Research

Dental and Dental Hygiene Student Perceptions of Interprofessional Education

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Abstract

Purpose: Commission on Dental Accreditation standards for dental and dental hygiene programs include interprofessional education (IPE) experiences within the curriculum; an initial step in the acquisition and application of IPE is for students to perceive it as relevant. The purpose of this study is to identify dental and dental hygiene students' attitudes regarding IPE following the completion of a novel interprofessional course involving health professional students from six different degree programs.

Methods: Faculty members from the Schools of Allied Health Professions, Dentistry, Nursing, and Pharmacy designed a one-hour, required course focusing on collaborative practice, roles and responsibilities, teamwork, and communication. Students from six different professional programs were divided into interprofessional teams for the thirteen session IPE course. Upon completion of the course, all participants (n=487), were invited to complete an online course evaluation survey utilizing the Student Perceptions of Interprofessional Clinical Education (SPICE-R2) instrument. A retrospective pre-test-post-test approach was used to assess attitudinal change.

Results: A total of 300 students from the six health care professions (n=300) completed the SPICE-R2 pre- and post-test surveys for a response rate of 62%. In general, students reported significantly more positive perceptions about IPE after completion (M = 39.7, SD = 7.57) than they did prior to the course (M = 36.6, SD = 7.13), $t(299) = -9.24$, $p < .001$; and the effect size was moderate (Cohen's d = .535). One-way analysis of variance revealed a significant main effect for student program on change in scores on the total SPICE-R2 scale. Although post- tests did not reveal differences between specific programs, dental hygiene students exhibited the greatest attitudinal change, while dental students demonstrated the lowest.

Conclusions: Sample sizes from the six healthcare programs varied and serve as a limitation for this study. Findings suggest that dental hygiene students may perceive greater benefit from IPE because they see themselves as collaborative practitioners. while dental students may self-identify as leaders of the oral healthcare team. Further research is warranted to examine students' perceptions of IPE to determine the potential impact and success of these curricular activities.

Keywords: interprofessional education, health education, collaborative practice, professional attitudes

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Introduction

Access to all aspects of healthcare in the United States (U.S.) is disproportionate based on factors such as race, ethnicity, socioeconomics, and location.[1] The Institute of Medicine (IOM) has drawn attention to a variety of factors that contribute to poor patient care outcomes and has made recommendations for fundamental changes in the U.S. healthcare system that include both interprofessional education (IPE) and interprofessional practice. Recently, the IOM proposed a conceptual framework for IPE focusing on the value of interprofessional learning across the continuum, from pre-licensure education to graduate education, and ultimately into continuing education.[2-5] In response, health science programs, spurred by changes in accreditation standards, have initiated a variety of IPE programs.[10-14] These IPE programs aim to develop "collaboration ready" practitioners able to communicate clinical findings, coordinate patient care, and connect patients to health resources in the communities in which they live.[11-14] The Commission on Dental Education (CODA)[15-16] expects institutions to provide opportunities for learners to engage with other health professional students and develop collaborative interprofessional skills. Specifically, CODA standards 1-9 and 2-19 for dental programs[15] and standards 2-13d and 2-15 for dental hygiene programs[16] emphasize professional roles,

communication and coordination of patient care within a diverse healthcare team.

A wide variety of IPE initiatives in dental education have been reported in the literature.[10] Within dental hygiene education, interprofessional interactions have been most frequently associated with volunteer activities (68%), basic sciences courses (65%), communication training (63%) and behavioral science courses (59%) according to a national survey conducted in 2015.[17] A second study reported that small group exercises (80%), service-learning projects (75%) and case-based discussions (59%) were among the most common methods for integration of IPE. Standardized patient experiences and shared clinical activities are other ways in which dental hygiene and dental programs expose their students to other health professional students.[18]

While a variety of IPE experiences have been implemented throughout healthcare education, substantial challenges remain in implementing IPE and assessing of the impact of these experiences amongst oral healthcare trainees as they move through various stages of professional development.[19] Faculty at Virginia Commonwealth University (VCU) developed a large scale, interactive, required course with the objective of enhancing the entry level health professional students' foundational knowledge, attitudes, and skills needed to attain interprofessional competency. The purpose of this study was to examine learners' attitudes about IPE prior to and following participation in an IPE course; specifically, the differences between pre-doctoral dental and dental hygiene students.

