

2021

Advancing the Entry-Level Practitioner: A Curricular Model of the Professional Occupational Therapy Doctoral Degree

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Recommended Citation

Kemp, E. L., Juckett, L. A., Darragh, A. R., Weaver, L. L., Robinson, M. L., DiGiovine, C. P., & DeMott, L. (2021). Advancing the Entry-Level Practitioner: A Curricular Model of the Professional Occupational Therapy Doctoral Degree. *Journal of Occupational Therapy Education*, 5 (3). Retrieved from <https://encompass.eku.edu/jote/vol5/iss3/17>

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Abstract

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Keywords

Curriculum, educational models, graduate education, teaching

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JOTE

Journal of Occupational
Therapy Education

Volume 5, Issue 3

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ABSTRACT

The recent growth of entry-level occupational therapy doctoral (EL-OTD) programs has been met with mixed opinions from both occupational therapy educators and practitioners. These opinions occasionally have been accompanied by uncertainty about the specific curricular components that differentiate the EL-OTD from the entry-level master's degree. In an effort to address this uncertainty, the purpose of this article is to present one example of an EL-OTD curricular model and describe its distinct educational components. This curricular model integrates recommendations for doctoral education originally proposed by Case-Smith et al. (2014) and is characterized by the following three components: 1) Advanced Coursework; 2) the Doctoral Capstone Project; and 3) the Doctoral Capstone Experience. We share the lessons learned after matriculating three cohorts of EL-OTD students and describe influences from the field of implementation science that have informed the development of our curriculum.

Introduction

Mixed opinions and perspectives about the value and intention of the entry-level occupational therapy doctorate (EL-OTD) degree have accompanied the recent proliferation of these programs. In the mid-2000s the occupational therapy profession engaged in extensive discourse throughout the bachelors-to master's degree transition—a transition marked by uncertainty about the structure of occupational therapy master's degree curricula (Hilton, 2005). Similar concerns and conversations have emerged as occupational therapy stakeholders call into question the unique curricular components of EL-OTD programs. Nationwide, EL-OTD programs accredited

through the Accreditation Council for Occupational Therapy Education (ACOTE, 2018) have the autonomy to configure their own, customized curricula, but variations in curricular models can also lead to further misconceptions about clinical doctorate programs and their place in occupational therapy education. Given this variability and that the details differentiating EL-OTD and entry-level master's curricula can be difficult to identify, it is not surprising that calls for clarity about and justification for the EL-OTD degree have come from educators and practitioners alike. In 2014, the faculty of The Ohio State University published their rationale and support for the EL-OTD along with recommended educational goals that should be prioritized by EL-OTD programs (Case-Smith et al., 2014). These goals included: a) integrating advanced coursework to enhance clinical skills, b) facilitating students' analysis of research to identify effective interventions, c) fostering students' application and adaptation of evidence-based practices, and d) cultivating student leaders in the quest to narrow the research-to-practice gap. The current paper (a) provides a follow up examination of the EL-OTD curriculum at Ohio State, now several years post-transition; (b) expands on initial recommendations regarding the structure and purpose of EL-OTD curricula; and (c) presents examples of differentiating, doctorate-level components of the EL-OTD curricular model at Ohio State.

Description of Curriculum

Establishing and maintaining an accredited EL-OTD program requires adherence to a rigorous and comprehensive curriculum that exposes students to robust opportunities in clinical care, research, and leadership. Such opportunities enhance the skills of students, advance the profession and, most importantly, provide benefits to occupational therapy clientele. Entry-level EL-OTD curricula must not only adhere to the requirements of ACOTE, but also remain consistent with the mission, vision, and strategic plan of the institution and program. Flexibility and variability, therefore, are necessary and vital for EL-OTD curricula. The central task, then, is to design a suitably rigorous doctoral-level curriculum that includes critical and important educational goals articulated by Case-Smith et al. (2014) while matching the individual characteristics of the institution. The approaches described here represent just one curricular design, but these methods and strategies may offer insights for developing EL-OTD curricula across institutions with elements that clearly differentiate doctoral-level education.

