**Student nurse’s values of peer assessment and debriefing within a simulation exercise**

**Abstract**

Simulation is a widely recognised part of nurse education utilising clinical scenarios within a safe environment. However, a planned de-briefing session is not always routinely part of this. All simulation-based learning experiences should include a de-briefing aimed at promoting reflective thinking. Reflection is a valuable part of any learning experience and can lead to new interpretations by the learner. Peer assessment and peer debriefing, although not widely researched, has been demonstrated to be a positive learning experience which fosters a relaxed, yet focused environment amongst nursing students as they feel more at ease with their own peer group.

 This paper explores the experiences of twenty undergraduate nursing students participating in a simulated exercise and being both peer assessed, and peer de-briefed by their fellow student cohort.

To clarify, *peer assessment* is whereby students assess one another, and *peer de*-*briefing* refers to a student providing feedback to another fellow student following, for example, a simulation.

The research study took place within the simulation suites at the authors’ place of employment (a University). The participants were twenty undergraduate children’s nursing students. The students were asked to complete a questionnaire after the exercise. The questionnaire was analysed using a thematic approach, identifying a number of key themes within the qualitative feedback received.

The data analysed was divided into several key themes. Examples from the data received are included in the paper.

This paper explores and demonstrates the value of peer assessment and the importance of a structured de-briefing following a simulated exercise.

**Keywords**

Simulation, research simulation, peer assessment, peer debriefing, reflection, nurse education.

**Introduction**

The use of simulation in pre-registration nursing programmes is widely practised in many curriculums. Simulation is a proven pedagogy for supporting students to develop problem solving, professional and communication skills, and is regarded as a core curriculum element in the development of effective healthcare workers (Aud et al 2017). The World Health Organisation (2011) states that the use of simulation as a pedagogical method is required to enhance patient safety. The Nursing and Midwifery Council (NMC) (2018) endorses this further by stating in its latest “Standards Framework for Nursing and Midwifery Education” that simulation can be used to replace practice hours for students, highlighting its belief in its value. The effective use of simulation provides students with a replicated clinical environment in which to learn skills and consolidate knowledge, whilst maintaining patient safety and without the associated risks of the clinical setting (Kim et al 2018). Benefits include enabling students to foster clinical competence and decreasing student anxiety and uncertainty. A further benefit has been cited as enabling students to develop clinical competencies in how to assess, prioritise and act on a scientific basis under conditions in which patient safety is not compromised (Meyer et al, 2014).

Following the changes to the standards for nursing education registered nurses at every level are now expected to undertake the role of practice supervisor for student nurses (NMC, 2018). Higher Education Institutions (HEIs) therefore need to work in collaboration with placement providers, to develop governance arrangements to both prepare and support practice supervisors (Cust, 2019). For this to be successful, newly qualified nurses need to be confident in the teaching, education and indeed, the debriefing of others. Research has highlighted that current programmes are failing to equip students with these essential skills prior to registration (Bradshaw & Merriman, 2008) and nurses report a general lack of training in this area. It is paramount that nurse education addresses this gap and begins the preparation for the supervisor role during the training of undergraduate nurses. This study aimed to measure how utilising peer assessment in a simulation-based learning exercise, can support this training and build confidence in students. The students were peer assessed on a variety of different skills – for example, assessment of their patient and prioritising their patients' needs within an acute situation, communication and team working/delegation. As all simulation-based learning experiences should also include a planned debriefing session aimed towards promoting reflective thinking, this was also explored. Feedback from their peer assessment was provided within the de-briefing session.

**Background/Literature**

The benefits of peer education are well documented within nursing literature, these include; improved academic performance (Bryer, 2012), enhanced learning experience (Ramm et al, 2015) and the development of teaching skills (Branigan et al, 2013). Ramm et al (2015) highlighted that the research largely focuses on the benefits of peer education for the learner, however there are reciprocal benefits evident for both peer learner and peer assessor.

