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Abstract

The findings described in this article are part of a broader scholarship of teaching and learning (SoTL) project examining competencies for intraprofessional practice. We identified the educational and professional learning contexts where occupational therapists and occupational therapy assistants developed competencies for intraprofessional collaboration. Practitioners were recruited via snowball sampling and responded to an online survey about competencies for intraprofessional practice. Respondents (N = 465) identified learning contexts that contributed to the development of each competency, selecting up to three choices: *Class in Occupational Therapy or Occupational Therapy Assistant Program, Fieldwork, Formal Work Training, Work Experience, Continuing Education Course, and Other.* Descriptive analysis showed that both occupational therapist and occupational therapy assistant respondents indicated *Work Experience* as the most often selected context where most competencies were developed. Occupational therapist and occupational therapy assistant respondents differed in the second and third most frequently selected contexts where competencies were developed. Chi square analyses found statistically significant differences (p < .001) between occupational therapist and occupational therapy assistants for work experience and fieldwork as contexts for learning the competencies. Stepwise logistic regression analysis showed that occupational therapists had increased odds of endorsing *Work Experience* and *Fieldwork* compared with occupational therapy assistants. Given recent emphasis on intraprofessional education, findings may help inform design of competency-based learning experiences in educational and professional learning contexts.

Keywords

Occupational therapy education, intraprofessional practice, collaboration, competency-based learning

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ABSTRACT

The findings described in this article are part of a broader scholarship of teaching and learning (SoTL) project examining competencies for intraprofessional practice. We identified the educational and professional learning contexts where occupational therapists and occupational therapy assistants developed competencies for intraprofessional collaboration. Practitioners were recruited via snowball sampling and responded to an online survey about competencies for intraprofessional practice. Respondents (N = 465) identified learning contexts that contributed to the development of each competency, selecting up to three choices: *Class in Occupational Therapy or Occupational Therapy Assistant Program, Fieldwork, Formal Work Training, Work Experience, Continuing Education Course, and Other.* Descriptive analysis showed that both occupational therapist and occupational therapy assistant respondents indicated *Work Experience* as the most often selected context where most competencies were developed. Occupational therapist and occupational therapy assistant respondents differed in the second and third most frequently selected contexts where competencies were developed. Chi square analyses found statistically significant differences ($p <$ .001) between occupational therapist and occupational therapy assistants for work experience and fieldwork as contexts for learning the competencies. Stepwise logistic regression analysis showed that occupational therapists had increased odds of endorsing *Work Experience* and *Fieldwork* compared with occupational therapy

assistants. Given recent emphasis on intraprofessional education, findings may help inform design of competency-based learning experiences in educational and professional learning contexts.

Background

Health professions education and practice have recently emphasized professional collaboration and teamwork as critical skills for client outcomes (Institute of Medicine [IOM], 2015). Much of the literature in this area has focused on interprofessional collaboration, but several professions have varied degree levels and credentials that make *intra*professional collaboration important in practice, including occupational therapy (American Occupational Therapy Association [AOTA], 2018; Barker et al., 2018). Both inter- and intra- professional collaboration enhance client outcomes, safety, and satisfaction (AOTA, 2018; Emich, 2018).

This growing interest in the relationships among teamwork, collaborative behaviors, and various health and system outcomes aligns with a shift towards competency-based learning in medical education and the health professions (Bajis et al., 2020; Englander et al., 2013). For example, Englander and coauthors (2013) identified domains of competence common across the health professions with the intent of developing a taxonomy of competencies for health professions education to which physician competencies could be mapped. Similarly, Bajis et al. (2020) conducted an analysis of competency-based education models in health professions education to create a synthesized model illustrating the essential nature of life-long learning for the professional development of pharmacists. Although there is scant literature examining intraprofessional collaboration, in general and within the profession of occupational therapy, the Interprofessional Learning Continuum (IPLC) Model (IOM, 2015) is a theoretical framework describing the process of interprofessional education and practice and is potentially applicable to intraprofessional collaboration. The IPLC depicts a learning continuum across foundational education, graduate education, and continuing professional development that includes both formal and informal learning experiences (IOM, 2015). Given this emphasis on life-long learning and continued professional development in models describing competency-based education and interprofessional collaboration in health professions education and practice, understanding where occupational therapists and occupational therapy assistants developed competencies for intraprofessional practice may assist in enhancing intraprofessional learning experiences across educational and professional contexts.