Methods

This study was granted exempt status by the VCU Institutional Review Board (protocol number HM14278).

Course Description

A core group of faculty members (planning committee), consisting of a faculty member from each of the six professional programs participating in the course plus two faculty from VCU's Center of Interprofessional Education and Collaborative Practice met to develop a required, one-hour, thirteen-session, pass-fail course. Collectively, the planning committee had broad experience in IPE, clinical practice, teaching, curriculum development and assessment and were guided by the IOM's conceptual framework for integrating IPE across the learning continuum.[2] The course originated as a non-academic three-hour activity in academic years 2012-13 through 2014-15. Sessions were added in the second year as content and cases were developed. The inaugural offering of the thirteen-session required course was in fall 2015. Based on student evaluations and faculty feedback, the course was enhanced for fall of 2016, an served as the basis for this study.

Students from the Schools of Allied Health Professions, Dentistry, Nursing, and Pharmacy were enrolled in the course. All students were considered "beginning level," meaning they had not begun or had just started clinical training. Enrollment by the six professions represented in the course can be found in Table I.

Table I. Interprofessional Course: Learning Objectives

Upon completion of the course, students will be able to:	IPEC Competency Domain[16]
Define interprofessional education and interprofessional collaborative care Identify trends in healthcare that are driving interprofessional practice Describe the potential impact of interprofessional collaborative care	Interprofessional Teamwork and Team-based Practice
Know the roles & responsibilities of their own profession Know the roles & responsibilities of other professions Describe how professionals collaborate within certain contexts/settings of healthcare	Roles and Responsibilities
Define models of team formation and effective teamwork Demonstrate teamwork behaviors and skills for effective team communication Assess effectiveness of teamwork	Teams and Teamwork; Interprofessional Communication

Course content and activities targeted three domains of the Core Competencies for Interprofessional Collaborative Practice:[20-21] Roles and Responsibilities, Teams and Teamwork, and Interprofessional Communication. The overall learning outcomes of the course were for students to: characterize interprofessional collaborative care; recognize the training, licensure, and typical practice of health professions; and develop effective team-based skills for interprofessional collaboration. Specific learning objectives can be found in Table I.

Students were assembled into 88 interprofessional teams, consisting of five to six students per team, for the learning activities over the duration of the course. Teams were randomly assigned

to include students from each of the health professions, with eleven teams per classroom. While representatives from physical therapy, occupational therapy and dental hygiene were not on every team due to smaller class sizes, all professions were represented in each classroom. The majority of sessions were held in classrooms designed for group work and included stations consisting of oblong tables for collaboration, dual monitors to project materials from the instructor and individual students, and a microphone system for large group discussions.

Initial learning activities prompted students to explore their own profession's scope of practice and roles towards collaborative care. Students then came together to inform other professions of their training and typical scope of practice. Students were prompted to explore similarities and differences in their roles and responsibilities and acknowledge how overlap may be beneficial as well as cumbersome in the care of patients. Students then focused on a model for effective collaboration, which included phases of planning, action, and reflection. The model was based on the theoretical process of reflective practice and team skill development and included communication processes, conflict resolution and group decision making.[22] Team assignments followed and students approached the planning phase by creating goals, gaining group consensus, and clearly outlining roles and responsibilities. During the action phase of the assignment, students were encouraged to assist teammates and monitor progress. The reflection phase provided opportunity to review performance of all team members and make adjustments for future work. Assignments consisted of a written case study, a simulated patient encounter, and a capstone project that required student teams to create a brief video essay depicting the nature of interprofessional collaborative care and its benefits to patients within a specific context or healthcare setting.

Final grades in the pass/fail course were determined by a combination of activities completed individually or as an interprofessional team. Assessments included three knowledge-based multiple-choice quizzes (30%), three individual learning activities (10%), six team-based learning activities (20%), and a team-based capstone project (40%).

