

In this article...

- The importance of simulation exercises in nurse education
- How this was delivered online for 500 students
- Why using this approach to develop a growth mindset is important for student nurses

Using online simulation experiences to increase student nurses' confidence



COVID-19

Key points

Covid-19 has presented global challenges to all aspects of healthcare including nurse education

A large patient simulation exercise was redesigned to be delivered online

Students participated in teams and were encouraged to adopt a growth mindset to learn from the experience

A debrief allowed students to reflect on the influence the simulation had on their learning and subsequent clinical practice

Evaluation responses showed the exercise had increased students' confidence

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Abstract Covid-19 has presented global challenges to all aspects of healthcare, including nurse education. This article describes an innovative approach at Birmingham City University to ensure student nurses continue to have simulated learning experiences. A planned patient simulation event for 500 students was redesigned to be delivered in groups of 10 via Microsoft Teams. There was a particular focus on developing the students' growth mindset, with an emphasis learning from challenges and recognising what could have been done differently. The evaluation showed that the simulation was beneficial to students and had increased their confidence.

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Before the coronavirus pandemic, a team at Birmingham City University (BCU) designed and planned Operation Simulation, with the aim of allowing a large cohort of 500 students to experience a simulated patient scenario, including a debrief and reflection on the learning offered. Originally, this was planned to be held on campus using acting students from the Royal Birmingham Conservatoire (which is part of BCU) but, once it became apparent that this could not happen due to government restrictions in response to the coronavirus pandemic, an online approach was explored.

The MAES® model – MAES is the Spanish acronym for 'self-learning methodology in simulated environments' – by Díaz Agea et al (2016) was used to design six stages of an online simulated learning event that took place over two weeks. The stages of the model are outlined in Table 1. The intention was for students to work in teams, direct their own learning and use

Table 1. Stages of simulation model

Stage	Activity
1	Introduction and team building
2	Pre-simulation preparation (Moodle resources)
3	Execution of the simulation
4	Group review of the simulation recording
5	Deep debrief
6	Self-reflection and application of learning to practice

the resources provided on Moodle, an open-source learning platform. They were encouraged to show how they developed their team and individual growth mindset, and demonstrate the influence the simulation had on their learning and subsequent clinical practice.

Clinical Practice Innovation

This simulation experience counted as 80 practice hours but was not formally assessed; completion of the six stages provided an opportunity to win prizes. The success of the simulation depended on effective facilitation and student participation in each of four online scenarios, alongside the use of briefing and debriefing skills.

The Nursing and Midwifery Council's (2018) standards for nurse education promote the use of simulation throughout the curriculum. Simulation allows opportunities to create scenarios representing real-world practice that supports student development through experiential learning by using:

- Repetition;
- Feedback;
- Evaluation;
- Reflection.

Online simulation

To test the effectiveness of an online live delivery of the simulations via Microsoft Teams, a pilot event was held. This successful trial led to a plan for a cohort of 500 students to be allocated to groups of 10 people; where possible, the groups included students from the four fields of the profession – adult nursing, children's nursing, learning disability nursing, mental health nursing – to encourage shared learning.

Four scenarios were written, which encompassed the four fields of nursing. For each simulation, there was a real-time live interaction with a patient actor. One or two students took a lead role while the rest of the group used the Microsoft Teams chat facility to contribute their ideas and offer peer support. Students were encouraged to participate fully in the activities, as well as in the briefing and debriefing sessions.

The learning outcomes (Box 1) required students to show appropriate communication skills and effective clinical judgement. The scenarios were recorded and students watched their group recording as part of the deep debriefing sessions.