Literature on competencies specific to intraprofessional practice, while limited, emphasizes skills needed to collaborate effectively within the intraprofessional team (Barker et al., 2018; Diamant et al., 2018; Jelley et al., 2013).Collaboration has been defined in different ways with key components including sharing of resources, shared decision-making, teamwork, and respect (Emich, 2018). Whether intra- or inter-professional, collaboration includes valuing contributions of each team member and respecting roles and knowledge (Emich, 2018). Emich (2018) described communication, interpersonal skills, and knowledge of one’s roles and the roles of others as

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antecedents to collaboration. Dillon (2001) interviewed occupational therapy practitioners to identify effective relationships between occupational therapists and occupational therapy assistants. While he did not use the term collaboration, the themes that emerged were consistent with Emich's (2018) definition, including respect and teamwork. Dillon (2001) included communication as a key component of successful intraprofessional relationships, rather than an antecedent, with participants describing the need to understand the partner's communication style and the ability to provide feedback and input openly. Ultimately, an intraprofessional relationship must include collaborative problem-solving focused on optimal client outcomes (Dillon, 2001; Emich, 2018).

While understanding the primary components of collaboration is important, defining specific competencies can help guide the design of learning experiences and assess learning outcomes related to collaborative practice in both educational and professional learning contexts. The Accreditation Council for Occupational Therapy Education's (ACOTE) essentials include broad standards for addressing intraprofessional collaboration in occupational therapy education (ACOTE, 2018), but specific competencies for entry-level programs are left up to educational programs. For example, the 2018 ACOTE standard that primarily addresses intraprofessional collaboration for occupational therapist educational programs, B.4.24, notes that students will "demonstrate effective intraprofessional OT/OTA collaboration to identify the role of the occupational therapist and occupational therapy assistant in the screening and evaluation process [and] demonstrate and identify techniques in the skills of supervision and collaboration with occupational therapy assistants" (p. 32). The same 2018 ACOTE standard for occupational therapy assistant programs is more limited, stating, "Demonstrate effective intraprofessional OT/OTA collaboration to explain the role of the occupational therapy assistant and occupational therapist in the screening and evaluation process" (p. 32). Consistent with the intent of the standards, ACOTE does not provide details needed to design educational programming in professional, fieldwork, or academic settings in order to allow academic programs freedom to develop their own curricula. As such, empirical studies that detail competencies would offer programs additional guidance in developing learning experiences and designing assessments of learning outcomes.

Diamant and coauthors (2018) surveyed occupational therapy practitioners to identify specific competencies needed for effective occupational therapist – occupational therapy assistant collaboration. Since no competencies had been established specific to intraprofessional collaboration in occupational therapy, the survey was developed from competencies for interprofessional practice outlined by the Interprofessional Education Collaborative (IPEC 2011, 2016) and intraprofessional competencies developed for physical therapy practitioners (Jelley et al., 2013). The survey by Diamant et al. (2018) included 20 competencies in four domains, including Intraprofessional Teamwork, Roles & Responsibilities, Communication, and Values & Ethics, which were developed to represent collaboration specific to intraprofessional practice in occupational therapy. Occupational therapists (n = 228) and occupational therapy assistants (n = 123) overwhelming agreed that the identified competencies were important or very important

for effective collaboration (Diamant et al., 2018). Competencies developed by Diamant et al. (2018) are included in the AOTA official document, *Importance of Collaborative Occupational Therapist – Occupational Therapy Assistant Intraprofessional Education in Occupational Therapy* (AOTA, 2018). These competencies require further study, but provide practitioners and educators with objectives for evaluating practitioners and students as they develop intraprofessional practice skills.

The development of skills for competent intraprofessional practice begins in the entry-level programs for occupational therapists and occupational therapy assistants and is an expected entry-level skill for both occupational therapists and occupational therapy assistants. Several authors have described learning approaches to promote intraprofessional collaboration in occupational therapy, but most examine the perceived effectiveness of specific learning activities rather than comprehensive outcomes that impact practice. For example, Carson et al. (2018) described an intraprofessional educational experience during didactic education with two phases. Occupational therapist and occupational therapy assistant students first completed in-class learning activities and then intraprofessional teams led groups in a community setting for adults with developmental disabilities. All outcomes measured were student perceptions and included participants' understanding of occupational therapist and occupational therapy assistant roles; perceived intraprofessional working relationships; application of learned skills; and whether they recommended the learning experience for future students. Agreed or strongly agreed responses ranged from 79% to 93% on the four outcomes; however, no outcomes measured actual performance that demonstrated mastery of collaborative intraprofessional practice. Costa et al. (2012) described a number of intraprofessional educational experiences in occupational therapy, but the impact of the experiences was also expressed in students' or instructors' perceptions of learning and not performance-based outcomes. Additionally, we found no literature providing an understanding of the educational and professional learning contexts where intraprofessional practice competencies are developed to help guide intraprofessional education.