With the educational goals of Case-Smith et al. (2014) in mind, our faculty designed a purposeful, integrated, and doctoral-level curriculum organized within three primary curricular threads: *excellence in clinical practice*, *translation of knowledge to practice*, and *professional development and leadership in practice*. The program aims to matriculate entry-level occupational therapists who possess advanced skills in a focused area of practice, rigorously evaluate outcomes, translate evidence into practice, articulate and demonstrate the distinct value of occupational therapy, and commit to lifelong professional development and leadership. To this end, our curriculum builds toward specific *learning outcomes* in relation to our three primary curricular threads (see Table 1). EL-OTD student cohorts participate in coursework and experiential activities that target these learning outcomes, beginning in the first semester and culminating in a self-directed third year that includes the following components: (a) Advanced

Coursework, (b) the Doctoral Capstone Project, and (c) the Doctoral Capstone Experience. Table 1 describes how these components relate to the three primary curricular threads, their associated learning outcomes, and the overarching learning outcomes of our institution.

Table 1

Occupational Therapy Doctoral Curriculum and Associated Learning Outcomes

EL-OTD Curricular Thread	EL-OTD Learning Outcomes	Institutional Learning Outcomes
1. Excellence in Clinical Practice	Demonstrate excellence in clinical practice through the provision of: a) Science-driven, outcomes-oriented and evidence-based evaluation, intervention, and discharge planning. b) Compassionate, empathetic and client-centered occupational therapy services aimed at promoting the dignity and independence of their clients.	Demonstrate: a) Critical thinking, professional decision making, and/or psychomotor skills necessary for safe and competent practice.
2. Translation of Knowledge to Practice	Demonstrate the ability to: a) Critically analyze literature related to assignment/capstone project. b) Effectively translate knowledge to practice through the selection of appropriate measures to assess outcomes, the critical analysis, integration, and synthesis of research evidence with clinical expertise, and the communication of research evidence to clients, facilities, and populations.	Demonstrate the ability to: a) Integrate evidence-based practice and scholarship in making and prioritizing professional decisions.
3. Professional Development and Leadership in Practice	Demonstrate: a) Professional leadership in practice through advocacy, service, articulation of OT distinct value, effective inter-professional communication and collaboration, and assertive communication with individuals, groups, communities and populations.	Demonstrate the ability to: a) Communicate in a clear and effective manner with people from various socio-cultural backgrounds, both verbally and in writing.

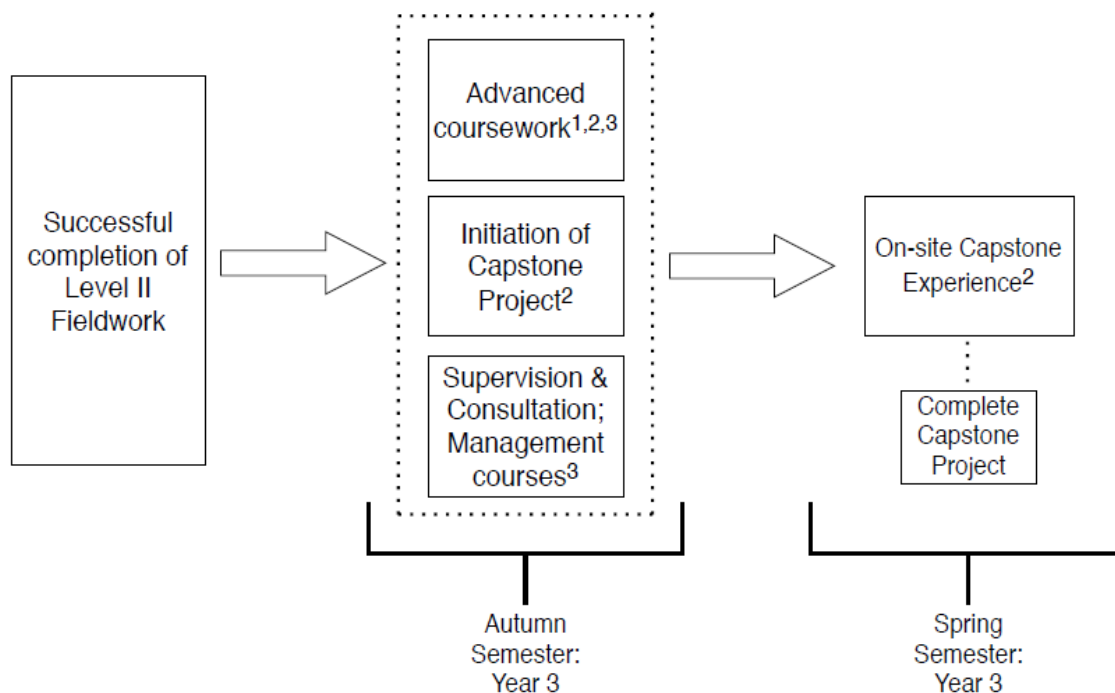
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- b) Professional behaviors, adherence to professional ethics and standards, commitment to professional development, and engagement in activities that support lifelong learning.
 - c) The ability to collaboratively work with others to advance effective interprofessional team functioning to make collaborative decisions for optimal client/patient/family health outcomes and quality of care.
-

