COLLABORATIVE HEALTHCARE

INTERPROFESSIONAL PRACTICE, EDUCATION, AND EVALUATION

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Teaching Interprofessional Practice Skills by "Saving Humanity": An Innovative IPE Curricular Method Using a Cooperative Strategy Board Game

Statement of Issue

Increasingly, team-based interprofessional (IP) collaboration is the central model of practice for health disciplines (Khalili, Orchard, Laschinger, & Farah, 2013). Yet traditional education models can foster a uniprofessional identity that leads to "turf protection" and subsequent resistance to IP collaboration (Bronstein, 2003, p. 448). Interprofessional education (IPE) models, however, are designed to promote team competency and an IP identity (Lindgard, 2013). IPE activities often focus on building student competency in four core areas: efficient and effective teamwork, effective communication, understanding of professional roles, and shared values (Interprofessional Education Collaborative (IPEC), 2016). Innovative IPE activities provide students with real-time decision-making and debriefing opportunities are needed (Lindgard, 2013).

Background

One such innovative IPE activity is utilizing a cooperative strategy board game called Pandemic™, which requires a team to "save humanity" by making strategic cooperative decisions to cure four global pandemics. Each student takes on a professional role that offers a unique strategic advantage; all roles are needed for success. Students must demonstrate a basic level of competency in all four IP areas to beat the game. The level of difficulty can be modified for novice, intermediate, or advanced students and the game provides a unique experience and challenge each time it is played.

Methodology

Undergraduate and graduate students from social work (SW), medicine (Med), nursing (Nursing), physical therapy (PT), occupational therapy (OT), and physician assistant (PA) programs were recruited via distributed flyers and emails. The study took place from October 2015 to March 2016. Three pre-post measures were used in the study, including the Attitudes Toward Health Care Teams Scale (ATHCT) (Heinemann, Schmitt, Farrell, & Brallier, 1999), the Teams Skills Scale (TSS) (Hepburn, Tsukuda, & Fasser, 1998), and the Team Fitness Tool (TFT) (Sun Country Health Region, n.d.). After completing consent forms, students were assigned to an IPE team. Each team had a separate assigned game session date/time (3.5 hours).

Prior to the game session, team members received instructions for the game along with the assigned roles for their team and completed the ATHCT and the TSS through Survey Monkey. At the game session, students first introduced themselves and then asked any questions about the rules and assigned roles. Students played Pandemic™ twice during the game session. The first game was played using the "Introductory" game mode (easiest level yet still challenging). During game play, a facilitator was available to answer questions about game mechanics and provided limited feedback if necessary. At the end of the first game, each student completed the TFT and participated in a 15-minute debrief that was audiotaped. The team was asked about effective strategies used, and how as a team they could be more efficient and effective at achieving their collective goal.

Students then played the game for a second time at a more challenging level. Depending on the outcome of the first game, the team chose to play on the more challenging "Normal" mode or the most challenging "Heroic" mode. During this second game, the facilitator offered no clarification or feedback. After the second game, students filled out the TFT

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and participated in a 30-minute audiotaped debrief. Students responded to six questions that explored the parallels between playing Pandemic™ and interprofessional practice. The four IPEC competencies were reflected in these questions. After the game session, students completed the ATHCT and the TSS again through Survey Monkey.

Quantitative Results

Thirty-six students participated in the study; of those, a majority was graduate students (92%) and there was a 50/50 split by gender. Most were from SW (28%), followed by Med (25%), PT (19%), OT (11%), PA (11%), and Nursing (5%). The median age was 22 years old with a range of 20-57 years of age. A majority of the students had never played a cooperative strategy board game before (67%), and most had not participated in a prior IPE course or activity (61%).

Four Wilcoxon Signed Rank Tests were conducted to compare the mean summed scores from the pre-test and post-test measures for the ATHCT, TSS, and TFT. Higher scores on the ATHCT, TSS, and TFT reflect increasingly positive attitudes and behaviors that are consistent with interprofessional collaboration. The ATHCT has two subscales: the Values/Process Subscale and the Shared Leadership Subscale (Leipzig et. al, 2002). Higher scores on the Values/Process Subscale reflect more positive beliefs that interprofessional collaboration is a valuable and efficient healthcare model. The maximum summed score for this Subscale is 96; the pre-test mean summed score was 79.42 and the post-test mean summed score was 83.75. The Wilcoxon Signed Rank test for the Values/Process Subscale indicated that post-test ranks were statistically higher than pre-test ranks (Z = -4.049, p< .000). Similarly, higher scores on the Shared Leadership Subscale reflect increasing beliefs that members on a healthcare team should share leadership roles. The maximum summed score for this subscale is 30; the pre-test mean summed score was 17.81 and the post-test mean summed score was 18.61. The test indicated that for the Shared Leadership Subscale the post-test ranks were not statistically higher than pre-test ranks (Z = -1.149, p< .156).

For the Team Skills Scale, the maximum summed score is 85; the pre-test mean summed score was 60.75 and the post-test mean summed score was 66.83. The Wilcoxon Signed Rank test indicated that post-test ranks were statistically higher than pre-test ranks (Z = -4.049, p< .000). Lastly, for the Team Fitness Tool, the maximum summed score is 88; the pre-test mean summed score was 82.41 and the post-test mean summed score was 84.81. The Wilcoxon Signed Rank test also indicated that post-test ranks were statistically higher than pre-test ranks (Z = -3.005, p< .003).

Analysis of the qualitative data is currently underway and will be published upon completion.

Discussion

Given the significant increase in post-test scores on the ATHCT (Values/Process Subscale), TSS, and TFT, it appears that the Pandemic™ IPE activity was successful in reinforcing and enhancing students' existing positive attitudes towards interprofessional work and confidence in their own teamwork skills. Of note, students came in with relatively high pre-test scores; one explanation for this is that the students chose to participate in this IPE activity because of their favorable attitudes towards IP collaboration. It would be worthwhile to see if initial scores would be similarly elevated among students who are required to attend and to compare the change in post-test scores.

This was in contrast to the lower pre-test and post-test summed scores found on the Shared Leadership Subscale on the ATHCT. The five items on this Subscale are statements related to the role of physicians as leaders on interprofessional teams. Many of the students across disciplines agreed that physicians are natural leaders who bear the responsibility on a health care team and that the role of other health professionals on the team is to serve as ancillary members who assist the physician. While the students' scores did increase after the Pandemic™ learning activity, the increase was not a statistically significant one, suggesting that future IPE learning activities need to specifically target these beliefs around shared leadership.

The most challenging aspect of this project was to fulfill the goal of equal representation of disciplines on each team. Due to conflicting academic and clinical schedules and the voluntary nature of the activity, some disciplines had very little participation. Although logistical challenges are likely to arise in any IPE endeavor, it is critical that significant time and energy be devoted to maximizing participation from each discipline to reflect the workforce. One way to increase participation is to promote collective ownership by forming a planning committee comprised of representatives from each department. Potential barriers can then be addressed, mandatory participation can be explored, and the activity can be widely promoted.

Conclusion and Implications for Interprofessional Education and Practice

The Pandemic™ IPE learning activity is an innovative way to improve team competency and promote IP collaboration among allied health students. It can be used in a single course or can be integrated into a larger IPE curriculum. In either case, collective ownership among

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faculty from participating departments is key. Next research steps will include exploring the potential benefit of using this activity in health care settings with IP teams as a way to improve team competency.

Emily McCave, PhD, MSW, LMSW
Associate Professor of Social Work and IPE Fellow
Quinnipiac University

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