A total of 20 faculty members from the six participating health science programs taught the course. Faculty were either recruited based on their involvement in other university IPE initiatives, or appointed by their program's leadership. The number of faculty representing each program was proportional to the number of students enrolled in their respective programs. Faculty from two different professions were paired to work together over the duration of the course based on their experience with IPE and availability for the thirteen sessions. Faculty pairs were randomly assigned to the classrooms where they provided instruction, facilitated the learning activities, and assessed the capstone project. Faculty were provided with teaching materials and facilitator notes developed by the core planning committee. Faculty met weekly for a thirty-minute, pre-session huddle to review materials, discuss course management issues, and clarify assessment expectations. A debrief thread was emailed to faculty at the conclusion of each session, thus providing timely feedback to guide course enhancements.

Study Design

A non-experimental, comparative design with a retrospective pre-test-post-test[23] measure to assess change in student attitudes, was used for the study. Attendance was taken at weekly class sessions throughout the semester as one measure of student participation. Data were collected for the purpose of annual program evaluation, and secondary data analyses were conducted to answer the focused study questions. An online course evaluation survey with the additional attitudinal measure was distributed to all enrolled students at the end of the semester via email using Qualtrics (Provo, UT). Each student received a unique URL for the survey and their responses were linked to embedded demographic data identifying their specific academic program. The survey was open for two weeks, and students were sent up to three reminders to complete the course evaluation.

The revised Student Perceptions of Interprofessional Clinical Education instrument version 2 (SPICE-R2), developed to assess students' attitudes and perceptions of the appropriateness and benefits of IPE and interprofessional practice without a focus on any one profession,[24] was used to measure attitudes. This 10-item survey captures student perceptions about three areas of IPE. Each item is rated on a 5-point Likert scale and summed to arrive at subscale scores and an overall score. The first subscale measures attitudes about Interprofessional Teamwork and Team-based Practice and includes four items, such as "Participating in educational experiences with students from different disciplines enhances my ability to work on an interprofessional team," with scores ranging from 4 to 20. The second subscale measures attitudes about Roles and Responsibilities for Collaborative Practice and includes three items such as "I understand the roles of other health professionals within an interprofessional team," with scores ranging from 3 to 15. The final subscale, consisting of three items, measures attitudes about Patient Outcomes from Collaborative Practice. Items include statements such

as "Patient/client satisfaction is improved when care is delivered by an interprofessional team," and scores range from 3 to 15. Students were asked to think back and reflect on their perceptions at the beginning of the semester (prior to the course) and rate their level of agreement with each statement and then to rate their level of agreement at the current point in time (at the end of the course).

The SPICE tool was originally designed for use with learners during the clinical stage of their training.[25] A retrospective pre-test was used rather than the traditional prospective pre-test because these participants were early learners, with little or no experience with clinical care. Enthusiasm for their new professions and lack of understanding about the complexity of interprofessional care may cause students to inaccurately assess their perceptions on a traditional pre-test. The retrospective pre-test-post-test design provided students with an opportunity to reflect on the items as related to the constructs covered in the course, minimizing potential response shift bias and yielding a more accurate and reliable measure of change. The SPICE-R2 measurements appeared first in the survey, so students responded to those items before moving to the next screen, with questions pertaining to satisfaction with various aspects of the course.

Analyses

To determine attitudinal change, mean post-test scores were compared with retrospective pre-test scores on the total scale and for each subscale using paired samples t-tests. Differences in change associated with specific student disciplines were calculated by determining a change score for each respondent as the difference between the post-test score and the retrospective pre-test score on the total scale and for each subscale. Scores were compared using a one-way analysis of variance (ANOVA). Individual attendance (number of sessions attended) for all enrolled students was also examined using one-way ANOVA to determine any variances by individual disciplines.