Incorporating elements of teacher training particularly through peer teaching and assessment could therefore help to develop skills for supervising others and grow confidence in students (Ramm et al, 2015). Szlatcha (2013) found that the use of simulated clinical scenarios facilitated by peer assessors and/or lecturers were valued as being particularly useful for learning through peer teaching and assessment by students.

For the purpose of this study, a flipped classroom approach was used. Flipped learning is a pedological approach in which the conventional notion of classroom-based learning is inverted. The students are introduced to the learning material prior to the lecture, with the classroom time then being utilised to deepen understanding through discussion with peers and problem-solving activities facilitated by lecturers.

 Ramm et al (2015) reports that students preferred this teaching method as both engagement and problem-solving skills were improved upon. All of which are essential for the training and development of student nurses.

This study aimed to focus on providing students with an appropriate briefing on what is required for the simulation session prior to the day, creating the flipped classroom element. Students are then able to prepare themselves and gather knowledge for both taking part in the simulation, and for assessing and debriefing their peers. The flipped classroom approach aimed to overcome some of the reported barriers to peer assessment such as discomfort about evaluating another student’s work effectively (Welsh, 2007). The use of a briefing to empower students to conduct some pre-learning, also aims to counteract the risk of poor accuracy and reliability within their feedback, and to ensure that clear criteria, and learning outcomes are met

Previous findings suggest that students are motivated by receiving feedback from their peers (Mukohara et al, 2004), and the exercise activates cognitive functions, thus increasing academic achievement for both the active participant and the reviewer (Yoo et al, 2011). Within a study by Rush et al (2012), utilising peer assessment for clinical skills, it was concluded that students were almost unanimously positive about being assessed by their peers. They attributed the additional learning and development of judgement and critical thinking, to working in teams with peers and assessing each other (Rush et al, 2012).

This study aimed to build upon previous research to analyse the student’s perceived value of peer-assessment in simulation utilising the flipped classroom approach, and to explore the effectiveness of a peer debriefing exercise following the simulation experience.

**Ethical Approval**

Ethical approval was sought and gained from University ethics. Each participating student was given an information sheet which was discussed in detail prior to consent being obtained. The students signed a consent form giving permission for their answers to be used confidentially, for the purpose of a potential publication within a relevant journal and/or conference presentation. The students were given the option not to complete the questionnaire, but all participants were very keen to take part.

**Method**

Twenty undergraduate third year children’s nursing students were given a two-hour pre-brief about the use of simulation within healthcare. The pre-brief was delivered by an academic who had gained a lot of experience working within paediatric simulation. The pre-brief included several key points but primarily provided the students with an outline of experiential simulation, tips on how to develop a simulation scenario, an introduction to debriefing and, finally, the importance of effective debriefing. The aim of the pre-brief was to prepare and enable the students to be able to ‘flip the classroom approach’, and to have the knowledge, and confidence, to create their own scenarios for their peer group.

The students were divided into groups of four. One group of students were asked to participate in the skills lab at each time, in a simulated learning scenario based around an acute situation involving the deterioration of a child. The remaining four groups observed their colleagues within the video classroom. They could clearly watch their peer group on a large video screen re-enacting and managing the acute scenario. The students were familiar with the simulation labs and, indeed, the Human Patient Simulators (HPS) of which there were three ages ranging from a baby (0-12 months), a child (4 years to approximately 8 years) and an older child (8 years up to approximately 16 years). This familiarisation ensured that the students were comfortable using both the labs, and the equipment, and subsequently undue stress was not placed upon them regarding utilisation of equipment or unfamiliar surroundings. The students led and co-ordinated the event, and the academic staff were there only within the role of facilitators.

At the end of each simulation the group carrying out the exercise returned to the video classroom with the use of SMOTS (Scotia Medical Observations and Training System) cameras and were debriefed by their peer group observing the interaction.

