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Promoting Interprofessional Collaboration through the Co-Curricular Environment

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Abstract

Interprofessional (IP) experiences are increasing in frequency and scope in health professions education, though little is known about the role of the co-curricular environment in fostering students' attitudes towards IP collaboration. We examined if participants in IP co-curricular activities of substantive duration held attitudes toward IP learning and collaboration differently than students who did not participate in such activities. We distributed a questionnaire composed of the Readiness for Interprofessional Learning Scale (RIPLS) and the Interdisciplinary Education Perception Scale (IEPS) to the 2008, 2009, and 2010 graduates of an academic health center. Respondents indicated if they participated in any of the six substantive IP co-curricular activities offered by the institution. Respondents were grouped by participation in "one or more IP activity" or "no participation." Independent sample T-tests were performed for each of the RIPLS and IEPS scales to assess differences between those groups. Nine hundred and ninety-seven (58.1%) of the graduates completed the survey; 52.9% of the respondents reporting participation in at least one IP activity. Of the seven scales from the two instruments, the mean scores of one scale were significantly different between the two groups: IEPS "perceived need for cooperation" ($p < 0.001$).

Results indicate that students who have participated in a substantive IP co-curricular activity hold more positive attitudes toward the perceived need for cooperation. It is likely that as a result of their IP collaborative experiences, these students recognize the value and need for cooperation. It appears that important IP collaborative learning occurs within the IP co-curricular environment, and in turn, may translate into improved use of IP collaboration skills in practice.

Introduction

Interprofessional education (IPE) is identified as a means to improve health professions training and prepare practitioners to provide effective patient-centered collaborative care (Institute of Medicine, 2003; World Health Organization, 2010). A variety of IPE courses and educational activities within United States schools are reported in the literature (Davidson & Waddell, 2005; Harward, Tresolini, & Davis, 2006; Mitchell et al., 2006; Rose et al., 2009; Yarborough, Jones, Cyr, Phillips, & Stelzner, 2000). These, and the report by Blue, Zoller,

Stratton, Elam, & Gilbert (2010) about the presence of IPE in U.S. medical schools, provide evidence that such work appears to be increasing in frequency and scope. With the release of the Interprofessional Education Collaborative core competencies for IP collaborative practice in May 2011 in the U.S. (Interprofessional Education Collaborative Expert Panel, 2011), it is anticipated that further momentum in IPE across health professions programs will occur. Consistent with scholarly consensus, we refer to IPE as occasions "when two or more professions learn about, from, and with each other to enable effective collaboration and improve

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health outcomes” (World Health Organization, 2010).

The co-curricular environment is also a valuable learning context for students. This environment is not bound by required academic experiences leading to completion of a degree, but consists of a broad range of activities and programs designed to enhance students’ social and professional development. The co-curricular environment can include: (a) student activities, planned and unplanned, formal and informal; (b) student life and student organizations; (c) student service and community outreach programs; and (d) student seminars, grand rounds, speakers, and special programs that are not for course/program credit. Formally-organized IP co-curricular activities, i.e, activities that intentionally have students from multiple professions engage interprofessionally in a common activity such as those described above, can serve to introduce IP collaborative skills or reinforce these skills acquired in the classroom. For purposes of this study, we will refer broadly to such experiences as IP co-curricular activities to distinguish them from occasions when students from more than one profession interact with one another without the specific intention of interprofessional collaboration. As part of our study method, we will further define specific types of IP co-curricular activities below.

On our campus, organized IP co-curricular experiences have existed for several years prior to our institution’s systematic introduction of IPE within the academic programs in 2010. A required interprofessional course was introduced to students in several of our academic programs in spring 2010, and thus the students completing the course were exposed to IP concepts in a substantive manner through the course experience. Since an array of substantive IP co-curricular experiences existed before the course’s implementation, we were interested in learning how these co-curricular experiences influence students’ attitudes toward IP collaboration in the absence of a required interprofessional course. Does participation in IP co-curricular activities have benefit for participants with respect to their attitudes toward interprofessional collaboration? Specifically, we examined if students participating in an IP co-curricular activity of substantive duration hold attitudes toward IP learning and collaboration differently than students who do not participate in such activities.

