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SHORT REPORT

Working with children with autism: an interprofessional simulation-based tutorial for speech pathology and occupational therapy students

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ABSTRACT

There is an increasing need to include interprofessional experiences in undergraduate health education. Simulation is one methodology revered as being able to facilitate interprofessional learning opportunities in a safe, structured environment. This project aimed to develop, trial and evaluate an interprofessional simulation role-play tutorial utilising DVD resources. In total, 70 speech pathology students and 76 occupational therapy students participated in a role-play involving DVD footage and documentation to facilitate assessment planning and analysis of assessment data for a child with autism. Questionnaires asked participants to rate their perceived experiences across 13 items using a 5-point Likert scale, as well as three open-ended questions. The results revealed positive reactions to the role-play and suggested that students felt that the learning objectives had been met. Many students expressed interest in engaging in further interprofessional learning experiences. Taken in conjunction with other similar studies, interprofessional simulation-based workshops using DVD footage may provide a manageable alternative to traditional interprofessional learning modalities, in particular when incorporating clients with complex and developmental disabilities.

Introduction

In 2010, the World Health Organisation (WHO) challenged educators to embed interprofessional education (IPE) and collaborative practice into student training. According to WHO, ‘interprofessional education occurs when students from two or more professions learn about, from and with each other to enable effective collaboration and improve health outcomes’ (WHO, 2010, p. 10). IPE can enable students to develop the teamwork skills vital for quality healthcare (e.g. Reeves et al., 2016) and educators are incorporating a range of methods—including simulation—to facilitate this learning.

Simulation can bridge the gap between curriculum and real life, enabling students to put theory into practice in a supported environment (Mills et al., 2015). Health educators facilitating IPE experiences through simulation have included role play (van Soeren et al., 2011), DVDs (Iacono et al., 2011) and case studies (Curran, Reid, Fitzgerald, Heath & Mullins-Richards, 2015). One study used case studies to develop teamwork and collaboration reported positive student perceptions (Hersh, O’Rourke, & Lewis, 2013). Iacono and colleagues (2011) found DVD-based stories of people with developmental disabilities ideal for IPE as the complexity naturally requires involvement from multiple professions. van Soeren and colleagues (2011) analysed the learning processes important for IPE in role-play simulations and noted five important requirements: a realistic clinical scenario; participants in their own profession’s role; participants enthusiastic and motivated by the scenario; facilitation by clinicians of the same professions and a minimum of two facilitators from different backgrounds.

This article presents the findings from an evaluation of a role-play simulation using a DVD case study to develop interprofessional skills between occupational therapy (OT) and speech pathology (SP) students incorporating the learning processes of van Soeren and colleagues (2011).

Background

In 2011, Edith Cowan University received funding to develop interprofessional simulation DVDs. As interprofessional skills are integral in the disability sector, one of the case studies presented a six-year-old child with autism transitioning to school age services. Five DVD segments with associated documentation were developed to support a three-hour role-play tutorial. Segments (and documents) were: initial planning (referral letter); parent interview (family quality of life survey); teacher interview (previous report); child assessment (assessment data) and reviewing the assessment.

The tutorial was advertised via the online learning management system with students expected to complete an introductory module on autism prior. Students from both professions were allocated into evenly distributed groups of 5–7 enabling all to participate simultaneously. Following the format utilised by van Soeren et al. (2011), each group became the OT/SP team tasked with developing an assessment plan, evaluating the plan, analysing assessment results and planning intervention as each segment rolled out over time. There were questions to engage discussion with each segment and an academic from each profession facilitated the role-play by keeping groups on task.
answering any questions, and gathering and commenting on the overall group feedback on each segment.

Methods

The study employed a post-intervention study design to evaluate student perceptions of an interprofessional simulation role-play tutorial utilising DVD resources.

Data collection

Students completed a 13-item post-session survey asking them to what extent they agreed with 13 statements using a five-point Likert scale (strongly disagree to strongly agree). The following free-text questions were also asked: what did you like best about the tutorial; do you have any suggestions for improvement, and do you have any other suggestions or feedback? A total of 146 students participated across 4 years (Table 1).

Data analysis

Descriptive statistics derived from the 13 statements contained in the survey were generated. Free-text answers were collated and analysed thematically.

Ethical considerations

The family of the child with autism freely volunteered themselves and their son to be filmed for student educational purposes and signed a talent release form. As the students were participating in the tutorial as part of their usual undergraduate course, the exit questionnaire was deemed to be quality assurance not requiring ethics clearance by the universities Human Research Ethics Committee. Completion of the questionnaire was voluntary and anonymous.

Results

A total of 111 completed questionnaires were collated, giving an overall response rate of 76%. Responses to the Likert scale questions were positive, with 88.5% of participants suggesting they either agreed or strongly agreed with the 13 statements (all positive items). The mean rating for each question by year cohort is given in Table 2, along with the overall mean and standard deviation across all years.

The following five themes emerged from the analysis of the free-text responses related to student perceptions about their interprofessional experiences.

Table 1. Number of participants.

<table>
<thead>
<tr>
<th>Session</th>
<th>SP students</th>
<th>OT students</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>May 2011</td>
<td>16 × 3rd year</td>
<td>39 × 2nd year</td>
<td>55</td>
</tr>
<tr>
<td>September 2012</td>
<td>20 × 3rd year</td>
<td>14 × 4th year</td>
<td>34</td>
</tr>
<tr>
<td>October 2014</td>
<td>18 × 3rd year</td>
<td>12 × 4th year</td>
<td>30</td>
</tr>
<tr>
<td>October 2015</td>
<td>16 × 3rd year</td>
<td>11 × 4th year</td>
<td>27</td>
</tr>
<tr>
<td>Totals across years</td>
<td>70</td>
<td>76</td>
<td>146</td>
</tr>
</tbody>
</table>

Table 2. Average rating of statements.