As suggested by Zhang et al (2018), to ensure effective debriefing, facilitators must be able to create a safe, supportive, and respectful learning environment where learners can comfortably share their opinions, thoughts and experiences. Bisholt et al (2014) state that the importance of this skill cannot be overstated, and as many as 50% of participants may feel intimidated and overwhelmed to sit in on a debriefing exercise for fear of judgement from their academic staff or peers.

The video classroom is light, spacious and airy. There are plenty of comfortable seats and it is a familiar environment to the students. The students had received a very informative lecture prior to the simulation experience about the importance of debriefing and, indeed, the ‘art’ of effective debriefing.

Rather than the entire remaining 16 students providing a debrief, four students were allocated to debrief the group taking part in the simulation. This was carried out by randomising the students, via a number allocation, into their different groups. Each student had the opportunity to take part in debriefing as the groups were rotated accordingly. This was thought to be a more cohesive and controlled way to debrief, and feedback could be more structured from a smaller group than a larger group. It may be less intimidating for those receiving the feedback too. Each group were given the same debriefing sheet, with succinct headings, to enable them to focus their observation accordingly. This sheet was given to the students to read after the initial pre-brief - allowing the students time to familiarise themselves with the required documentation. This had been devised by the academic staff and was not a recognised de-briefing tool, however it had been approved by University ethics.

After the exercise was completed feedback was sought from all participants in the form of an anonymised questionnaire. The questionnaire was completed by the students within the classroom. Open ended questions about both the simulation and the debriefing were asked to encourage the students to write a detailed account of their perceptions and feelings about the exercise.

Feedback from the questionnaires was analysed using a thematic approach and several common themes were identified.

All participating students completed their questionnaire, but the degree of feedback provided was hugely variable. However, a large proportion did provide some very key thoughts about the exercise and this will be discussed within the following section.

**Data/Results**

The data received from the student questionnaires was analysed using a thematic approach (Braun et al 2019). This was considered to be an appropriate option for the analysis as the academic staff were keen to identify key themes within the responses given. The raw data was read, and re read, and common themes that recurred were identified. Statements were highlighted in different colours according to which theme it was felt that they ‘fitted’ in to.

Four key themes were identified in relation to the simulation and three were identified in relation to the assessment and de-briefing. These are described below in addition to quotes taken directly from the students' feedback.

**Themes relating to simulation**

***Safe Learning Environment***

Several students discussed the fact that they felt ‘safe’ during the simulation. They talked about feeling ‘ok to make errors without causing harm’ and ‘learning through practice’. They discussed the huge learning curve that this provided them with as they felt ‘ok’ to attempt clinical activities - which they may have avoided if they were in a ‘real life situation’.

*Student 1 -* ‘*I felt really safe, this in turn increased my willingness to take part and to suggest ideas that normally I may think, no, that may not be right and may hurt someone!’*

*Student 4 - ‘It’s quite a weird feeling, you sort of get embroiled in the scenario and almost forget that it isn’t real, but what is good is that it’s ok to make errors and learn from those errors because no one is actually going to die...’*

*Student 8 - ‘I think simulated learning is just great. It’s the chance to improve your practice and your skills but in a safe environment, wish we could do lots more of it.’*

*Student 11 - ‘I learnt so much from this. And I’m so pleased with what I actually do know. Because it is a safe environment, I found that I was much more willing to have a go...and then realised that, actually I do know what I am doing...I felt good.’*

***Team Working***

Another theme that emerged, which again a number of students discussed, was the importance of team working. They felt that the simulation scenarios encouraged, and indeed, facilitated team working.