Growth mindset

Growth mindset – explored by Dweck (2014) – is a theory based around the belief that intelligence and learning can be developed and improved. It focuses less on using achievements to measure intelligence and more on the attitude and overcoming of the challenge itself. If someone has a growth mindset, they have a positive attitude towards learning and their own ability to progress and achieve. Students

Box 1. Student learning outcomes

Following the simulation, students should be able to:

- Demonstrate an understanding of the complexities of effective communication when interacting with patients/service users with acknowledgment of any potential risks
- Demonstrate effective teamwork and collaboration with colleagues
- Demonstrate the ability to problem solve, risk assess, and make clinical decisions, including relevant referrals, to maintain and ensure patient safety in response to care requirements
- Reflect on personal development and the application of learning to clinical practice, and demonstrate an emerging-growth mindset

who possess a growth mindset are said to rise to challenges and learn from the mistakes they make, rather than feeling distressed and defeated if they are unable either to do or to understand something.

We applied this theory to encourage students to embrace the simulation experience and to change and grow their attitude to learning. In addition, it was important to set ground rules for the simulation to ensure students were clear, from the outset, what was expected of them in the online environment and to alleviate any anxiety where possible. These are detailed in Box 2.

“If someone has a growth mindset, they have a positive attitude towards learning and their ability to progress and achieve”

Debriefing

The use of a debriefing tool was key in developing students' learning and ensuring that the simulation experience was meaningful to them. A confidence continuum (Fig 1) allowed the students to rate their level of confidence before and after the simulated case studies; in the majority of cases, it was noted that their confidence markedly increased.

A debriefing framework tool adapted from one used at Flinders University – as detailed by Gum et al (2010) – was used by both the students and facilitators to ensure parity and structure to the debriefing. It was made clear to the facilitators that debriefing should:

- Focus on the students' learning from the simulation;
 - Discuss how that learning could be transferred to clinical practice and develop their growth mindset.
- Feedback was given at two points:
- A hot debrief occurred immediately after the student interaction with the

actor and captured initial feedback and key learning;

- A deep debrief session happened after watching the recording at stage 4.

These debriefs were supported by two facilitators, and students were encouraged to reflect on the deeper learning and how it would inform their clinical practice. This fits with the view that facilitative learning can occur when the learner is exposed to a situation and encouraged to reflect on it afterwards (Jarvis, 2004).

Role of the facilitator

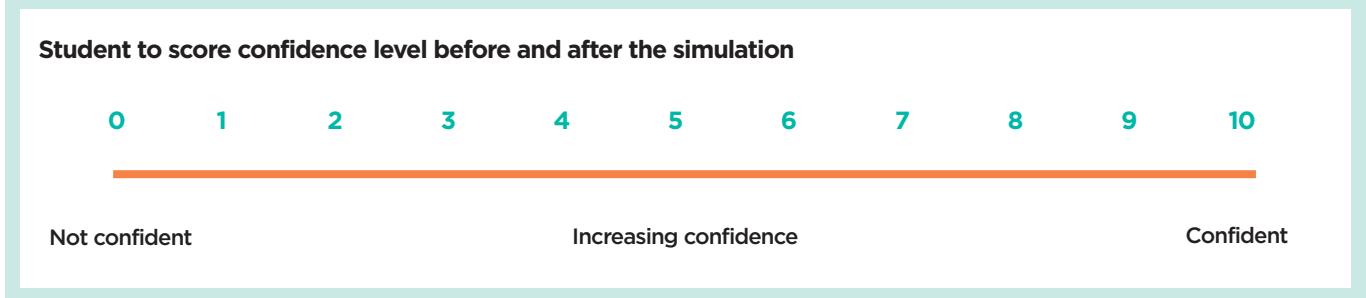
The importance of the facilitator role and the nature of the feedback that should be offered to students was a major part of the preparation for the simulation. All facilitators were given articles on the use of the growth mindset model and guidelines on how their feedback should be delivered.

