



Online IPE Communication Module: Improving Students’ Attitudes toward Interprofessional Practice

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Background

The lack of communication between healthcare providers causes medical errors; 70% of these errors are attributable to a failure in interprofessional communication. One of the most effective interventions to prevent miscommunications is introducing students to interprofessional Practice (IPP) and barriers to effective communications across different disciplines (Ruebling et al., 2014). Although there is a positive attitude toward IPE, there are some controversies over the subdomains of IPE and IPP. Kolb et al. (2017) reported that first-year medical and nursing students had a negative or neutral attitude to interprofessional interaction when medical students were more likely to have a negative attitude to interprofessional relationships. Evans, Sonderlund, and Tooley (2013) reported that online (a combination of synchronous and asynchronous activities) modules could significantly improve IPE subdomains, especially interprofessional interaction and interprofessional relationships, among students. Another study found that IPE can help students with “communication and teamwork” and “interprofessional relationships” (Ulrich, Homberg, Karstens, & Mahler, 2019). The IPE Communication Module (IPECM) developed by the University of Michigan uses different asynchronous methods to help students learn more about barriers to effective communication and how to reduce their impacts on IPP. Using the IPECM for occupational therapy and public health students, Amini and Woodworth (2021) reported that students showed significant improvement in “communication and teamwork” and “interprofessional relationship,” but no significant change in interprofessional interaction and interprofessional learning. To improve the interprofessional interaction, we added a case study and some synchronous activities, including question and answer sessions and case report presentations, to the module and included physician assistants and respiratory therapy students. After completing the IPECM, students from public health, occupational therapy, physician assistant, and respiratory therapy worked as an interprofessional team to manage a case with multiple injuries.

Method

Assessment:

Students’ opinions about the interprofessional practice were measured by the University of West England University (UWE) survey before and after taking the module and case study. UWE, a self-assessment tool, measures attitude toward interprofessional communication skills in four different subdomains: Communication and Teamwork (CTW), Interprofessional Relationship (IPR), Interprofessional Interaction (IPI), and Interprofessional Learning (IPL). There are 35 questions measured on a 4-point and 5-point Likert scale. For CTW, scores may vary between 9 and 36 when 9-20, 21-25, and 26-36 indicate positive, neutral, and negative attitudes toward CTW, respectively. The IPR score can vary from 8 to 40, when 8-20, 21-27, and 28-40 indicate positive, neutral, and negative attitudes. For IPI and IPL, 9-22, 23-31, and 32-45 indicate positive, neutral, and negative attitudes, respectively (Pollard, Miers, & Gilchrist, 2005). The surveys were anonymous and did not affect students’ grades. The UM IRB exempted the study.

Out of 92 students enrolled in the module, 48 completed both pre and post-test (Table 1).

Statistical analysis:

Because of the limited sensitivity to the categories, considering the limited number of participants, we compared the scores before and after using the Wilcoxon Signed-Rank test to compare changes before and after taking the module. A decrease in the score was considered shifting toward a positive attitude in each subdomain.

Results

The results of Wilcoxon Signed-Rank tests showed that attitude toward CTW, IPL, and IPR improved after taking the module significantly (Table 2). When we separated students by each profession, OTD students showed the highest decrease in all subdomains, except IPL, in which PA students reported the highest reduction. Across all disciplines, RT students reported the smallest decline in all subdomains.

Table 1 Students participated in the Communication Module and Surveys, Fall 2021

	OTD	RT	PA	PH	Total
# of students	21	20	39	12	92
% of participants	27%	19%	46%	8%	100%
# participated	13	9	22	4	48
Response Rate	62%	45%	56%	33%	52.17%

Notes: OTD: Occupational Therapy; RT: Respiratory Therapy; PA: Physician Assistant; PH: Public Health

Table 2 Changes in scores before and after participating in Communication Module, Fall 2021

	Mean (Before)	Mean (After)	Difference	Sum-	Sum+	Critical Value	n	p
CTW	16.88	15.98	-0.9	-249	492	256	38	<0.05
IPL	11.25	12.58	1.33	-419	211	213	35	<0.05
IPI	32.85	32.85	0	-497	493	353	44	>0.05
IPR	14.65	13.35	-1.3	-288	573	302	41	<0.05

Notes: Wilcoxon Signed-Rank Test

CTW: Communication and Teamwork; IPL: Interprofessional Learning; IPI: Interprofessional Interaction; IPR: Interprofessional Relationships

Conclusion

Our study shows that the IPECM improved students’ attitudes toward three out of four interprofessional communication subdomains, considered an effective intervention and IPE experience. Compared to our last year’s experience (Amini and Woodworth, 2021), adding physician assistant and respiratory therapy students to the module, also the case study, improved IPL. Evans, Sonderlund, and Tooley (2013) tested the effect of an online interprofessional collaboration exploring the roles and responsibilities of different health professions; the last activity in their module was working on a case within an interprofessional team. They reported improvement in only two CTW and IPL subdomains using a combination of synchronous and asynchronous online IPE activities. Our study showed that educating students about effective communication and potential barriers accompanied by a case study can enhance attitude toward CTW, as Evans et al. reported; in addition, IPECM improved IPR significantly. The only subdomain that showed an increase in scores, shift from positive to neutral, was IPL.

Next Step:

We plan to revise the case and add more interactive and synchronous activities to the module. Next year, we also plan to add more interprofessional learning components to the IPECM.

References

Amini, R., & Woodworth, J. (2021). Interprofessional Education Module (IPECM): A collaborative Effort. Paper presented at the Health Professions Education Day Ann Arbor, Michigan, USA.

Evans, S., Sonderlund, A., & Tooley, G. (2013). Effectiveness of online interprofessional education in improving students’ attitudes and knowledge associated with interprofessional practice. *Focus on Health Professional Education*, 14(2), 12-20. doi:<https://search.informit.org/doi/10.3316/ielapa.344023104355022>

Kolb, S., Vasilakis, T., Stein, B., Stadelmann, J., Münzinger, A., Fley, G., . . . Härlein, J. (2017). Attitudes and preferences concerning interprofessional education of first-year students and experienced medical and nursing staff. *Journal of Interprofessional Care*, 31(2), 164-166. doi:<https://doi.org/10.1080/13561820.2017.1283301>

Pollard, K., Miers, M. E., & Gilchrist, M. (2005). Second year scepticism: pre-qualifying health and social care students’ midpoint self-assessment, attitudes and perceptions concerning interprofessional learning and working. *J Interprof Care*, 19(3), 251-268. doi:<https://doi.org/10.1080/13561820400024225>

Ruebling, L., Poie, D., Breitbach, A. P., Frager, A., Kettenbach, G., Westhus, N., . . . Carlson, J. (2014). A comparison of student attitudes and perceptions before and after an introductory interprofessional education experience. *Journal of Interprofessional Care* 28(1), 23-27. doi:<https://doi.org/10.3109/13561820.2013.829421>

Ulrich, G., Homberg, A., Karstens, S., & Mahler, C. (2019). Attitudes towards interprofessional collaboration in young healthcare professionals. *Journal of Interprofessional Care*, 33(6), 768-773. doi:<https://doi.org/10.1080/13561820.2019.1597839>