*Student 7 - ‘Because you are faced with this critical scenario you find yourself liaising with your peers about how to manage the situation. On reflection I realised how well we had all worked together – the levels of combined knowledge were pretty impressive I thought...’*

*Student 9 - ‘The simulation event made me value the importance of team working, it is so important to know your own limitations and to seek advice from your peers. We all did this over and over again with this exercise and the best outcome was therefore reached for our (simulated) baby.’*

*Student 13 - ‘The exercise was only as successful as the students who were managing it – our skill level combined was really quite good and I learnt so much from my team.’*

*Student 15 - ‘I found myself initially thinking, I don’t know what to do or how to handle this, but then one of my peers suggested something and then someone else suggested something else and it was great as I thought oh yes of course, I knew that already.’*

***Increase in Self Confidence***

One of the most common themes throughout the data analysed was the mention of self-confidence with twelve students writing about this within their feedback. Four of the quotes are cited which were felt to be a combination of a number of the comments analysed.

*Student 4 - ‘I always struggle with my self-confidence, not just in my work life but with everyday scenarios too. I really enjoyed the simulation as I felt as if I knew what I was doing for once. This may have been a combination of a safe environment and working with my friends, but my confidence is definitely boosted from this. I wish we did them more often.’*

*Student 7 - ‘This has really made me feel good. I actually do know something, and it was great to be able to demonstrate this in a clinical setting.’*

*Student 14 - ‘I often think that I actually know very little and how can I possibly be qualifying so soon. How will I manage my patients when I am qualified? But I do know stuff and I will be ok, all those hours of training will not be wasted as I have actually learnt some things that may be quite useful!’*

*Student 18 - ‘Great day, feel quite good about myself, I knew how to handle situations that I may not have believed if I was sat in a classroom in front of a PowerPoint – or on the wards with lots of qualified staff. It is a really good way to boost student's confidence in a safe, controlled environment.’*

***Decision Making***

Several of the students expressed their surprise at their own decision-making skills. They talked about how ‘submissive’ they felt they were but, actually, how confident they became in the art of delegation!

*Student 2 – ‘I am usually the one at the back, taking orders and feeling rather overawed, but this wasn’t the case today, I was making decisions with everyone else. It felt so positive and out of my comfort zone – but in a good way.’*

*Student 8 – ‘I could have got quite carried away with everything. I felt really confident and was making suggestions that I didn’t even know that I knew – and they were right!’*

*Student 15 – ‘This is a great confidence booster, and also a realisation check as you do actually know stuff. I made some really good decisions and that felt great.’*

**Themes relating to peer de-briefing and peer assessment.**

***Reflective thinking***

Several students discussed the value of reflection which was inspired by the de-briefing process.

*Student 7 – ‘The de-brief was so useful, it made me stop and actually reflect upon the whole process and my, and others, actions.’*

*Student 9 – ‘The best bit was the de-briefing because it made you really think about the whole thing. It increased my knowledge base and confirmed things that I knew but weren’t completely sure of. I enjoyed the de-brief.’*

*Student 14 – ‘The time to de-brief was invaluable, a real confidence booster as I thought I hadn’t handled some things very well – and actually I had done better than I thought.’*

***Increase in Self Confidence***

This theme was relevant to both areas, the simulation event and the de-briefing process. Both activities seem to have helped with student confidence and encouraged the student to feel as if their knowledge base was actually better than they originally perceived it to be.

*Student 5 – ‘The de-briefing was really useful as this boosted your confidence if you had made the correct decision – but even if you hadn’t it still felt ok as you learnt from this.’*

*Student 9 – ‘The discussion afterwards made me feel better about qualifying soon, that I do have an idea of what I am doing!’*

*Student 19 – ‘I valued the feedback. It made you feel confident in what you did right and helped in areas that you weren’t as confident in. That should be a part of every traumatic event, but it isn’t sadly.’*

*Student 20 – ‘The de-brief was so helpful and should always happen. It really helps from a self-confidence point of view and is also a great learning curve.’*

***Value of peer assessment / de-brief***

This was a very key finding and some of the comments were a little unexpected as the students had initially expressed some anxiety about being ‘peer assessed’. They were worried that they may feel ‘silly’ and ‘self-conscious in front of their peer group. Their feedback is highly relevant for the purpose and findings from the exercise.