Results

Of the total number of students enrolled in the mandatory IPE course (n=487), three-hundred students from the six professional programs (n=300) completed the survey for a response rate of 62%. Response rates by professional program are displayed in Table II. Responses from dental hygiene students (n=16) and dental students (n=46) comprised 21% of the total sample. In general, the majority of respondents from all six programs reported significantly more positive perceptions about interprofessional education upon completion of the course (M = 39.7, SD = 7.57) than prior to the course (M = 36.6, SD = 7.13), $t(299)$ = -9.24, $p < .001$. The change in perception about IPE had a moderate effect size (Cohen's d = .535). Among the three subscales of the measure, change was greatest in student attitudes about Roles and Responsibilities for Collaborative Practice, $t(299)$ = -13.30, $p < .001$, Cohen's d = .771. This category had the lowest mean pre-test score. The smallest change was in the subscale related to Interprofessional Teamwork and Team-based Practice, $t(299)$ = -3.08, p = .002, Cohen's d = .179. This category had the highest mean score at pre-test. Attitudes about patient outcomes showed moderate change, $t(299)$ = -7.51, $p < .001$, Cohen's d = .434). Means, standard deviations, and results of comparisons between retrospective pre-test and post-test scores are shown in Table III for the overall group and each professional program.

The one-way analysis of variance revealed a significant main effect for student program in regards to change in scores on the total SPICE-R2 scale and on the Roles and Responsibilities for Collaborative Practice subscale

Table II. Enrollment and Response Rate by Program

Program: *Degree Sought*	Enrolled Students	Percent of Total Course Enrollment	Number Completing Survey	Response Rate
Dental Hygiene *Bachelor of Science in Dental Hygiene*	22	5%	16	73%
Dentistry *Doctor of Dental Surgery*	97	20%	47	48%
Nursing *Bachelor of Science in Nursing*	146	30%	92	63%
Occupational Therapy *Doctor of Occupational Therapy*	42	9%	30	71%
Pharmacy *Doctor of Pharmacy*	125	26%	78	62%
Physical Therapy *Doctor of Physical Therapy*	55	11%	37	67%
All	487	100%	300	62%

Table III. Summary Statistics and Paired *t*-test Results for Comparisons Overall and by Program

	n	Retrospective Pretest		Posttest		Absolute Change		*t*	*p*
		Mean	*SD*	*Mean*	*SD*	*Mean*	*SD*		
Overall Scale (Score Range: 10-50)									
Dental Hygiene	16	32.63	10.01	38.63	8.37	6.00	7.46	-3.22	0.006
Dentistry	47	33.66	7.86	35.85	9.95	2.19	7.82	-1.92	0.061
Nursing	92	36.49	6.47	38.60	7.69	2.11	4.67	-4.33	<.001
Occupational Therapy	30	36.80	5.29	40.90	5.34	4.10	4.89	-4.59	<.001
Pharmacy	78	37.81	6.66	41.92	5.78	4.12	5.68	-6.40	<.001
Physical Therapy	37	39.95	6.68	42.24	5.88	2.30	4.48	-3.12	0.004
All	300	36.64	7.13	39.71	7.57	3.07	5.76	-9.24	<.001
Subscale 1: Interprofessional Teamwork and Team-based Practice (Score Range: 4-20)									
Dental Hygiene	16	14.00	4.55	15.81	3.39	1.81	3.35	-2.16	0.047
Dentistry	47	13.70	3.54	14.17	4.36	0.47	2.89	-1.11	0.272
Nursing	92	14.39	3.57	14.55	4.02	0.16	2.23	-0.70	0.484
Occupational Therapy	30	16.67	2.02	17.20	2.73	0.53	2.87	-1.02	0.318
Pharmacy	78	16.12	2.92	16.88	2.81	0.77	2.76	-2.46	0.016
Physical Therapy	37	16.78	2.94	16.76	2.68	-0.03	2.36	0.07	0.945
All	300	15.23	3.44	15.70	3.68	0.47	2.64	-3.08	0.002
Subscale 2: Roles/responsibilities for Collaborative Practice (Score Range: 3-15)									
Dental Hygiene	16	8.19	3.21	11.00	2.99	2.81	3.25	-3.46	0.004
Dentistry	47	9.57	2.89	10.64	3.21	1.06	2.84	-2.57	0.014
Nursing	92	10.27	2.40	11.78	2.39	1.51	2.26	-6.42	<.001
Occupational Therapy	30	8.27	2.56	10.83	2.35	2.57	1.77	-7.92	<.001
Pharmacy	78	9.87	2.69	12.05	2.01	2.18	2.20	-8.76	<.001
Physical Therapy	37	10.30	3.00	12.16	2.15	1.86	2.19	-5.18	<.001
All	300	9.75	2.76	11.58	2.50	1.83	2.39	-13.30	<.001
Subscale 3: Patient Outcomes from Collaborative Practice (Score Range: 3-15)									
Dental Hygiene	16	10.44	3.65	11.81	2.76	1.38	1.89	-2.91	0.011
Dentistry	47	10.38	2.52	11.04	3.08	0.66	2.43	-1.86	0.069
Nursing	92	11.83	2.38	12.26	2.39	0.43	1.53	-2.73	0.008
Occupational Therapy	30	11.87	2.19	12.87	1.66	1.00	1.51	-3.63	0.001
Pharmacy	78	11.82	2.21	12.99	1.96	1.17	1.82	-5.66	<.001
Physical Therapy	37	12.86	2.04	13.32	1.93	0.46	1.19	-2.34	0.025
All	300	11.66	2.48	12.43	2.41	0.77	1.78	-7.51	<.001

