Reflections on simulated learning experiences of occupational therapy students in a clinical skills unit at an institution of higher learning

Santie van Vuuren, B OT (US), M OT (UFS), PhD HPE (UFS)
School for Allied Health Professions, Faculty of Health Sciences, University of the Free State, Bloemfontein, South Africa

INTRODUCTION AND REVIEW OF THE LITERATURE

Simulated learning experiences (SLE) in clinical skills units (CSUs) help to reduce anxiety in students prior to patient handling. In addition, it allows students to benefit from structured learning, supervision and feedback which take place within the context of the CSU. SLE is used as part of the curriculum to make use of different modalities such as paper case studies, role play and standardised patients [a layperson hired and trained to portray the actual patient]. Such as such experiences can provide a means of augmenting and sometimes supplementing aspects of clinical rotations. These simulated experiences can provide authentic learning in a safe environment for skills such as communication, ethical dilemmas can be practised. Holmboe et al. stated that the most effective assessment of these skills is by direct observation of all students performing these skills and that direct observation is most easily achieved during an SLE in a CSU. However, Freeth and Weller et al. warned that an SLE cannot replace direct observation of the student working with actual patients. From the viewpoint of student experiences, Rutherford-From the viewpoint of student experiences, Rutherford-
Hemming further noted that learning in a simulated environment had an effect on transfer of learning in clinical skill acquisition. Studies on simulated learning experiences by Jacobs and Venter and Knecht-Sabres reported that there was an increase in confidence and better integration of theory and skills. Laschinger et al. added that students experienced a higher level of satisfaction when using simulations to learn clinical skills. Coon et al. reported that students who participated in simulated learning in addition to standard learning performed equally or better than those who participated in standard learning alone when the results of practical examinations were evaluated. However, in a study by Giesbrecht et al. in which peers were used to role play because it was more pragmatic and cost-effective, students identified this as an undesirable option due to the lack of authenticity. In most of the studies on SLE’s published, fieldwork supervisors and students exposed to simulated learning experiences reported being more client-focused, independent and able to work collaboratively.

Given the context of innovative learning strategies, such as SLE, a CSU has the potential to provide greater efficiency and rigour compared with learning through opportunistic clinical experiences.

The fieldwork guideline for the training of occupational therapists set by the World Federation of Occupational Therapists (WFOT) states that simulated learning experiences (SLE) can be used prior to, during, or following clinical placements. The report of Rodger et al. on the planning and implementation of SLEs states that 20% of the 1000 clinical hours required by the WFOT can be delivered by means of simulated learning experiences.

Globally, limited research has been published on the use of SLE during the training of occupational therapists. A survey of 12 occupational therapy schools in America found that simulated modalities were mostly used in the first two years of their programmes. In this survey most of the participants recognised and valued any opportunity to enhance skill development and practise skills with simulation prior to fieldwork placement. Students also preferred simulation/video/guest visits to lecture format and book learning, but "preferred contact in the real world to simulation if given the option". Feedback from students at the University of Queensland concurs with findings of other health science students such as "it was practical and related directly to OT, which I love about it" and "it makes you more confident to interact with patients; I prefer standardized patients to role play because you have to take it seriously." In the report of the National Health Workforce of Australia (NHWF) of 2010, one of the recommendations was that research about the effectiveness and implementation of simulated learning activities should be funded. No information has yet been published on the SLE of South African occupational therapy students.

In view of the challenges of accommodating, especially first- and second-year students in clinical fieldwork settings, by reason of the students’ inexperience, the expectations of the supervisory role and the availability of clinical placements [due to the lack of and the filling of public sector posts] new strategies for training were necessary. As part of the review of the second-year curriculum in the Department of Occupational Therapy, the positive research results of simulated learning experiences found internationally and the availability of a clinical skills unit in the department it was decided to incorporate simulated experiences to teach assessment skills from 2013 onwards. The simulated learning experience on assessment was organised in the CSU, using standardised patients who were members of the community representing different age groups. Students were informed beforehand of the simulation session, that they will be grouped in two’s and what assessment skills to prepare. The results of this research will guide the future planning and value of simulated clinical assessment procedures in the second year OT curriculum.

**METHODS**

**Aim of the study**

This study aimed to explore and describe the perceptions and learning experiences of simulated clinical assessment procedures among the second year occupational therapy students in the years 2013 and 2014.

**Research design**

The research design was of an explorative descriptive qualitative nature. A retrospective audit of the students’ written reflections was done after the simulated learning had taken place. The strength of using a retrospective database (in this study, the written reflections of students) was that it allowed the researcher to examine a larger study population, and provided a relatively inexpensive and pragmatic approach for answering research questions.