<table>
<thead>
<tr>
<th>Questions</th>
<th>Average rating for each cohort</th>
<th>Mean (standard deviation)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Before today, it was clear to me what would take place during the tutorial.</td>
<td>3.09  3.65  3.50  3.46</td>
<td>3.43 (0.24)</td>
</tr>
<tr>
<td>I found it useful to attend the tutorial.</td>
<td>4.12  3.81  4.46  4.6</td>
<td>4.25 (0.35)</td>
</tr>
<tr>
<td>The tutorial was well organised.</td>
<td>4.30  4.00  4.50  4.68</td>
<td>4.37 (0.29)</td>
</tr>
<tr>
<td>The scenario was realistic.</td>
<td>4.45  4.29  4.60  4.64</td>
<td>4.50 (0.16)</td>
</tr>
<tr>
<td>It was clear to me what the aims of the tutorial were.</td>
<td>3.81  3.77  4.10  4.46</td>
<td>4.04 (0.32)</td>
</tr>
<tr>
<td>The tutorial was well-facilitated.</td>
<td>4.17  4.03  4.43  4.68</td>
<td>4.33 (0.29)</td>
</tr>
<tr>
<td>This tutorial has made me value the importance of interprofessional collaboration.</td>
<td>4.02  4.16  4.54  4.75</td>
<td>4.37 (0.34)</td>
</tr>
<tr>
<td>Simulation is an engaging education method.</td>
<td>4.15  3.97  4.54  4.56</td>
<td>4.31 (0.29)</td>
</tr>
<tr>
<td>This event has addressed the following interprofessional learning objectives:</td>
<td></td>
<td></td>
</tr>
<tr>
<td>1: Develop interprofessional communication and negotiation.</td>
<td>4.06  3.94  4.32  4.44</td>
<td>4.19 (0.23)</td>
</tr>
<tr>
<td>2: Practice teamwork skills and flexibility.</td>
<td>3.98  4.13  4.36  4.48</td>
<td>4.24 (0.22)</td>
</tr>
<tr>
<td>3: Engage in client and family centred care within a school setting.</td>
<td>4.13  3.97  4.32  4.40</td>
<td>4.21 (0.19)</td>
</tr>
<tr>
<td>4: Explore role boundaries and responsibilities.</td>
<td>3.87  4.00  4.21  4.36</td>
<td>4.11 (0.22)</td>
</tr>
<tr>
<td>5: The role of OT and SP in schools.</td>
<td>3.91  4.10  4.18  4.64</td>
<td>4.21 (0.31)</td>
</tr>
</tbody>
</table>

Note: Maximum rating = 5 (strongly agree). Minimum rating = 1 (strongly disagree).

Real-life scenario with DVD

Students appreciated the realistic case study, noting that observing real behaviours of a child with autism and how the OT and SP actually work and carry out assessment was highly beneficial to their understanding of the case, as well as the roles of the other profession, ‘[the] footage was excellent . . . getting a real scenario with footage [was] . . . better then brief case study where there is too many maybes e.g. maybe it’s sensory?’ (OT student).

Group-based discussion

Students provided positive anecdotes concerning the value of working as a group, allocating roles to enhance discussion, and participation in the role-play component of the tutorial. In relation to what the most valued, one PS student noted, ‘the development of ideas as a team’.

Working with and learning about other professions

Participants felt positive about meeting students from another profession, learning about the differences between roles and viewpoints across the two professions. A number of students reported wanting more information about the other profession prior to or early on in the simulation, ‘[it] was good to be able to interact with speech students to see their view and what they will contribute to an intervention’ (OT student).

Knowledge of autism and interventions

Students suggested additional pre-reading surrounding autism and appropriate interventions, as well as additional feedback.
on the interventions they subsequently suggested, would likely be of benefit. One student noted, for example that they ‘[didn’t] know enough about autism or how to intervene’.

**Include more professions**

Several students suggested that having more professions involved would have enhanced their enjoyment and learning potential from the scenario. As a student mentioned, ‘[you] could also involve other [groups] such as social work students, psychology students, etc.’.

**Discussion**

Our results suggest that OT and SP students found our DVD-led role-playing IPE tutorial engaging and to be of substantial learning benefit. These results resonate with those reported by van Soeren and colleagues’ (2011) study, as well as other studies investigating the merit of DVD simulation-based IPE initiatives (Brown & Williams, 2009; Williams, Brown, & Archer, 2009; Williams, Brown, Scholes, French, & Archer, 2010; Williams, French & Brown, 2009). Involving experienced paediatric practitioners from both professions in the development of the case study and the filming process contributed to scenario ‘authenticity’, which may have contributed to the high engagement and satisfaction noted from students. Furthermore, working with a child with autism requires prior knowledge to ensure that appropriate clinical decisions are made during the role-play. While initial development costs are relatively high, ongoing costs are minimal, particularly in comparison to providing ongoing IPE clinical placements. Simulation workshops, incorporating DVD resources, may provide a more manageable avenue for the development of interprofessional skills, while still maintaining appropriate levels of authenticity.

In relation to limitations, the results of this study are restricted by its small non-randomised sample. Other study limitations include the use of a non-validated instrument to gather student feedback as well as no attempt to gather pre- or post-assessments of interprofessional skills.

Based on the results obtained from this study, future research could involve more professions and include a pre- and post-assessment of interprofessional skills. A follow-up evaluation in the work place would ascertain the generalisation of skills from simulation into clinical practice.

**Declaration of Interest**

The authors report no conflicts of interest. The authors alone are responsible for the content and writing of the article.

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