(Table IV). Though the overall variance attributed to the effect of the IPE course was statistically significant, post-hoc tests did not reveal individual program scores significantly different from each other. Figure 1 illustrates the absolute change for the total scale and for each subscale overall, as well as each individual program.

There was also a significant main effect for specific professional programs in regards to attendance [$F(5, 345) = 5.139$, $p = .000$]. Dental hygiene students had the highest attendance rate, a mean of 12.00 sessions attended out of 13 total (SD = 0.65), while dental students had the lowest average attendance rate (M = 11.06, SD = 0.92). The average number of sessions attended by students in the other four disciplines were similar and fell between the two oral health professions: nursing (M = 11.53, SD = 0.79), occupational therapy (M = 11.68, SD = 0.65), pharmacy (M = 11.65, SD = 0.61), and physical therapy (M = 11.57, SD = 0.95).

Table IV. One-Way ANOVA for Effect of Program on Change for Overall Scale and Subscales

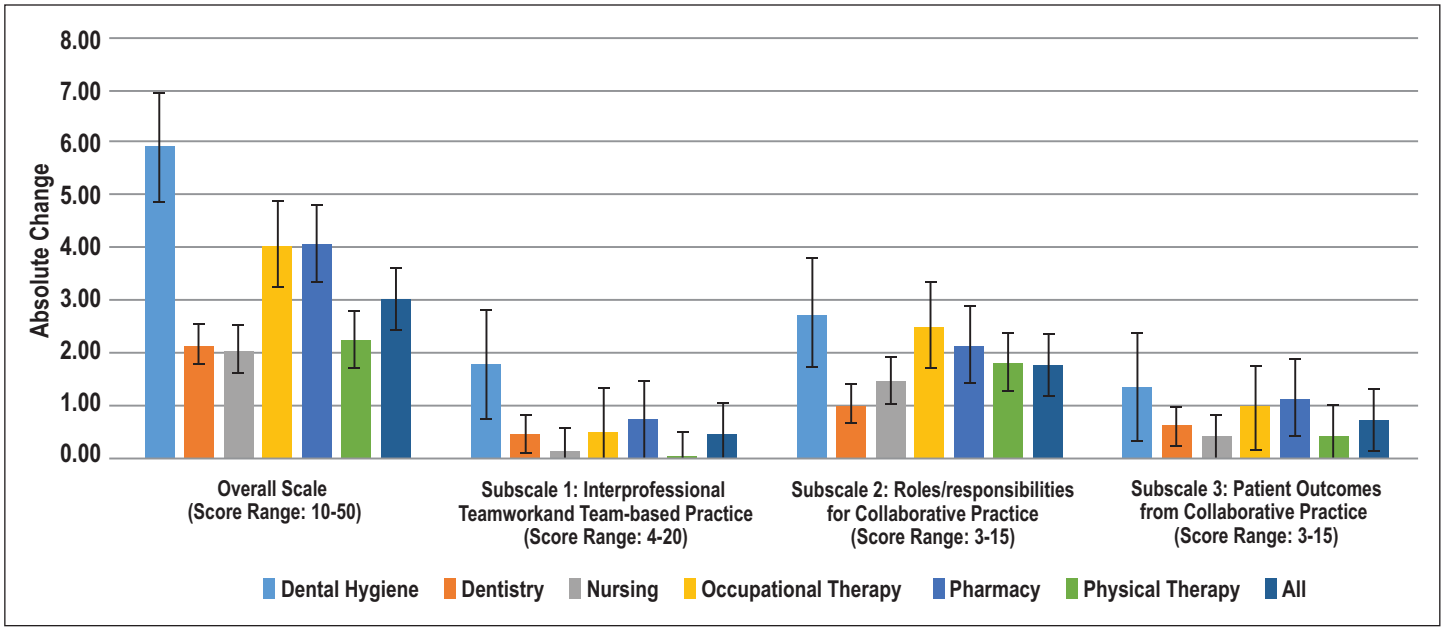
	Source	df	SS	MS	F	p
Overall Scale	Between-group	5	397.81	79.56	2.45	0.034*
	Within-group	294	9530.58	32.42		
	Total	299	9928.39			
Subscale 1	Between-group	5	53.75	10.75	1.56	0.172
	Within-group	294	2028.98	6.90		
	Total	299	2082.73			
Subscale 2	Between-group	5	78.25	15.65	2.83	0.016*
	Within-group	294	1627.41	5.54		
	Total	299	1705.67			
Subscale 3	Between-group	5	34.20	6.84	2.21	0.053
	Within-group	294	908.93	3.09		
	Total	299	943.13			