Knowledge of the educational and professional learning contexts where occupational therapist and occupational therapy assistant practitioners developed competencies for intraprofessional collaboration can be used as a baseline to inform development of intraprofessional education learning experiences. The current study is part of a broader scholarship of teaching and learning (SoTL) project that originally intended to examine pedagogy and assess instructional methods used for intraprofessional education experiences. However, the authors found that there were no studies published in the occupational therapy literature examining learning outcomes of intraprofessional education beyond the level of learner satisfaction. Further, while published literature on intraprofessional collaboration clearly describes the content of learning experiences, it often fails to identify a pedagogical approach or guiding framework for curriculum design. Literature from other professions may provide a foundation; however, the roles and relationships between occupational therapists and occupational therapy assistants differ significantly from other professions, limiting the applicability of others' intraprofessional models to occupational therapy.

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Therefore, the purpose of this SoTL project was to define competencies for intraprofessional collaboration and explore the educational and professional learning contexts where occupational therapists and occupational therapy assistants learned these competencies. Results related to the first research question, “What are the perceptions of occupational therapists and occupational therapy assistants regarding the competencies needed for effective collaboration in the delivery of occupational therapy services?” were previously published (Diamant et al., 2018). We share findings in this article pertaining to our second research question, “In which learning contexts do occupational therapists and occupational therapy assistants develop the competencies needed for effective collaboration in the delivery of occupational therapy services?”

Methods

A descriptive research design was used, and an anonymous online survey was sent to occupational therapists and occupational therapy assistants using convenience and snowball sampling as recruitment methods. The online survey was open from February through June 2016. This study was approved by the Institutional Review Board at A. T. Still University.

Instrumentation

Development of the intraprofessional competencies for occupational therapist and occupational therapy assistant collaborative practice was adapted from the *Core Competencies for Interprofessional Collaborative Practice* (IPEC, 2011; 2016) and the work of Jelley et al. (2013). Competencies were organized into four domains (i.e., *Intraprofessional Teamwork, Roles & Responsibilities, Communication,* and *Values & Ethics*). For a description of the competency domains assessed in the survey, see Table 1. The competencies were reduced from 35 to 20 items through an iterative process to reduce overlap in survey questions and using feedback from pilot testing with two occupational therapists and two occupational therapy assistants. A detailed description of survey development and methods was previously published Diamant et al. (2018).

Survey respondents were then asked to identify the learning context where they developed and learned skills related to each competency, selecting up to three choices, from the following response options: *Class in Occupational Therapy or Occupational Therapy Assistant Program, Fieldwork, Formal Work Training (e.g., in-service), Work Experience, Continuing Education Course, and Other* (which they were asked to identify). These response options were based on the IPLC model, which depicts a learning continuum from education to practice and considers both formal and informal learning experiences (IOM, 2015). Pilot testing established that the survey items assessing learning context were clear to respondents; therefore, no additional definition was included in the survey.

Table 1

Competencies for Intraprofessional Practice

Competency Domains	Definition	Specific Competencies
Domain 1: Intraprofessional Teamwork	Apply relationship-building knowledge, skills, and values and the principles of team dynamics to communicate and perform effectively in your roles within the occupational therapy team to plan and deliver patient-/population-centered care that is safe, timely, efficient, effective, and equitable	• Engage in consensus decision-making approach to client care • Know when to seek out information/support from occupational therapy team partner • Engage in organization of tasks for implementation of occupational therapy process • Share accountability with occupational therapy team partner for client outcomes • Take appropriate actions in response to feedback from occupational therapy team partner • Use effective conflict management skills • Demonstrate flexibility for working effectively with different occupational therapy team partners
Domain 2: Roles and Responsibilities for Collaborative Practice	Use the knowledge of one's own role and that of the occupational therapy team partner throughout the delivery of occupational therapy services to clients	• Act based on one's own scope of practice and discipline-specific ethical and legal practices • Communicate with the occupational therapy team partner to clarify each member's responsibilities in executing a treatment plan • Use the full scope of knowledge, skills, and abilities of the occupational therapy team partnership to optimize client outcomes • Engage in ongoing professional development to enhance the occupational therapy team partnership