Note. EL-OTD = Occupational therapy doctorate; Institutional learning outcomes are representative of *The Ohio State University*, School of Health and Rehabilitation Sciences

Advanced Coursework

The widespread goal of EL-OTD programs is to equip entry-level occupational therapists with the knowledge and skills necessary to practice as generalists across a variety of professional practice settings. Additionally, our curriculum includes advanced coursework to enhance skill development in a specialized area of practice. It is the intent of advanced coursework to build capacity in the occupational therapy workforce to optimize the delivery of high-quality services, improve patient outcomes, and translate evidence into practice. To this end, students at Ohio State enroll in advanced coursework following completion of Level II fieldwork (see Figure 1), allowing for an in depth connection of clinical experiences with course content and the continued building of higher level skills. Coursework content targets advanced clinical practice skills, leadership, management, supervision, and consultation. This content also informs the development of students' individual Doctoral Capstone while also supporting expansion into specific professional practice areas.

This advanced coursework aligns with all three of our curricular threads, with the first thread being *excellence in clinical practice*. Students enroll in one of four courses focused in pediatrics, orthopedics, neuro rehabilitation, or assistive technology. Each course builds upon prior knowledge and experiences in these practice areas through specialized readings and learning activities that elevate students' critical thinking and advance their skills in evaluation, intervention, and/or discharge planning. The hallmark features of these clinically-focused advanced-level courses are shifting leadership and teaching to the student, the presentation of a variety of specialized topics, and, perhaps most critically, the use of Learning Through Discussion (LTD; Rabow et al., 2000), which is a teaching and learning method that challenges students to think critically yet also facilitates students' acquisition of new and innovative clinical reasoning skills.

Figure 1*Progression through the EL-OTD Curriculum*

Note. ¹Represents the Excellence in Clinical Practice Curricular Thread; ²Represents the Translation of Knowledge to Practice Curricular Thread; ³Represents the Professional Development and Leadership Curricular Thread

Each of the advanced clinical courses has a small class size, between 10-14 students, which allows for focused skill development and mentorship. Each course follows a similar structure with comparable objectives, characterized by the weekly assignment of “student leaders” who select, develop, and facilitate the delivery of content on a topic of interest that has not been covered in foundational, required coursework. Under faculty or master clinician mentorship, student pairs or triads develop a three-hour class session. Responsibilities of student leaders include: 1) selecting research or best practice literature for session readings, 2) analyzing readings and preparing facilitative questions that will lead their peers and faculty through high level discourse on the topic, and 3) designing a lab activity that develops skills related to the readings and class discussion. This shift in leadership from faculty to student is the first element that separates these courses from foundational ones, as students are learning new content and practicing techniques and then also acquiring important educational strategies such as how to diversify learning styles and instructional methods and practicing classroom leadership.

