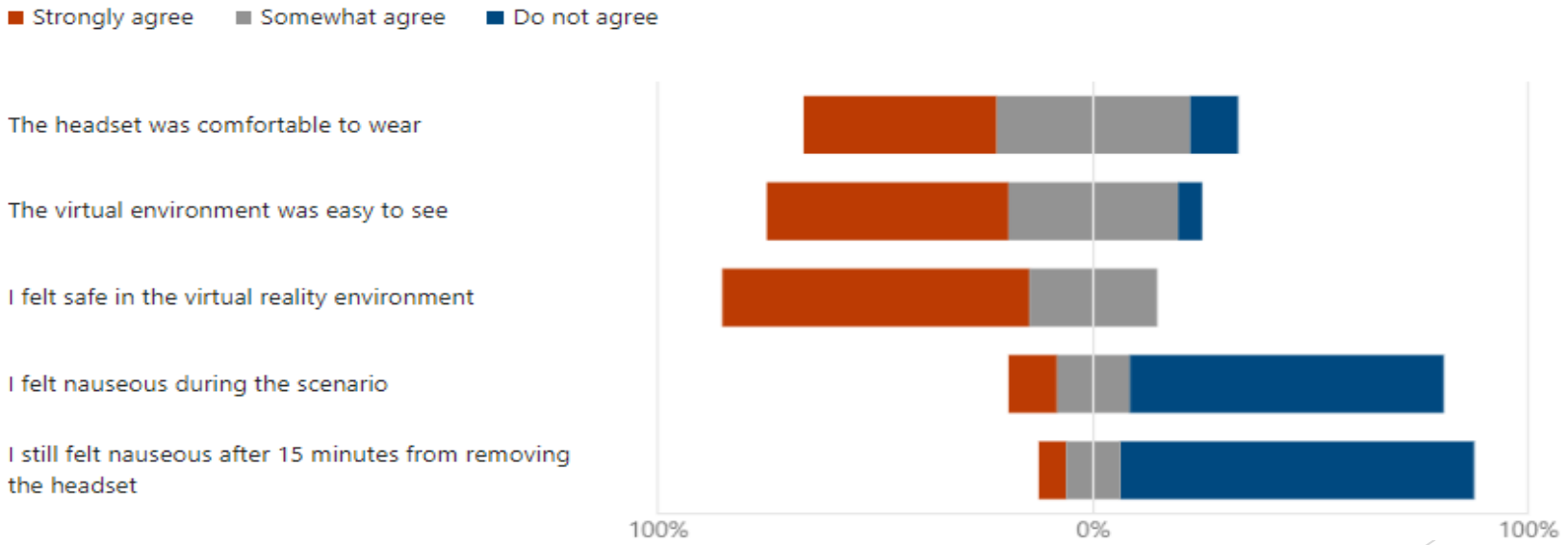
8. Desktop version

More Details



9. Oculus headset

More Details



The project: Results – learning experience

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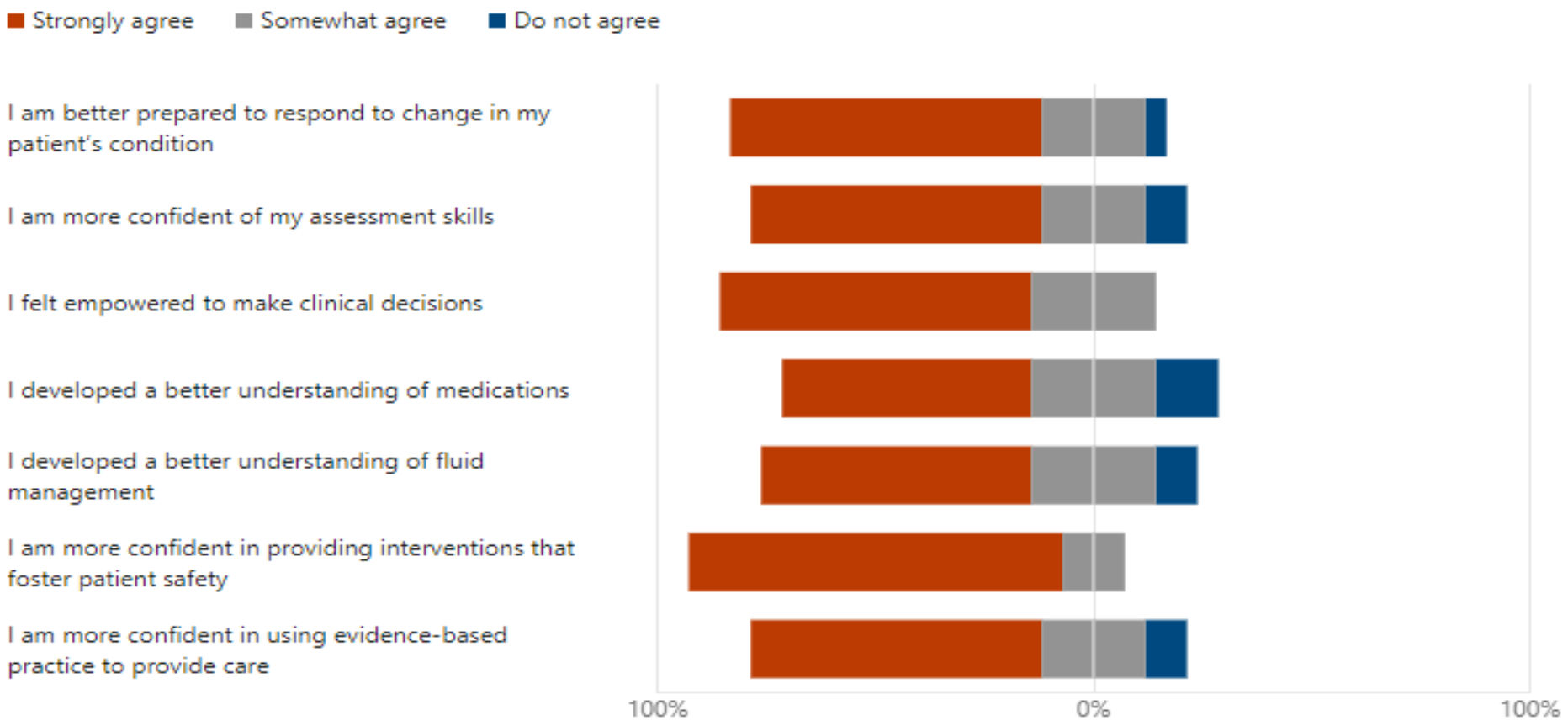