Institutional Background

The university is a free-standing academic health center composed of six colleges: dental medicine, graduate biomedical sciences, health professions, medicine, nursing and pharmacy. The total annual enrollment is approximately 2,500 students. Since the late 1990s, our institution has offered a variety of IP-related co-curricular experiences for students, with several established in the mid-2000s. In 2007, as part of the university’s reaffirmation of accreditation through its regional accrediting body, an IPE program was established to introduce IPE into students’ formal academic programs (Blue, Mitcham, Smith, Raymond, & Greenberg, 2010). At this time, IP learning expanded beyond the co-curricular environment into formal classroom learning for all students on the campus.

For purposes of this report, we will briefly describe the relevant IP co-curricular experiences used to examine our study question. All of these experiences were in existence prior to our institution’s implementation of the IPE program and attendant required interprofessional course, and thus represent the only types of IP activities in which students for our study question would have participated. While these experiences vary in the specific types of IP interactions students engage in, what is common to all experiences is that they involve students from multiple colleges working together to problem-solve and take action to improve an issue, whether on campus, in the community or in a patient-care context. Importantly, the nature of the interaction is sustained over multiple weeks and for at least 25 hours in total. These are not one-time-only or short-term IP co-curricular experiences, such as a single lecture, workshop, or community service event. Because of the nature of the interaction, we term these as substantive IP co-curricular experiences and grouped them together.

Presidential Scholars Program

The Presidential Scholars Program (PSP) is a two-semester-long program for students selected from each of the six colleges. Approximately 42 students are selected each year based upon their academic credentials, record of community service and leadership, statement of interest in the program, and faculty recommendation. The program fosters interprofessional collaboration through students working in interprofessional teams on a project designed to address broad-based health-

care issues. Through structured educational sessions, they also learn about the complexities of the healthcare system, including how social, economic, legislative, and policy issues impact health and healthcare delivery (Ragucci, Steyer, Wager, West, & Zoller, 2009).

CLARION Interprofessional Case Competition

We hold an annual CLARION Interprofessional Case Competition modeled after the original from the University of Minnesota, with the local winning team going forward to national competition for the past four years (Johnson, Potthoff, Carranza et al., 2006). Locally, our students compete in interprofessional teams of four students analyzing a fictional sentinel event, conducting a root cause analysis of the event and presenting formal recommendations to a panel of judges.

CARES Clinic

The Community Aid, Relief, Education, and Support (CARES) Clinic is an interprofessional, student-run free clinic that provides healthcare services to uninsured local individuals (Ellet, Campbell, & Gonsalves, 2010). Masters of Health Administration, medical, physical therapy, pharmacy, and physician assistant students staff the clinic; faculty from these professions supervise students during clinic hours. Students typically complete a semester-long elective associated with the CARES clinic, though many also volunteer at the clinic separate from the elective experience.

South Carolina Rural Interdisciplinary Program of Training (SCRIPT)

The South Carolina Rural Interdisciplinary Program of Training is a four-week immersion experience for health professions students across the state (Erkel, Nivens, & Kennedy, 1995). Students live in a rural community and work in a rural healthcare setting for their respective profession. They also participate in interprofessional learning sessions and collaborate on an interprofessional community-focused health promotion project.

Student Government Association (SGA)

The university's Student Government Association facilitates the exchange of information and ideas between

the six colleges and all students attending the university. It functions as a liaison between students and university administration to represent student opinion, needs and interests to the administration, and to disseminate information from the administration to students. SGA members represent all colleges and are elected or appointed; they are expected to attend all association meetings and to work at SGA social and service events. Members are expected to work collaboratively on issues of interest to the entire student body.

Junior Doctors of Health Program

The Junior Doctors of Health[®] (JDOH) program is a service-learning activity for students enrolled in any of the six colleges. Working in interprofessional teams, campus students provide preventive health education and role modeling to low-income children in elementary schools through a standardized, interactive classroom curriculum focused on healthy eating and the importance of exercise. In addition, they introduce the elementary school children to a variety of health professions and biomedical science careers. For the campus students, it provides an interprofessional service activity and opportunity to work with children and address the childhood obesity epidemic. The campus students visit the classrooms over several weeks to deliver the curriculum, and their time in the program includes interprofessional team training and debriefing sessions.