To begin, as both student leaders and class participants prepare for each class, they utilize LTD synthesis methods as they complete the session readings. LTD requires participants to systematically explore, analyze, and document readings utilizing these eight steps: 1) define unknown terms and concepts, 2) identify the author's message in one's own words, 3) identify major themes and subtopics, 4) generate discussion points for subtopics that one had difficulty understanding or want to explore further, 5) discuss all major themes and subtopics, 6) integrate material to other knowledge, 7) apply material to self and experiences, and 8) evaluate the author's presentation through documenting the content's usefulness in practice and what one supports or questions (Rabow et al., 2000). Thus, each student comes to class prepared to engage in high level discussion and analysis of readings, under the guidance of the student leaders. Student leaders begin class sessions with a presentation of any essential material on the selected topic, rationale for topic selection, and how class activities link to previous experiences, skills, and knowledge intended to advance practice. Following this, students engage in the discussion working through each of the eight steps of LTD. The depth of exploration and understanding of a topic utilizing this method is unmatched in foundational courses.

Following discussion, class sessions close with lab activities, designed to bridge reading and discussion components and provide hands-on application of the readings and didactic components. These labs provide a hands-on interactive application of advanced skills such as specialized assessments, advanced intervention techniques, program development and/or advocacy skills. This experiential learning method fosters the development of clinical reasoning skills, allows for the application of these skills, and creates a safe learning environment where students can reflect on their mistakes and successes during lab activities. Examples of these activities are in Table 2. The use of LTD supports the curricular thread of *professional development and lifelong learning*, which incorporates tenets of self-directed learning (Knowles, 1975), throughout their third year; this is also in line with the thread of *knowledge translation* in that the LTD focuses on dissection and application of scholarly literature and future clinical experiences.

Table 2*Examples of EL-OTD Advanced Coursework Topics and Activities*

Advanced Coursework	Foundational Knowledge^a	Advanced Topic	Advanced Lab Activities	Skill Acquisition
Assistive Technology	Assistive Technology service delivery process	Integration and customization of assistive and mainstream technologies	AT device review and performance activities	AT evaluation, set-up, configuration and training
Neuro-rehabilitation	Medical picture of a CVA, basic PROM and AROM	Musculoskeletal considerations in neurologic populations	Scapular mobilization of the hemiplegic shoulder	Advanced handling techniques, AAROM
Orthopedics	Human anatomy and biomechanical principles	Joint contractures post traumatic injury and repair	Casting for joint mobilization	Plaster cast fabrication, application, removal (elbow)
Pediatrics	Sensory integration; infant development and caregiver education	Family Integrated Care (FIC) model of neonatal care	Instruction & practice of infant massage techniques	Methodology for complex involvement of and appreciation for families in neonatal care

Note. ^aFoundational Knowledge obtained during traditional coursework in Years 1 and 2.

The Doctoral Capstone

The final curricular thread is that of *translation of knowledge to practice* around which our Doctoral Capstone is built. The Doctoral Capstone consists of a highly individualized scholarly project that is initiated at the start of students' third-year in the program and is executed during the experience.

Doctoral Capstone Project

The project consists of (a) a systematic or scoping review of the literature on a topic of interest, (b) a needs assessment performed in conjunction with an identified capstone site, and (c) an on-site project implemented at a partner site during the capstone experience.

Systematic and Scoping Reviews. Before beginning, students and a faculty advisor facilitate a collaborative discussion with the student's Doctoral Capstone site mentor to identify a shared topic of interest salient to both student and site. The student then initiates a systematic or scoping review, based on the nature of their review question. The goal of this review is for students to ultimately synthesize and determine the quality and/or scope of evidence on their topic in preparation for implementation at their capstone site. Students who choose to conduct a systematic review must adhere to the Preferred Reporting Items for Systematic Reviews and Meta-Analysis (PRISMA) reporting guidelines (Moher et al., 2009), then apply the Grading of Recommendations Assessment, Development, and Evaluation (GRADE) process for assessing the quality of available literature (Guyatt et al., 2008). Those students who conduct a scoping review must follow PRISMA Extension for Scoping Reviews (PRISMA-ScR) guidelines (Tricco et al., 2018) followed by thematic/numeric analysis and concept mapping. Through this rigorous review process and site collaboration, students develop highly specialized skills in assessing, synthesizing, and, ultimately, translating a body of evidence into clinical practice.