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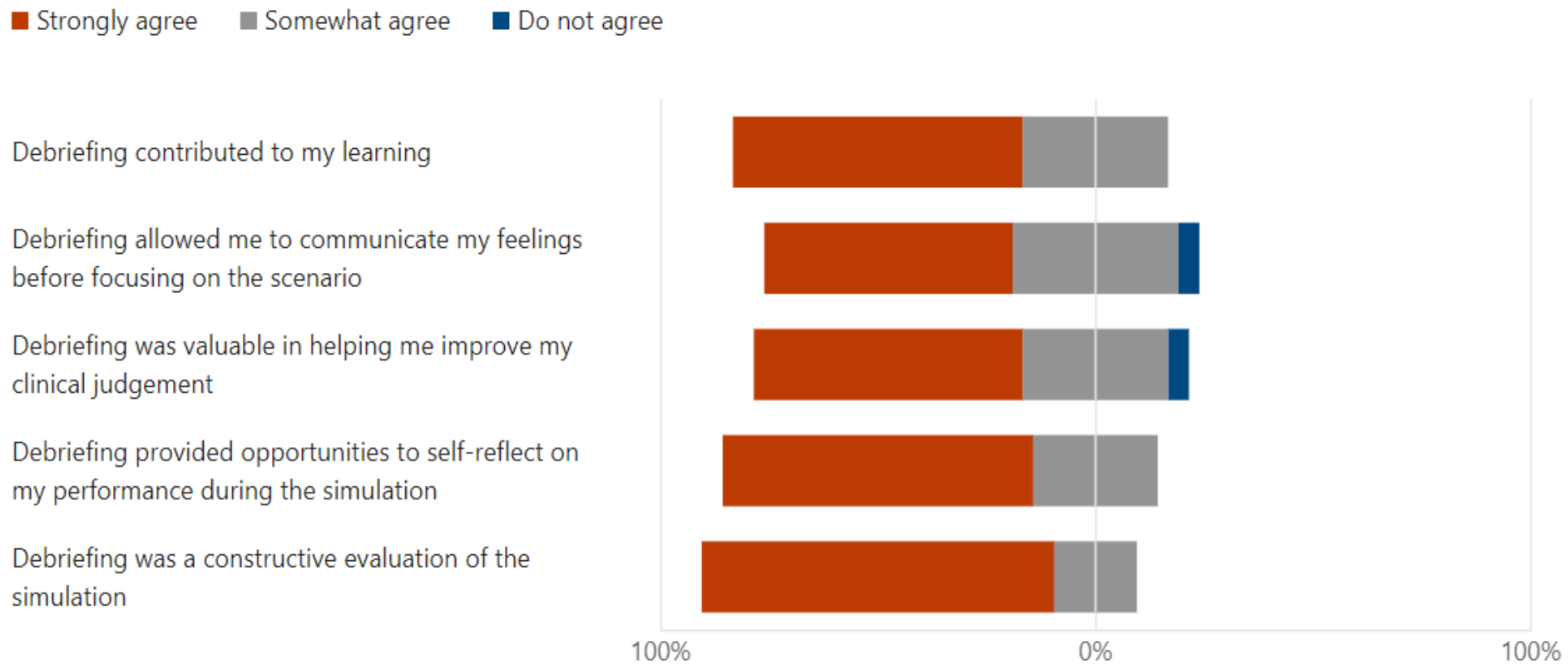

The project: Results – summary

21 students provided answered the questionnaire (all the students in our year 1 cohort)

- 95% agree better prepared to respond to change in a patient's condition
- 100% agree more confident providing interventions for patient safety
- 91% agree more confident in using evidence-based practice
- 95% agree valuable in improving clinical judgement

- **52% preferred using desktop version compared to 14% on Oculus**

Conclusion

OMS is useful resource for students to prepare for placement

The project: What's next?

21 students provided answered the questionnaire (all the students in our year 1 cohort)

- Longitudinal study over the full two year PA course
- Using VR with qualified PAs - currently in data collection phase at University Hospitals Dorset

Other potential research leading from this pilot work:

- Wider project assessing impact across a number of different HEIs
- Direct comparison with existing simulation using mannikins
- Direct comparison with other clinical VR systems
- Exploring the impact of VR on interprofessional learning

Any questions?