**Study population**

The population included the 81 second-year occupational therapy students’ (2013 n = 38; 2014 n = 43). These students’ learning of simulated assessment skills was scheduled during the first block of Module OCTC 2704 (Clinical Fieldwork). The focus of this SLE was to train the student in the assessment of occupational therapy components as well as occupational therapy activities in a safe environment under the supervision of teaching staff the outcome being the application of these assessment skills. The students were required to write anonymous reflections of their experiences during the SLE directly after the session and hand it in. The reflections of all of the 81 students were included in the analysis.

**Ethics**

After approval to conduct the study had been obtained from the relevant authorities, including the Ethics Committee of the Faculty of Health Sciences, University of the Free State, written consent was obtained from all students for the use of the reflections written as part of the evaluation of the block.

**Data collection and analysis**

A retrospective audit using inductive reasoning was applied to identify themes and sub-themes in the student reflections on the SLE. In this study, the researcher was personally involved in the research and used her understanding and experience of simulated learning to conduct this audit. A senior colleague familiar with the context of the revised occupational therapy curriculum independently coded the students’ reflections. Consensus on the results was reached between the researcher and co-coder on the themes and sub-themes. Rules for the coding of texts were developed and decisions were made on dealing with irrelevant information in the reflections by working back and forth between the themes and data to reach consensus on the themes and sub-themes. The institution follows a language policy that accommodates both English- and Afrikaans-speaking students.

Credibility was established by making use of a purposeful sample, recording a precise description of each part of the research process and the process undertaken during analysis that made it possible to replicate the study. Conformability was established by comparing information of categories and themes and discussing differences. The literature review conducted was used as a control for identifying and reach consensus on the similarities.

**RESULTS**

Thirty-eight second-year students handed in their reflections after the SLE sessions in 2013 and 43 students in 2014. Four themes and 10 sub-themes emerged from the content analysis of the reflections:

(i) personal emotions; (ii) initial stress; (iii) confidence; (iv) communication skills; (v) assessment skills of occupational performance areas; (vi) occupational performance activities; (vii) therapeutic use of self; (viii) co-operative learning; and (ix) benefits and (x) challenges of teaching and learning in a simulated learning environment (See Table 1 on page 82).
### Table 1: Examples of student responses categorised per theme

<table>
<thead>
<tr>
<th>Themes</th>
<th>Sub-Themes</th>
<th>Examples of students’ remarks</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Personal experience</td>
<td>Personal emotions</td>
<td>• It was amazing how fear can turn into excitement.</td>
</tr>
<tr>
<td></td>
<td>Initial stress</td>
<td>• Makes me excited about Occupational Therapy and all that we can achieve.</td>
</tr>
<tr>
<td></td>
<td>Confidence</td>
<td>• Anxious before the session.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• I was so nervous before today.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Onervare/Inexperienced.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Getting practical experience makes me feel more confident.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Improved my confidence.</td>
</tr>
<tr>
<td>2. Teaching and learning</td>
<td>Communication skills</td>
<td>• Hoe om professioneel op te tree/How to act professionally.</td>
</tr>
<tr>
<td>Clinical assessment skills</td>
<td></td>
<td>• I realized that in order to get the most valuable information I have to engage with the patient.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Unsure about what questions to ask.</td>
</tr>
<tr>
<td></td>
<td>Occupational performance</td>
<td>• Weet nou wat om in die toekoms te verwag/ know now what to expect in future.</td>
</tr>
<tr>
<td>areas (OPCs)</td>
<td></td>
<td>• It is a good feeling to put theory to practise.</td>
</tr>
<tr>
<td></td>
<td>Occupational performance</td>
<td>• Aangesien dit simulasi was, kon ek seker maak dat ek reg werk/Because it was simulation I could ensure that I work correctly.</td>
</tr>
<tr>
<td>activities (OPAs)</td>
<td></td>
<td>• Mens kan meer assesseur uit observasie en onderrond as wat ek gedink het/One can assess more from observation and the interview than I thought.</td>
</tr>
<tr>
<td>3. Professional skills</td>
<td>Therapeutic use of self</td>
<td>• I constantly evaluated myself and had thoughts such as: Am I doing it right?</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Enjoyed practical hands-on experience – practise makes perfect.</td>
</tr>
<tr>
<td></td>
<td>Co-operative learning</td>
<td>• Toekoms beter voorberei/Better prepared in future.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• How to handle patients with care.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Nie altyd die pasient probeer gelukkig hou nie ... julle tyd saam orden en struktuurere/Not always try to keep the patient happy …time together must be organised and structured.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• How to adapt.</td>
</tr>
<tr>
<td>4. Benefits and challenges</td>
<td>Benefits</td>
<td>• Dit het gehelp dat daar genoeg dosente was wat ons gehelp het/It helped that there were enough lecturers to assist us.</td>
</tr>
<tr>
<td>of presenting SLE</td>
<td></td>
<td>• Suggestion – to have many more of these because we got a chance to apply the knowledge we have to “real life situations”.</td>
</tr>
<tr>
<td></td>
<td>Criticisms</td>
<td>• Next time clearer instructions.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• I did feel overwhelmed by the amount of things we had to assess.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• A time frame for the completion of each task.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Like to get feedback straight after doing the assessment.</td>
</tr>
</tbody>
</table>