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Domain 3: Communication for Intraprofessional Practice	Communicate with the occupational therapy team partner in a responsive and responsible manner that supports a team approach to the maintenance of health and the treatment of disease	• Demonstrate active listening within occupational therapy team partnership • Encourage occupational therapy team partner to share ideas/opinions • Give timely, sensitive, instructive feedback to occupational therapy team partner about performance • Choose effective communication methods for situation to enhance function of occupational therapy team partnership • Organize/communicate information with occupational therapy team partner for sharing with clients, families, other team members
Domain 4: Values and Ethics for Intraprofessional Practice	Work with occupational therapy team partners to maintain a climate of mutual respect and shared values	• Interest of clients at center of partnership • Act with honesty/integrity within partnership • Demonstrate high standards of ethical conduct • Manage ethical dilemmas that may impact partnership

Participants

Participants were recruited through AOTA member forums, the Washington Occupational Therapy Association (WOTA) website and newsletter, the AOTA's occupational therapist and occupational therapy assistant program director and academic fieldwork coordinator listservs. Inclusion criteria were occupational therapists and occupational therapy assistants with experience working in intraprofessional practice within the United States, within the past five years.

Data Analysis

Demographic characteristics of respondents (i.e., years of occupational therapy practice experience, primary area of occupational therapy practice, practice setting, and level of supervision) were analyzed using descriptive statistics. Descriptive statistics were also employed to analyze the learning context where respondents developed these competencies (e.g., class in occupational therapy program, fieldwork, work setting, continuing education, and other) and Pearson Chi Square was used to determine if

differences existed between occupational therapists and occupational therapy assistants regarding learning contexts. A binary stepwise multiple regression analysis was also completed to model which learning contexts predicted development of each intraprofessional competency for occupational therapists compared with occupational therapy assistants. SPSS ver. 23 (IBM Corp, Amonk, NY) statistical package was used to analyze the data.

Results

Respondents

The total number of respondents for the occupational therapist survey who reported experience with supervising an occupational therapy assistant within the past five years was 342. The occupational therapy assistant survey had a total of 123 respondents. Refer to Table 2 for demographic characteristics of the respondents.

Table 2

Characteristics of the Respondents as a Percentage

Characteristic	Occupational Therapist	Occupational Therapy Assistant
Age (OT: *n* = 228; OTA: *n* = 121)		
20-29 years	15.8	19
30-39 years	30.3	24.8
40-49 years	26.3	28.1
50-59 years	21.5	19.8
60+ years	6.4	8.3
Gender (OT: *n* = 227; OTA: *n* = 122)		
Female	92	89.3
Male	7.9	10.7
Number of Years Worked (OT: *n* = 225; OTA: *n* = 119)		
0-5 years	24	59.2
6-10 years	18.7	5.8
11-19 years	23.6	24
20-29 years	20	11.8
30-39 years	11.6	6.7
40+ years	2.7	2.5

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Practice Areas (OT: *n* = 225; OTA: *n* = 120)		
Children & Youth	42.2	46.7
Rehabilitation & Disability	72.4	79.2
Productive Aging	17.3	23.3
Mental Health	12	28.3
Work & Industry	5.3	4.2
Health & Wellness	2.7	5
Practice Settings (OT: *n* = 228; OTA: *n* = 119)		
Acute-Care Hospital (inpatient)	49.8	36
Rehabilitation Hospital	31	47
Outpatient Clinic	32.9	30.3
Long Term Care SNF	37.7	57
School-Based Practice (Public/Private)	26.8	33.6
Home Health	14.5	21
Community-Based Setting	7	5.9
Levels of Supervision Used (OT: *n* = 227; OTA: *n* = 119)		
Direct or Continuous (on site)	66.5	62.2
Close Supervision (direct/daily contact)	70.9	68.9
Routine Supervision[1]	48.5	55.5
General Supervision[2]	27.8	43.7

[1] face-to-face less than daily or every 2 weeks
[2] initial direct contact with follow-up once a month
Note. Respondents were permitted to choose more than one selection; therefore, totals for some categories are greater than 100%

Perceptions of Skill Development within Competency Domains

Respondents were directed to select up to three choices identifying the learning context in which their intraprofessional competency skills were developed. The mean number of contexts selected for learning of competencies was 1.7 for occupational therapists and 2.2 for occupational therapy assistants. Both occupational therapists and occupational therapy assistants overwhelmingly selected *Work Experience* as the context in which they developed competency skills related to intraprofessional occupational therapy practice. Table 3 illustrates the average percentages of the first, second, and third choices of learning contexts for occupational therapists and occupational therapy assistants across each general competency area.