Methods

Subjects

Subjects for this study were all graduating students from the university's six colleges in 2008, 2009, and 2010. All students were asked to complete a paper and pencil questionnaire during the month prior to their graduation. Student respondents were enrolled during a time when required campus-wide IPE activities in academic programs had not been implemented, including a required interprofessional course. Thus, these students' exposure to significant IP interaction would have occurred only through voluntary participation in one of the several substantive IP co-curricular activities on campus previously described.

Questionnaire and Instruments

The questionnaire was comprised of the 19 items from the Readiness for Interprofessional Learning Scale (RIPLS) (Parsell & Bligh, 1999) and the 18 items from the Interdisciplinary Education Perception Scale (IEPS) (Luecht, Madsen, Taugher, & Petterson, 1990) instruments. We chose these instruments because they have been widely-used in the literature (Rose et al, 2009; Hawk et al, 2002; Furze et al, 2008). The RIPLS instrument measures students' attitudes toward interprofessional learning in three scales: 1) teamwork/collaboration, 2) professional identity, and 3) roles and responsibilities and professional identity. The IEPS instrument measures students' professional perceptions relative to their own profession and other health professions through four scales: 1) competence and autonomy, 2) perceived need for cooperation, 3) perception of actual cooperation, and 4) understanding others' values. The IEPS instrument was modified by the investigators to a five-point scale of 1=strongly disagree; 5=strongly agree to ensure consistency with the five-point scale used in the RIPLS instrument.

Conceptually, we were interested in learning if participation in IP co-curricular activities, as institutionally defined, would be an influence on participants. Thus,

in addition to the RIPLS and IEPS items, students were asked to indicate if they participated in any of the following co-curricular activities while at the institution by marking all that applied: Presidential Scholars, CLARION Interprofessional Case Competition, CARES Clinic, SGA, SCRIPT, and the Junior Doctors of Health program. Finally, respondents were asked to provide demographic information of gender, race, and college/program. We received institutional human subjects approval to conduct this study.

Analysis

Recognizing that some students may have participated in more than one IP co-curricular activity, we asked students to indicate participation in all IP co-curricular activities that applied. Thus for analysis purposes, we grouped respondents into two categories: those who had participated in an IP activity ("one or more") vs. those who had not. In this manner, participants who indicated they had not participated in an IP co-curricular activity served as a natural control group. Responses for each instrument were scored according to validated methods to generate scores for the defined scales described above. Independent sample T-tests were performed for each of the seven scales to assess differences between those groups.

Table 1

Students' Participation in Each IP Co-Curricular Activity

IP Co-Curricular Activity	Number of Participants	Percent Participants
<i>CARES Clinic</i>	334	33%
<i>CLARION Interprofessional Competition</i>	30	3%
<i>Jr. Doctors of Health</i>	90	9%
<i>Presidential Scholars Program</i>	62	6%
<i>South Carolina Rural Interdisciplinary Program of Training (SCRIPT)</i>	41	4%
<i>Student Government Association</i>	144	14%

Results

Nine hundred and ninety-seven of the graduates completed the survey for an overall response rate of 58.1%. Thirty-four percent were female and 12.6% were non-white. Over half (52.9%) of the respondents reported they had participated in at least one IP activity. Of all the respondents, 532 (53.4%) participated in one or more of the listed co-curricular activities. Table 1 (pre-

vious page) presents the percentage of respondents by IP co-curricular activity.

The majority of respondents had participated in the interprofessional student-run CARES clinic. Table 2 presents the mean, standard deviation and significance level on each scale for IP co-curricular participants and non-participants.

Table 2

Attitudinal Scale Scores of Students Participating in IP Co-Curricular Activities versus Students Who Did Not

Instrument Scale	IP Activities	N	Mean	SD	Significance
IEPS					
<i>Competence & Autonomy</i>	None	433	3.68	0.46	0.174
	1 or more IP Activity	531	3.72	0.39	
<i>Perceived Need for Cooperation*</i>	None	430	4.13	0.67	0.001*
	1 or more IP Activity	531	4.27	0.59	
<i>Perception of Actual Cooperation</i>	None	431	4.08	0.57	0.107
	1 or more IP Activity	531	4.02	0.56	
<i>Understanding Others Values</i>	None	428	3.62	0.52	0.269
	1 or more IP Activity	531	3.59	0.47	
RIPLS					
<i>Teamwork and Collaboration</i>	None	470	4.31	0.59	0.885
	1 or more IP Activity	532	4.31	0.56	
<i>Professional Identity</i>	None	468	3.14	0.47	0.206
	1 or more IP Activity	532	3.10	0.33	
<i>Roles and Responsibilities</i>	None	440	2.38	0.83	0.337
	1 or more IP Activity	531	2.44	0.83	

* Significant difference at the $p < 0.05$ level

Of the seven scales from the two instruments, the mean scores of one scale were significantly different between the two groups: IEPS “perceived need for cooperation” ($p < .001$).