### DISCUSSION

The aim of the study was to describe the second year OT students’ reflections of simulated learning of assessment techniques. The results indicate that students were generally satisfied with the SLE as part of the teaching of assessment skills before fieldwork rotations, although some criticisms were raised in the students’ reflections.

Millsen et al recommend that sound design of the simulation programme is essential. Baptiste and Solomon also report, that there appears to be a strong willingness of the occupational therapy students to invest personally in the simulated learning experience. Velde et al identified a desire among occupational therapy students for inclusion of simulated patients early in their curriculum. This supports the decision made by the occupational therapy department where the SLE is initiated in the second year of study. Although the value of simulated learning has been well researched, more research on this topic is needed to determine the effectiveness for occupational therapy students as it seems that they value this learning experience.

The personal emotions experienced by the students during the simulated learning experience in this study varied from being anxious to fear turning into excitement and enjoyment. This finding is supported by Jacobs et al and Botma who stated that “although students were apprehensive and felt scared at first, the overwhelming outcome of the simulated learning experience is that of having fun while learning.” Most of the stress was before or at the start of the learning experience and more confidence was gained as the experience progressed. It seems that as they gained confidence they felt more in control.

In terms of communication skills during a clinical assessment, the value of the simulated experience so early in the training programme (second year) is that it allows students to practise introspection of their own feelings while working with and communicating with “patients”. One student reported: I realised that in order to get the
CONCLUSION
Finally the results demonstrated that while the majority of students is positive towards simulated learning experiences there are aspects in the presentation of the learning experience that should be considered. The criticisms were related to a lack of time in skills training and specific information on what to expect in the simulated assessment training.

Holmboe14 states that skills with regard to interviewing and physical examination (assessment) remain vital to effective patient care, yet research continues to document serious deficiencies in clinical skills among students. He however maintains that health educators must not relinquish the responsibility of skills training through simulating patients and simulation alone. Rather, such approaches should complement teaching and learning4, which concurs with the opinion of Millens et al.24

The researcher is of the opinion that simulated learning experiences have a definite place in teaching skills to occupational therapy students. An added value, although not part of the aim of this study, may be the researcher’s observation on the ability of students to reflect, as reflection has become an integral part of student learning and continuous development as a professional.

POTENTIAL VALUE OF THE RESEARCH
Results of this audit were communicated to the curriculum committee of the Department of Occupational Therapy to be taken into consideration during its evaluation of the second-year curriculum. The strengths and weaknesses of the clinical simulation activities used can be identified and decisions on changes can be informed and implemented in future to improve the use of simulated learning. Staff that was trained by an International Institution in the use of simulated learning experiences can develop a manual to assist other staff in the Department to plan these learning experiences. Furthermore, the utilisation of simulated learning experiences can also be discussed on a national level to strategise on combining the resources of the different training centres.

REFERENCES
10. Cole J. Structural analysis of rehabilitation and human resource need and supply of health therapists in SA. SA Committee of Health Sci...
15. jacobs ac, venter i. standardized patient: simulated practice learning applied to psychiatric nursing. Faculty of health sciences Annual Research Forum. Bloemfontein: University of the free state; 2013 [unpublished].
16. laschinger s., medves j., pulling c., mcgraw r., waytuck ml, harrison m., gambeta k. Effectiveness of simulation on health profession students’ knowledge, skills, confidence and satisfaction. international journal of evidence based health, 2008; 6(3): 278-302.
20. van vuuren s. Adapted clinical fieldwork cycle of second-year Occupational Therapy students. Bloemfontein: Department of Occupational Therapy, University of the Free State; 2013 [unpublished].
26. treadwell i., grobler s. Student’s perceptions on skills training in simulation. Medical Teacher, 2001; 23(5): 476-482.

Corresponding author
Santie van Vuuren
gnatsvv@ufs.ac.za