The respondents' second and third choices varied. Occupational therapy assistants consistently selected *Fieldwork* and their *Occupational Therapy Educational Training* as their next level of learning context choices for developing their intraprofessional competencies. Occupational therapists varied between the selection of *Formal Work Training*, *Fieldwork,* and *Occupational Therapy Education.*

Table 3

Respondents' First, Second and Third Choices of Learning Contexts and Percentages

	Occupational Therapy			Occupational Therapy Assistant		
	n = 342			*n* = 123		
Competency Area	First Choice	Second Choice	Third Choice	First Choice	Second Choice	Third Choice
Intraprofessional Teamwork	Work Experience (95.8%)	Fieldwork (18.0%)	Work Training (17.2%)	Work Experience (93.2%)	Fieldwork (54.9%)	OT Education (30.8%)
Roles & Responsibilities	Work Experience (90.3%)	OT Education (28.2%)	Work Training (20.4%)	Work Experience (89.1%)	OT Education (45.4%)	Field-work (44.1%)
Communication	Work Experience (96.2%)	Work Training (15.5%)	OT Education (14.0%)	Work Experience (94.7%)	Fieldwork (46.0%)	OT Education (28.2%)
Values & Ethics	Work Experience (92.3%)	OT Education (34.8%)	Field-work (21.1%)	Work Experience (90.5%)	OT Education (55.5%)	Field-work (49.6%)

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Pearson Chi Square was used to compare differences between occupational therapists and occupational therapy assistants in their selection of learning contexts for each of the competencies. Only data from respondents who fully completed the learning contexts section of their surveys were included in this analysis (N = 465).
In general, when comparing the percentages of selected choices between groups, *Work Experience* and *Fieldwork* were identified as the main learning contexts for development of the intraprofessional competencies (p = .001). Likewise, results of a series of binary stepwise logistic regression analyses differentiated between the learning contexts that occupational therapy and occupational therapy assistant respondents endorsed for each of the competencies. Tables 4-7 provide adjusted odds ratios (OR), 95% confidence intervals and significance values, grouped by competency category. Occupational therapists were coded as "1" and occupational therapy assistants as "0," so the odds ratios reflect the increase in odds of the respondents who were occupational therapists endorsing each learning context relative to the odds of occupational therapy assistants endorsing that same learning context. The ORs for each learning context have been adjusted for and may be interpreted independently of the other learning contexts remaining in the equation. Of note, in Tables 4-6, ORs with significance values of $p < .05$ for the learning contexts of *Work Experience* and *Fieldwork* were consistently present, with one exception seen in Table 7. The binary stepwise logistic regression analysis revealed *Fieldwork* and *OT Education* as the learning contexts endorsed by respondents for development of the competency area of "Management of Ethical Dilemmas" (Refer to Table 7).

Table 4

Learning Contexts Predicting Competencies for Domain of Intraprofessional Teamwork for All Respondents

N = 465

Variable	Adjusted OR	95% CI		*p*-value
		Lower	Upper	
Engage with OT Partner				
Fieldwork	5.686	3.482	9.287	.001
Work Experience	2.757	1.378	5.519	.004
Continuing Education	3.274	1.682	6.372	.001

Table 4

Variable	Adjusted OR	95% CI		*p*-value
		Lower	Upper	
Seek Information from OT Partner				
OT/OTA Education	2.048	1.123	3.736	.019
Fieldwork	5.527	3.311	9.226	.001
Work Experience	3.398	1.757	6.571	.001
Continuing Education	2.700	1.159	6.292	.021
Engage in Task Organization				
Fieldwork	6.041	3.701	9.862	.001
Work Experience	2.906	1.568	5.385	.001
Share Accountability				
Fieldwork	4.475	2.700	7.418	.001
Work Experience	3.297	1.800	6.042	.001
Response to Feedback				
Fieldwork	7.374	4.446	12.231	.001
Work Experience	2.827	1.522	5.250	.001
Conflict Management				
OT/OTA Education	1.799	.998	3.243	.051
Fieldwork	3.405	1.886	6.150	.001
Work Experience	2.500	1.488	4.202	.001
Demonstrate Flexibility with Different Team Partners				
Fieldwork	8.444	5.042	14.139	.001
Work Experience	2.339	1.317	4.153	.004