Discussion

As IPE increases within health professions training, the co-curricular environment is also a valuable learning context for IP collaboration. Through IP co-curricular activities, students may engage in experiences that introduce them to and/or augment formal IPE within their academic programs. Given the important role attitudes serve in effective interprofessional collaborations (Parsell & Bligh, 1999) assessment of learners’ attitudes is a common strategy to evaluate learning outcomes. In our study, we were interested in examining how the IP co-curricular environment may influence students’ attitudes toward IP collaboration in the absence of formal academic IPE. Our results indicate students who have participated in a substantive IP co-curricular experience hold more positive attitudes toward the perceived need for cooperation as measured by the IEPS instrument. It is likely that as a result of their IP interaction during these IP co-curricular experiences, these students recognize the value and need for cooperation. Since all of the IP co-curricular experiences involved a group effort in problem-solving and taking collective action to achieve a common goal, real life IP collaboration probably highlights its benefit to the participants. Those students who did not have such experience appear not to realize its advantage. That we did not find significant differences on the other scales represented by the instruments likely reflects that as IP co-curricular experiences, students did not typically engage in roles related to their profession (with the exception of the CARES clinic), and thus attitudes related to roles, responsibilities, and professional identity would not have been influenced strongly through participation in the IP co-curricular activity.

Several studies have examined students’ attitudes following specific IPE activities (Harward, Tresolini, & Davis, 2006; Mu, Chao, Jensen, & Royeen, 2004; Rose et al., 2009; Furze, Lohman & Mu, 2008; Cameron et al., 2009; Becker & Goodwin, 2005; Neill, Hayward, & Peterson, 2007; Ragucci, Steyer, Wager, West, & Zoller, 2009). Our work builds and expands upon these by examining attitudinal differences of students who have experienced IP interaction only through participation

in IP co-curricular experiences of substantive duration. It provides outcomes regarding the influence of the IP co-curricular learning environment on students’ attitudes toward IP collaboration.

Limitations

Our study has several limitations. First, we did not measure students’ attitudes prior to their participation in the IP co-curricular activity and thus we do not have a sense of any magnitude in change regarding their attitudes in comparison to the other students. Second, we did group the IP co-curricular activities together in the analysis. However, we used a common metric (IP collaboration of at least 25 hours of duration) to group them. Also, the students who participated in these activities were self-selected and the results may be biased due to this self-selection. It could be they hold more positive attitudes toward IP learning and collaboration than IPE co-curricular non-participants and their experience has little effect on them. That we found only one significant difference between participants and non-participants suggests that a self-selection bias may not be strong as one might presume. Otherwise, one might anticipate higher scores on all scales from the IP co-curricular participants. Additionally, we do not know if one IP co-curricular experience is more influential than the others.

Conclusion

While much focus is on the introduction of IPE within formal classroom settings, our results suggest that important IP collaborative learning occurs outside of the classroom in IP co-curricular activities. Participating in the IP co-curricular environment appears to heighten participants’ awareness about the value of working collaboratively across the professions. This awareness is likely to translate into positive attitudes toward working collaboratively in other interprofessional contexts, such health care practice settings. Our work provides several avenues for further research and encourages health professions educators to consider the value of the IP co-curricular environment at their institutions, as well as to examine outcomes associated with these activities. Research regarding how attitudes change as a result of participating in a specific IP co-curricular activity can provide information about the influence of specific experiences. Similarly, comparing attitudinal changes between types of IP co-curricular experiences,

such as work in a free health clinic versus service learning in other venues, can elucidate what types of IP co-curricular activities may provide more powerful learning. The IP co-curricular environment offers students an additional rich learning environment to learn and apply interprofessional collaborative skills.

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