Utilizing Case-based Learning to Enhance Interprofessional Role Clarity for Athletic Training and Physical Therapy Students
Sniffen Katie, MS, ATC; Briggs, Erick, MS; Breitbach, Anthony, PhD, ATC; Hinyard, Leslie, PhD, MSW
Saint Louis University
1Center for Interprofessional Education and Research, 2Department of Physical Therapy and Athletic Training

Summary
This study examines the effect of case-based learning experiences on interprofessional role clarity of Athletic Training (AT) and Physical Therapy (PT) students, as well as the relationship between interprofessional role clarity and self-rated performance measures. Preliminary results show role clarity may improve for students engaged in these learning activities.

Background
Health professionals have a responsibility to fulfill a social contract with society to serve as both healers and professionals (Cruess and Cruess 2008). Education programs look to prepare students for this responsibility by fostering an understanding of roles across professional boundaries, which is expected to facilitate collaboration, and ultimately improve patient outcomes (World Health Organization, 2010). Thus, there is a growing effort to embed interprofessional learning experiences into curricula (Lockeman et al., 2017). This study examines the effect of such learning experiences on interprofessional role clarity, as well as the relationship between interprofessional role clarity and self-rated performance.

Role clarity is conceptualized as an understanding of the contingencies related to a particular role (Rizzo et al., 1970). While research has examined the impact of understanding one's own role, much less research has examined the impact of understanding others’ roles. Thus, although interprofessional role clarity is espoused as a core competency, some contend it receives insufficient attention (Hepp et al., 2015). Preliminary findings suggest case-based learning may help enhance role clarity (Shoemaker, et al., 2014).

Hypotheses
1. Role clarity will significantly increase across the two time points
2. Increases in role clarity will be significantly greater for IP teams compared to UP teams
3. Significant relationships exist between role clarity and self-rated performance

Method
90 PT and 22 AT first-professional year students enrolled in a Therapeutic Modalities course worked in either interprofessional (IP) or uniprofessional (UP) teams to make decisions regarding the application of therapeutic modalities in four case-based learning activities. The simulated patient cases included patient history, presentation, and goals. Students were asked to document appropriate therapeutic interventions including main outcomes, assessment methods, physiological effects, contraindications, precautions, and parameters. Teams of students were given one of six cases that reflected course content covered up to that point in the term. Teams spent approximately 30 minutes completing the assignment followed by 10 minutes of facilitated discussion. A total of four cases were completed over the course of the semester, occurring an average of four weeks apart. Role clarity was assessed before and after the four activities utilizing the Role Clarity/Ambiguity Scale (Rizzo et al., 1970). Students also rated their team's performance on the following constructs: overall performance, accuracy, reasoning, reasoning, and thoroughness.

Results
Across conditions, results suggest significant differences between time points (F(2, 144) = 3.76, p = 0.03, 𝜂𝜂2 = 0.014). Examining pairwise comparisons, a significant increase was found between retrospective pre-test and post-test role clarity scores (p = 0.03, 𝑑 = 0.29, 95% CI [0.05, 0.52]). Between conditions, results suggest no difference between time points for either condition in isolation. Results also suggest significant relationships between interprofessional role clarity and self-rated measures including overall performance (p = 0.002), accuracy (p = 0.03), and thoroughness (p = 0.002). However, all results should be interpreted with caution as the observed effects are relatively small.

Role Clarity/Ambiguity Scale

Table 1. Descriptive statistics

<table>
<thead>
<tr>
<th>Variable</th>
<th>N</th>
<th>M</th>
<th>SD</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Interprofessional Role</td>
<td>78</td>
<td>3.06</td>
<td>1.31</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2. Overall Performance</td>
<td>78</td>
<td>6.44</td>
<td>0.52</td>
<td>0.35</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3. Accuracy</td>
<td>78</td>
<td>6.53</td>
<td>0.21</td>
<td>0.35</td>
<td>0.59</td>
<td>1</td>
<td></td>
<td></td>
</tr>
<tr>
<td>4. Reasoning</td>
<td>78</td>
<td>6.60</td>
<td>0.54</td>
<td>0.24</td>
<td>0.59</td>
<td>0.69</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>5. Thoroughness</td>
<td>78</td>
<td>6.46</td>
<td>0.25</td>
<td>0.35</td>
<td>0.51</td>
<td>0.66</td>
<td>0.58</td>
<td>1</td>
</tr>
</tbody>
</table>

*Correlation is significant at the .05 level (2-tailed).
*Correlation is significant at the .03 level (2-tailed).

Conclusions
Taken together, results partially support our hypotheses, and tentatively suggest that interprofessional role clarity may be related to important work outcomes, and that case-based learning may enhance interprofessional role clarity.

References

Please respond to the items below using the following scale:
(1 = Strongly Disagree, 2 = Disagree, 3 = Slightly Disagree, 4 = Neither Agree nor Disagree, 5 = Slightly Agree, 6 = Agree, 7 = Strongly Agree)

Role clarity - PT Condition
1. I have a clear understanding of the goals/objectives of athletic trainers
2. I know exactly what is expected of athletic trainers in their role
3. I have a clear understanding regarding the level of authority athletic trainers have
4. I know what the responsibilities of athletic trainers are

Role clarity - AT Condition
1. I have a clear understanding of the goals/objectives of physical therapists
2. I know exactly what is expected of physical therapists in their role
3. I have a clear understanding regarding the level of authority physical therapists have
4. I know what the responsibilities of physical therapists are