The role of the facilitator is crucial to the success of many experiential learning processes, and certainly to the development of a growth mindset model. According to Jarvis (2004), the teacher assumes a pedagogical stance, providing the learner with

Box 2. Student ground rules

- Ensure preparation work is completed, including the allocation of scenario leads
- Log on in plenty of time to ensure the simulation can start on time
- Log on with your camera and microphone off
- Leaders will be instructed to turn their camera and microphone on
- Recording will take place (student consent is assumed)
- Use the live chat for questions, feedback and the debrief
- Reflection afterwards is necessary for learning and development
- Consider your feedback – ensure it is constructive

Fig 1. Confidence continuum



required information; the approach is often used in higher education in which large groups of students can receive the information at one time. However, Jarvis contrasts this with a learner-centred approach in which the facilitator seeks to create awareness of a learning need in the learner by, for example, presenting a problem that needs to be resolved or providing an experience with subsequent reflection.

Facilitation in the growth mindset model is a key role that emphasises the influence the facilitator can exert over student learning (Seaton, 2018). Both Dweck (2014) and Hattie (2012) pointed out that facilitators should have a growth mindset themselves if they are to be a positive role model for their students.

Dweck (2014) placed considerable emphasis on how the facilitator gives feedback to the learner, highlighting the need to praise “wisely” and the use of the power of “yet”. It is suggested by Dweck (2014) that praising learners for demonstrating intelligence is unwise as it causes them to be motivated to preserve their reputation of cleverness, rather than fail at a task and appear stupid, which can lead to their avoiding challenges. Instead, praise should be directed to the process of learning. For example, learners should be praised for the efforts they have made, the strategies they employed, and their enthusiasm and determination in striving to overcome the challenge. In this way, they are encouraged to approach challenges and to keep going, even when the task seems very difficult.

The power of ‘yet’ is used when a learner has not reached the goal that was set; the facilitator can still offer appropriate praise. Feedback tools to help the facilitator are available free of charge from www.mindsetworks.com.

The use of actors

The use of scenario-based simulation in nurse education is seen as valuable in terms of emotional context, learning from each other and developing confidence in

preparation for “real patients” (Söderberg et al, 2017). However, studies have shown that the use of simulation mannikins limit emotional responses, communication of human interactions using verbal and non-verbal cues, and the realism of improvised scenarios (Coleman and McLaughlin, 2019; Bell et al, 2014). Instead, using patient actors has been proved to be an effective way of developing the interpersonal skills required in nursing (Jeffries et al, 2021).

Individuals taking on the role of a patient generate an authentic learning experience in a safe environment (Söderberg et al, 2017). There is mixed evidence on whether students prefer this to be someone they do not know (Chen et al, 2015) or a lecturer they do know (Coleman and McLaughlin, 2019),

but the learning has been shown to be transferable to the clinical setting and allows for greater self-reflection (Kaplonyi et al, 2017). The actor feedback is also valuable as their perspective is not attributed to the prerequisites of the course of study or attachment to the student (Bell et al, 2014).

Evaluations

Students were asked to evaluate their simulation experience using an online Microsoft Forms evaluation form, which was posted in the chat facility during the deep debriefing group sessions. This aimed to capture real time responses and 253 forms were completed.

The evaluations were positive: only three students offered negative comments.

Box 3. Was the simulation exercise beneficial?

“Definitely benefitted [me], it was an opportunity to learn from my own personal experience and also to learn from others, as well as [giving me] the opportunity to reflect on, and get, constructive feedback.”

“Yes, because I learnt to be patient with individuals who have experienced trauma. I think it’s taught me the importance of listening to the patient before making any decisions or assumptions about their health and wellbeing. And the same with my team members; I think it boosted my confidence and improved my communication also.”

“Yes – pushing myself to lead a simulation proved that I did know what to say and how to handle sensitive situations. I felt a lot more confident afterwards.”

“I feel like the scenarios were good and true to real-life situations, and in real life we don’t always know the whole situation, and [it] makes us think and challenges us, as in real practice.”

“An excellent, immersive experience.”