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Table 5

Learning Contexts Predicting Competencies for Domain of Roles and Responsibilities for Collaborative Practice for All Respondents

N = 465

Variable	Adjusted OR	95% CI		*p*-value
		Lower	Upper	
Scope of Practice				
OT/OTA Education	1.909	1.174	3.103	.009
Fieldwork	2.321	1.385	3.891	.001
Work Experience	1.920	1.159	3.181	.011
Communicate with OT Partner				
OT/OTA Education	2.236	1.326	3.769	.003
Fieldwork	3.758	2.214	6.381	.001
Work Experience	2.328	1.354	4.000	.002
Partnership to Optimize Client Outcomes				
Fieldwork	5.352	3.239	8.842	.001
Work Experience	2.277	1.316	3.939	.003
Engage in Ongoing Professional Development to Enhance OT/OTA Partnership				
OT/OTA Education	2.240	1.181	4.249	.014
Fieldwork	3.449	1.756	6.773	.001
Work Experience	2.639	1.571	4.436	.001
Continuing Education	2.814	1.686	4.697	.001

Table 6

Learning Contexts Predicting Competencies for Domain of Communication for Intraprofessional Practice for All Respondents

N = 465

Variable	Adjusted OR	95% CI		*p*-value
		Lower	Upper	
Demonstrate Active Listening				
Fieldwork	5.270	3.152	8.810	.001
Work Experience	2.289	1.306	4.012	.004
Share Ideas and Opinions				
Fieldwork	5.124	2.997	8.762	.001
Work Experience	3.593	1.965	6.567	.001
Provide Constructive Feedback				
Fieldwork	5.480	3.197	9.393	.001
Work Experience	2.339	1.394	3.925	.001
Effective Communication Methods to Enhance OT Partnership				
Fieldwork	5.846	3.312	10.316	.001
Work Experience	3.455	1.919	6.220	.001
Organize/Communicate Information with OT Partner to Share with Clients				
OT/OTA Education	2.208	1.141	4.272	.019
Fieldwork	6.539	3.564	12.000	.001
Work Experience	2.816	1.571	5.049	.001
Continuing Education	2.733	1.063	7.026	.037

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Table 7

Learning Contexts Predicting Competencies for Domain of Values and Ethics for Intraprofessional Practice for All Respondents

N = 465

Variable	Adjusted OR	95% CI		*p*-value
		Lower	Upper	
Interest of Clients as Focus of OT Partnership				
OT/OTA Education	1.896	1.089	3.301	.024
Fieldwork	3.110	1.775	5.448	.001
Work Experience	2.744	1.536	4.902	.001
Act with Honesty and Integrity				
OT/OTA Education	2.034	1.187	3.486	.010
Fieldwork	2.677	1.509	4.749	.001
Work Experience	2.353	1.399	3.959	.001
Continuing Education	.341	.121	.964	.043
Ethical Conduct				
Fieldwork	4.487	2.733	7.368	.001
Work Experience	2.221	1.333	3.700	.002
Management of Ethical Dilemmas				
OT/OTA Education	1.928	1.170	3.177	.010
Fieldwork	4.014	2.251	7.158	.001

Discussion

The AOTA document (2018), *Importance of collaborative occupational therapist–occupational therapy assistant intraprofessional education in occupational therapy curricula* recommends that entry-level occupational therapy curricula address intraprofessional collaboration, ideally through collaborative educational experiences with both occupational therapist and occupational therapy assistant students. Further, AOTA (2018, p. 1) “acknowledges that intraprofessional collaboration among occupational therapists and occupational therapy assistants from a mindful, positive, and ethical position is paramount in the vast array of increasingly complex practice environments.” Yet given this growing professional interest in intraprofessional collaboration, a gap exists in the SoTL and education research literature in that

pedagogical approaches for intraprofessional learning experiences and the assessment of learning outcomes are not addressed. A few published articles do employ a SoTL model evaluating intraprofessional learning experiences that are part of occupational therapist and occupational therapy assistant curricula for their local programs (Carson et al., 2018; Scheerer, 2002); however, the focus of these articles is on content and methods of the learning experiences rather than the learning objectives, or competencies, that guided instructional design—nor the relationship between competencies and the context within which they were developed. AOTA's statement about the importance of intraprofessional education and the necessary skills, attitudes, behaviors, and values for entry-level practice is well aligned with recently developed competencies for intraprofessional collaboration (Diamant et al., 2018) that included teamwork, roles and responsibilities, communication, and values and ethics. Further, AOTA's (2018) call for 'mindful' intraprofessional collaboration suggests the importance of clear, intentional learning outcomes of intraprofessional education experiences that may be used to guide design of intraprofessional education experiences across contexts from didactic education to fieldwork to professional practice. Given this gap in the literature describing learning contexts and outcomes of intraprofessional education in occupational therapy, results from this study may help inform the design of learning experiences in both educational and professional learning contexts.