*Post-hoc tests did not reveal individual program scores that were significantly different than other programs.

Discussion

Improved health outcomes can be expected through interprofessional practice when patients have greater access to care, enhanced coordination of care, and better connections to health resources in their communities.[10,17] Dentistry is part of the primary healthcare system and both dentists and dental hygienists must be able to successfully communicate with other primary care providers. Chronic health conditions, such as diabetes, have oral health related consequences; and oral health conditions also impact systemic health. Dental hygienists and dentists are uniquely positioned as valuable members of the healthcare team to promote oral, as

Figure 1. Absolute change in SPICE-R2 scores from retrospective pretest to posttest by program and overall



well as, overall health and well-being.[26] IPE is an integral first step towards developing future practitioners who understand their own role as well as the roles of other healthcare professionals within collaborative care.

CODA standards relating to interprofessional competency are relatively new and it is important to share learning objectives and educational methodologies to determine best practices in IPE for oral health professionals. Learners who appreciate the relevance of the topic being taught may be more likely to engage with the material and, in the case of IPE, better represent their respective professions while interacting with other health professional students. This study was conducted to help inform IPE curricular development by the highlighting students' perceptions and experiences of a large-scale IPE course and at an urban university.

In discussing the study findings, limitations related to its design should be considered. The use of a convenience sample at a single site may limit generalizability of the findings. Because instructors in the course had varying levels of experience with IPE and with teaching, the classroom experience for students varied depending on which instructional team they were assigned. This could have impacted responses to the attitudinal measure. The overall response rate to the attitudinal survey was relatively high at 62%, but the possibility of non-response bias must also be considered since response rates varied by student discipline. Dentistry students in particular had a response rate of only 48%, which was substantially lower than the overall rate, while the response rate of dental hygiene students was slightly higher (73%).

Despite these potential limitations, the findings demonstrate that students overall reported having significantly more positive perceptions about interprofessional education after completing the course than they did before the course. While post-hoc tests found no detectable evidence that one program was significantly lower or higher than others, there was significant variation, and a visual examination of the SPICE-R2 change scores displayed in Figure 1, reveals patterns that differ by program. While dental hygiene students seem to have experienced greater change in attitudes than other groups, dental students appear to have been among the groups with the lowest measurable change. The paired samples *t*-tests for dentistry students show significant change only on the Roles and Responsibilities for Collaborative Practice subscale. Small sample sizes, particularly dental hygiene (n = 16), limit any definitive conclusions, but the evidence seems to indicate that there are potential differences that merit further study.