*Student 2 – ‘I liked the fact that it was my peer group who were watching us and then feeding back afterwards. I felt really comfortable with this and valued their thoughts and input.’*

*Student 5 – ‘My own group were great as I didn’t feel at all intimidated by them observing or feeding back to me. I just thought, they know how this feels and some of them have worked in intensive care or children’s A and E so I am going to really learn from them.’*

*Student 9 – ‘I liked the peer assessment and de-brief aspect. I have learnt so much from my peer group and also felt really comfortable with them de-briefing me after the event. Sometimes you feel really intimidated by these situations but because everyone is more or less in the same boat, I felt that I learnt and absorbed more because of how comfortable I felt. Thank you.’*

*Student 15 – ‘I think that you learn more from your peers or those of equal standing as you feel more relaxed and therefore absorb more information. Obviously, as they are very junior like you, they won’t know things to the level of more senior staff, but we do know a lot of different things due to the different placements we have experienced. I like peer assessment and support.’*

**Discussion**

Simulation can create an alternative for clinical experience and although, as suggested by Decker et al (2013), there is little evidence that this can ever replace human experience, it does offer students the means to explore clinical problems within a safe environment. This study does confirm that students feel safe, comfortable within decision making, and this in turn, increases their confidence. However, the learning does not only occur within the simulation scenarios but within the de-briefing component too. The students particularly valued the de-briefing from their own peer group, and whilst this will not always be appropriate or indeed feasible, this is something to consider. This was an interesting find as many of the students had expressed anxiety initially about peer assessment/de-brief. This raises the question as to whether, if possible, a de-briefing can be carried out by a similar level of student/staff member? The students described the feelings of comfort, lack of intimidation, feeling relaxed and this, in turn, fostered a positive learning environment and space for reflection when debriefed by their peer group.

The students felt that the de-briefing gave them the opportunity to explore what had happened and how they had reacted. It provides a problem-solving environment without the concern of harming a patient. What worked? What didn’t work so well? How could I have approached that differently? What did I learn? These were all questions that were asked and answered within the de-briefing – and were questions that they felt comfortable in asking their peer group.

Robinson et al (2013) recommend a non-judgemental and non-threatening yet reflective style of debriefing and, although no formal debriefing tool was utilised for the purpose of this study, the students were encouraged to promote a stress free and relaxed environment. Certainly, this is reflected throughout many of the student’s feedback comments.

It would appear that both the simulation event and the de-briefing from the peer assessment were equally as important as the other. Whilst the randomisation process may not have resulted in completely equivalent groups, there was no statistically significant difference between the groups in terms of age, gender or baseline simulation knowledge.

**Recommendations**

Simulation, if delivered effectively, appears to provide a level of exposure within a safe environment which in turn fosters student confidence, and decision-making skills. However, it is not without its limitations and, of course, cannot replace real life patient experience. Simulation can be used within nursing curriculums if staff are trained appropriately in the delivery of simulation and regular training updates should be incorporated into a staff training programme.

As simulation education is expanding within the nursing curriculum, a need exists to refine and develop knowledge of debriefing strategies. As suggested by Ekebergh (2007), the importance of debriefing should not be underestimated and HEI’s should develop efficacious debriefing practices to enhance student learning, and to develop newly graduated nurses who will have greater confidence and clinical ability.

If a simulated learning event is to take place, the importance of de-briefing, and indeed pre-briefing, should not be undervalued but training is required in both areas if this is to be carried out effectively and appropriately. Moule (2011) suggests that many other disciplines have a developed research base for the purpose of debriefing and that nursing has an ‘overdue’ obligation to replicate such a level of inquiry.

The option of peer de-briefing, following the very positive feedback gained from this study, was a valuable learning curve, and something which may be worth acknowledging, if feasible, in certain clinical areas and HEI’s.