Competencies for Intraprofessional Practice are Developed in Professional Learning Contexts

Across all competencies in the four domains, work experience was the most frequent selection of both occupational therapists and occupational therapy assistants as the learning context where that competency was developed, and occupational therapists had increased odds of endorsing work compared with occupational therapy assistants. Given that occupational therapy practitioners need to be life-long learners in order to respond to new situations in the workplace, it is not surprising that the majority of respondents perceived that they developed these competencies at work. Through new and changing situations, the workplace offers contextualized experiential learning for developing competencies for intraprofessional practice. However, a recent study of learning in professionally 'distant' contexts suggested that while *where* learning occurs is important, it may be less important compared with *how* the experience contributes to competency development (Mausz & Tavares, 2017). It may be that developing competencies for intraprofessional collaboration is finally salient in professional learning contexts, in that occupational therapists and occupational therapy assistants need to get along in order to achieve the best client outcomes. Yet, learning contexts such as didactic education may still be important for scaffolding learning so that competencies hold meaning in more authentic learning contexts (Mausz & Tavares, 2017).

In addition to work, fieldwork was also a significant predictor for the majority of competencies, except for one domain; occupational therapist-occupational therapy assistant education was found to be a statistically significant predictor for competencies in the ethics domain. In this situation, it may be that analyzing ethical issues is well suited to didactic learning, whereas in work settings practitioners may not experience direct ethical conflict in the intraprofessional relationship or they may side-step these

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issues to avoid further conflict. Yet, while didactic education may lay foundations for knowledge of intraprofessional roles, communication, and teamwork, it is likely that professional learning contexts best allow practitioners to meet these competencies for intraprofessional practice by demanding knowledge, skills, and attributes essential for obtaining the best client outcomes.

Another consideration as to why the majority of respondents selected work as the context where competencies were developed may be related to the timing of their entry-level education. Although there has been heightened attention to intraprofessional education and practice in recent years, historically, textbooks and other educational resources have not addressed the complexity of competencies needed for intraprofessional collaboration (Diamant et al., 2018). One explanation for a gap in resources related to intraprofessional education may be the lack of detailed accreditation standards about preparation for intraprofessional practice to guide content and resource development. Given it is not the intent of accreditation standards to prescribe specific learning experiences, occupational therapy educators must rely on the literature and sound pedagogical practices when designing intraprofessional learning experiences in educational settings. Whereas, professional learning contexts may have performance evaluation criteria that assist practitioners in focusing on learning needs for intraprofessional collaboration and may potentially guide practitioners in seeking professional development. Finally, another possibility may be that given the nature of acculturation to a profession, collaboration may not be fully appreciated until practitioners are in the workplace.

Intraprofessional Learning Contexts Vary for Occupational Therapists and Occupational Therapy Assistants

Findings of this study also indicated that the second and third choices of learning contexts where competencies were developed differed between occupational therapists and occupational therapy assistants, and that occupational therapists had increased odds of endorsing work and fieldwork as the learning contexts for certain competencies compared with occupational therapy assistants. These response patterns are likely predictable. For example, for occupational therapy assistants, the experience of intraprofessional collaboration is inherent in didactic education, fieldwork, and practice, given that occupational therapy assistants must practice as part of an intraprofessional team. Therefore, occupational therapy assistant students naturally receive more entry-level education about intraprofessional collaboration. In comparison, occupational therapists varied in their second and third choices of where competencies for intraprofessional practice were developed—likely reflecting the reality that occupational therapists are not always practicing as part of an intraprofessional team.