“Members of the team reassured me when I was not feeling confident about my role, they supported me a lot with advices [sic] on how to set up a smart goal and helped me a lot when I was not grasping the concept of the simulation and what we had to do.”

“Yes I did benefit – it felt very realistic and professional. I really appreciated that other members of the team could contribute during the scenario, which heightened the learning experience. Using technology was effective, as it allowed me to watch my performance as a lead at a later date to reflect on what I said/how I reacted to the patient.”

Increased confidence was a recurring theme, in 134 of the responses. Learning from other fields and from individuals in their team was also cited as beneficial on numerous occasions (Box 3). Students also said the challenge of the simulation and being “pushed out of their comfort zone” was beneficial to them (Box 4), which fits with the rationale behind developing a growth mindset. Another positive observation was that students were meeting and working with peers they had never met before, and a number formed strong connections with each other.

Lessons learnt

Technical support and good knowledge of Microsoft Teams was critical to the seamless delivery of the online simulation. Facilitators needed to be consistent in reinforcing the student ground rules in relation to professionalism and online learning. To ensure a high-quality learning experience, the size of the group should not exceed 10 people.

Using the chat facility allowed for team work, an interaction that cannot be replicated in a face-to-face simulation in which students find it difficult to contribute and support the individual leading on the scenario. However, in some instances the student involved directly with the patient/actor either found it distracting, or relied too much on the team support instead of drawing on their existing knowledge or transferable skills, which may have disrupted the natural flow of conversation.

Some students said they would still prefer a face-to-face experience to enable them to respond to patients’ verbal and non-verbal communication (Box 4).

Benefits of online learning

Concerns about the fidelity of online simulations proved largely unfounded as students commented on how immersive the experience was. The scenarios were constructed to mimic care delivery adaptations during a global pandemic. Patient actors helped to create that sense of realism, responding effectively and differently to students depending on their approach.

Conclusion

The move towards online nursing education has proved both exciting and challenging, and we have shown that remote provision of simulation exercises is possible. Our approach allowed students to be pivotal in their own learning and develop team-working skills, as well as successfully meeting learning outcomes.

Box 4. How did the online learning help your future practice?

“Recording and rewatching the recording allows me to look back at my facial expressions. This impacts patients’ interaction and relationship with the nurses. This is important to understand what the patient may feel.”

“Observing the interactions of other student nurses across the different fields enabled me to learn different approaches of communication with patients. It was a chance to share ideas regarding asking the right questions to get the answers we need.”

“I think this has really helped as it gives you a safe environment to practise difficult discussions that may, before, [have] made you feel uncomfortable. I think this should definitely be offered every year for students as it helps with confidence.”

“I found it pushed me out of my comfort zone and gave me more of an insight in different fields of nursing and different situations that a nurse may find themselves in.”

“Not only has it built more confidence in the other areas of specialty, but it has broken our usual social comforts of being part of a group you wouldn’t normally choose. I feel the input of different specialties have [sic] been invaluable and I will be able to take this on placement with me. I feel better equipped in approaching areas I would normally shy away from. Having a safe environment, yet very realistic scenarios to practise in, has made me realise the importance of consciously widening my experience and the differences involved when looking after patients with different needs. This is something that will be invaluable when on placement! Thank you.”

“I think they were good but I feel like meeting the patients face to face is better as it allows us to see the patient’s body language. Can see physical issues with the patient in which they may not have told us.”

“It did [help] but, at the same time, I feel as though an online simulation doesn’t reflect a real-life situation as you can’t see body language, which is a big part of communication and building trust.”

The use of patient actors in real-time online scenarios was key in ensuring realism. Facilitators had a fundamental role in ensuring that debriefing was effective. In evaluation responses, students identified that participation had increased their confidence and allowed additional learning. Whole event evaluations were submitted by students on 23 March, and prizes have been awarded for individual reflection on application to practice using the REFLECT model, evidence of group mindset development and evidence of individual growth mind set development. **NT**

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