Dental students may enter their training with the perception that their practice will be largely independent of other members of healthcare professionals; thus they perceive themselves to be leaders for the oral healthcare team. By contrast, dental hygiene students may enter their profession with the perception that it is fundamentally dependent on other members of the healthcare team. Institutions may be admitting students to dental hygiene programs who are more naturally drawn towards collaboration, a characteristic which is further supported within their curriculum. Dental hygiene education conditions students to identify themselves as collaborative practitioners, and the content of this course reinforces that aspect of their identity. It gives them concrete concepts to ground their training. Greater emphasis may need to be placed on admitting dental students demonstrating a propensity towards collaboration and insight about the collaborative nature of healthcare. It has been reported the multiple mini interviews and Big Five personality inventories are tools that can identify inherent personality traits such as agreeableness and team work abilities amongst dental school applicants.[27-28] Utilization of such tools along with early IPE activities that explore healthcare teams and hone students' collaborative skills could have a significant impact on how future dentists see their role within healthcare.[27-28] Educational preparation in the unique skills of a profession is a necessity; however, ongoing training in silos is counterproductive to teamwork. IPE can benefit early learners in discovering their professional identities as a healthcare worker and member of a multidisciplinary team.[29]

It may be that dental hygiene education has a stronger emphasis on being a member of the oral healthcare team since most state practice acts require a dental hygienist to work under some type of supervision while dentists practice independently. Dental education may be inadvertently focused on the dentist as leader of the oral healthcare team. Furthermore, since few of the 333 dental hygiene programs in the United States are affiliated with dental schools,[30] the isolated training environment for dentists may perpetuate a traditional perception that their role is mono-professional. Previous research has revealed differences in attitudes between other healthcare practitioner groups in the continuing education setting.[31] Nurses, similar to dental hygienists, were found to experience more sustainable attitude and behavior change after IPE when compared to physicians, suggesting that health professionals who are trained to be leaders of the team, such as physicians and dentists, may not view themselves collaborating in the same manner as health professionals whose roles traditionally involve supervision.

All students were held to the same attendance policy; points were deducted from the final grade if absent more than

three times. Among the six health care profession groups, dental hygiene students attended the most class sessions. Dental hygiene students may have had higher attendance rates because they identified with the basic tenant of collaborative practice or they may have recognized its relevance to their future practice with increased exposure to course content. However, differences in academic workload, program culture and schedules may also have influenced student attendance amongst the various programs. Additionally, the cohort of dental hygiene students was younger in age as compared to the other participant groups and had less experience in higher education experiences. Even the nursing student cohorts, also seeking a baccalaureate degree, primarily came from an accelerated program, had already earned at least a four-year college degree. The younger dental hygiene students may be more readily accepting of concepts new to them as supported by Anderson and Thorpe who reported that younger, undergraduate health science students achieved higher learning outcomes and were more positive about their learning than their older counterparts. [32]

Further investigation is needed to determine the ways pre-existing attitudes and biases influence the development of team-based skills amongst healthcare workers and the specific types of early IPE experiences needed to demonstrate relevance to students regardless of the specific profession. Oral healthcare professionals are expected to interact with the public health system to improve access to care and implement preventive oral care services.[33] A longitudinal study by Curran et al demonstrated that the maximum impact of IPE can be achieved when health and human service professional students are exposed to IPE both early and frequently during the course of their studies.[34] The overarching premise of VCU IPE course was based on the principle that all students are healthcare professionals first and practitioners of a specific discipline second. Yet, establishing the relevance of IPE and collaborative practice for students entering the dental profession may vary for students depending on their particular profession, based on differences in current and developing practice models, licensure, and reimbursement protocols. Having a better understanding of how to promote collaborative practice amongst the various professions could prove to be beneficial and inform curricular development for health science students and those seeking a career in healthcare.

Conclusion

A large-scale, required IPE course for early learners was created to align with the IOM report recommendations and core competencies for interprofessional collaborative practice. Health professional students from six disciplines including dentistry and dental hygiene reported having significantly more positive perceptions about IPE upon completion of the course as compared to those identified prior to the course. Dental hygiene students demonstrated the greatest change in attitudes towards IPE as compared to the five other student groups; dental students' attitudes were among the lowest in measurable change. Results from this study highlight the need for educators to carefully consider student attitude towards the importance of IPE and explore ways to cultivate an interprofessional identity among dental and dental hygiene students.

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