Designing Learning Experiences that Align with Competencies for Intraprofessional Practice

Best practices in curriculum development employ backward design by using objectives or competencies to first identify the desired learning outcomes and then content and instructional methods are selected (Anderson et al., 2001; Biggs, 2003; Blumberg, 2009; Fink, 2013). However, intraprofessional learning experiences described in the

occupational therapy literature to date tend to focus on content rather than an intentional process of instructional design. Though well intended, these learning experiences may lack outcomes-driven, integrated course design (Fink, 2013) or use of course alignment principles (Blumberg, 2009) that are essential for scholarly teaching and furthering the study of effectiveness of instructional methods for specific learning outcomes.

While most occupational therapy educators are familiar with Bloom's taxonomy (Bloom et al., 1956-1964) as a framework for developing student learning outcomes, more contemporary frameworks (Anderson et al., 2001; Fink, 2013) emphasize varied types of learning that are reflected in intraprofessional collaboration. For example, Fink's taxonomy of significant learning (2013) describes learning as change and identifies six types of significant learning: foundational knowledge, application, integration, human dimension, caring, and learning how to learn. Beyond knowledge of the roles of the occupational therapist and occupational therapy assistant, Fink's taxonomy is useful for guiding intraprofessional learning experiences with learning outcomes related to learning about oneself and others, which is essential for intraprofessional communication and teamwork. The competencies for intraprofessional collaboration (Diamant et al., 2018) can be used in both educational and professional learning contexts as clear learning outcomes that align with types of learning such as those identified by Fink (2013).

Beyond use of the competencies for intraprofessional collaboration as learning outcomes, the competencies may offer a starting point for developing assessments of student learning across learning contexts. As previously described, there are increased examples of innovative occupational therapist-occupational therapy assistant learning experiences documented in the literature (Carson et al., 2018; Costa et al., 2012); however, few assess learning outcomes beyond learner perceptions of or satisfaction with the intraprofessional experience. The competencies for intraprofessional collaboration may help educators and researchers to draw on theory and apply best practices in curriculum design when creating intraprofessional learning experiences. Further, given ACOTE standards related to intraprofessional practice are often broad, or describe the level of supervision more so than collaboration, the competencies may assist educators in more clearly operationalizing learning outcomes of intraprofessional education.

Limitations

In addition to the general limitations of survey research and use of a convenience sample, this study has several limitations. While this survey gathered perceptions of importance of specific competencies for intraprofessional practice and identified the learning contexts where respondents perceived that they developed the skills, attitudes, behaviors, or values underlying each competency, the survey did not assess satisfaction with or other perceptions of the quality of intraprofessional education included in entry-level education. Respondents were also not able to write in any additional competencies or other contexts for learning related to each competency. A final limitation that may have influenced responses on the survey could be related to

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number of years respondents worked in occupational therapy practice. Since ACOTE first started accrediting occupational therapy assistant programs in 1991 (AOTA, 2020), those respondents who were actively practicing prior to 1991 may not have been exposed to training in intraprofessional competencies as part of their occupational therapy education. This may have created a bias toward other learning contexts in 14.3% of the respondents who were occupational therapists and 9.2% of respondents who were occupational therapy assistants.

Implications for Occupational Therapy Education/Future Considerations

This study builds on previous work developing and validating competencies (Diamant et al., 2018) for intraprofessional practice by identifying the context where occupational therapy practitioners developed the competencies. Further research is needed to validate the competencies, using qualitative and observational methods to operationalize each domain and individual competency. A longitudinal study of the development of competencies for intraprofessional collaboration across the continuum from occupational therapy education to continued, professional development in the workplace would also be informative.

Another next step in further employing these competencies for intraprofessional practice may be for occupational therapy educators to design intraprofessional education experiences with the competencies in mind as desired learning outcomes. Additionally, occupational therapy educators may consider how to use the competencies along with ACOTE standards to best prepare students for intraprofessional practice. Occupational therapy and occupational therapy assistant programs located in close proximity may use the competencies to scaffold a series of learning experiences across didactic and fieldwork settings, thinking intentionally and proactively about how occupational therapy and occupational therapy assistant students could collaborate on fieldwork experiences. Finally, given the shift in health care practice from reimbursement for quantity to quality, the competencies could be used to assess intraprofessional teamwork, informally by occupational therapists and occupational therapy assistants during their teaming or formally as a part of annual performance evaluations.

In summary, we presented findings from a broader SoTL study examining competencies for intraprofessional collaboration and the educational and professional learning contexts where competencies were developed. Work experience was most frequently selected as the learning context for developing the majority of competencies. The use of competencies for intraprofessional collaboration may help inform the design of intraprofessional learning experiences in occupational therapy education that emphasize learning outcomes essential for collaboration and teamwork in practice.

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