**Conclusion**

This study demonstrates the importance, and value of both simulated learning and debriefing – in addition to the added value of peer assessment. Debriefing is an integral component of simulation, and it is recognised that this should be part of all simulation-based learning experiences. A ‘gold standard’ for debriefing requires exploration within nursing as there currently does not appear to be one. Although a formal debriefing tool was not used for this study, some very valuable and constructive feedback was obtained. This may have been explored even further if a formalised debriefing tool had been utilised.

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**References**

Bisholt, B., Ohlsson, A., Kullen, A., Sundler, A.J, Gustafsson, M. 2014. Nursing students’ assessments of the learning environment in different clinical settings. Nurs Educ.Pract.,14 (3), pp.304-310.

# Bradshaw, A., Merriman, C., 2008. Nursing competence 10 years on: fit for practice and purpose yet? J. Clin. Nurs. 17 (10), 1263–1269.

Braun, V, Clarke, V (2019) Reflecting on Reflexive Thematic Analysis. Qualitative Research in Sport, Exercise and Health Vol 11 – Issue 4 pg. 589-597.

Bryer, J., 2012. Peer tutoring for academic success of returning nursing students. J. N. Y. State Nurses Assoc. 43 (1), 20–22.

Cust, F., 2019. Supervising and Assessing students. The Nursing Times. June 2019.

Ekebergh, M 2007. Lifeworld-based reflection and learning: a contribution to the reflective practice in nursing and nursing education. Reflective Practice.,8(3) (2007), pp.331-343.

Kim, JH., Hur, M. and Kim, H., 2018. The efficacy of simulation-based and peer-learning handover training for new graduate nurses. Nurse education Today. 69, 14-19.

Meyer, M., Marzen-Groller, K., Myers, S., Busenhart, C., Waugh, S., & Stegenga, K., 2014. Simulation as a learning experience: Perceptions of new RNs. Clinical Simulation in Nursing, 10,384-394.

Moule, P., 2011. Simulation in nurse education: past, present and future. Nurse Education Today, 31(7), pp.645-646.

Mukohara, K., Kitamura, K., Wakabayashi, H., Abe, K., Sato, J., & Ban, N., 2004. Evaluation of a communication skills seminar for students in a Japanese medical school: A non-randomized controlled study. BMC Medical Education. 4, (24), 6920-6924.

Nursing and Midwifery Council (NMC) 2018 Standards Framework for Nursing and Education. NMC 2018.

O'Driscoll, M., Allan, H., Smith, P., 2009. Still looking for leadership: who is responsible for student nurses' learning in practice? Nurse Educ. Today 30 (2), 212–217.

Ramm, D., Thomson, A. & Jackson, A., 2015. Learning clinical skills in the simulation suite: the lived experiences of student nurses involved in peer teaching and peer assessment. Nurse Education Today 35, 823–827.

Robinson, B., and Dearmon, V., 2013. Evidence-based nursing education: effective use of instructional design and simulated learning environments to enhance knowledge transfer in undergraduate students. Journal of Professional Nursing.,(4) ) pp.203-209.

Rush, S., Firth, T., Burke, L. & Marks-Maran, D, 2012. Implementation and evaluation of peer assessment of clinical skills for first year student nurses. Nurse Education in Practice. 12, 219-226.

Szlachta, J., 2013. Peer instruction for first year nurse anaesthetist students: a pilot study of a strategy of to use limited faculty resources and promote learning. J. Nurs. Educ. 52 (6), 355–359.

Welsh, M., 2007. Engaging with peer assessment in post-registration nurse education. Nurse Education in Practice. 7, 75-81.

Yoo, MS. And Chae, S., 2011. Effects of Peer Review on Communication Skills and Learning Motivation Among Nursing Students. Journal of Nursing Education. 50 (4) 230-233.