Needs Assessment with Capstone Site. To understand the unique needs of their capstone sites, students complete an initial site-specific needs assessment, based on the PRECEDE PROCEED model (Green & Krueger, 2005). This needs assessment requires students to examine a range of factors, including characteristics of clients at the site, staff training and development needs, reimbursement structures, and administrative influences (e.g., productivity expectations). The needs assessment and systematic/scoping review are integrated into a project proposal, which the student intends to implement on site. The project itself is framed broadly as a case study, and is very flexible. For example, it can be an intervention or assessment protocol, program, grant, quality improvement process, or other project that aligns with the objectives of the experience. Students present the proposed project to the site mentor and administer a set of survey tools to measure their perceptions of project acceptability, appropriateness, and feasibility, and plan for implementation. Survey tools are the Acceptability of Intervention Measure (AIM), the Feasibility of Intervention Measure, and the Intervention Appropriateness Measure (IAM; Weiner et al., 2017).

Onsite Project. The vast majority of students complete either a client report or an implementation report. For example, students who design assessment protocols, intervention protocols, or programs, and whose mentors who determine that their project can be implemented, complete a *client report*. Students who are unable to implement their intervention, based on contextual factors at the site, or who develop more of a quality improvement process complete an *implementation report* during the 14-week on-site experience.

Client Report. Students with a well-supported protocol, based on the evidence review and needs assessment, and with sites willing to implement, complete an individual client report. This includes implementation of the protocol, documentation of associated activities, measurement of client (de-identified) outcomes to determine the impact of the intervention, and/or reports any modifications necessary based on the site

characteristics. The client report template follows the CARE reporting guidelines (Gagnier et al., 2013) but has been modified to align with occupational therapy language by incorporating the Occupational Profile template (American Occupational Therapy Association, 2017).

Implementation Report. Students may find that their project is not appropriate, feasible, or acceptable to implement based on input from their partner sites (Proctor et al., 2011; Weiner et al., 2017). For example, the site may not possess a critical piece of technology, appropriate training for supervision, or ability to add a new intervention approach. Students also may design a project that emphasizes a process; for example, students may develop a new process for implementing an evidence-based program in which the goal of the project is to identify strategies (e.g., staff in-services and trainings, educational handouts and manuals) and recommendations to help sites increase their use of the program. In these situations, students complete an on-site implementation report to determine the types of strategies that support successful intervention or program implementation in the future. In addition to determining specific strategies that promote program implementation, students who conduct implementation reports are also expected to assess and describe the factors, such as frequent staff turnover or high productivity demands, that influence the extent to which programs and intervention can be implemented with clients (Powell, 2015; Proctor, 2013).

Doctoral Capstone Experience

The above client or implementation reports are completed while the student is on-site for their 14-week Doctoral Capstone experience, however this is only one element of what they do in their time. Prior to the start, students again collaborate with site mentors to create individualized learning objectives that align with our curricular threads and learning outcomes. Students customize five objectives tied to our learning outcomes and create three additional objectives. Collaboration on these objectives allows the student deeper learning in their chosen topic and ensures that topics fall within expertise of the site mentor. For instance, students may spend a portion of time at their capstone site treating children with feeding difficulties, but may also study evidence-informed intervention techniques, create staff competencies, attend interdisciplinary meetings to advocate for occupational therapy's value, and create workflow documents and/or videos for parent education. Several of these activities are tasks that practitioners regularly perform in addition to the competing demands of client care but are often not a primary focus of their time, nor are practitioners formally trained to lead these processes through to completion. Our Doctoral Capstone experience offers students the opportunity to enrich the administrative skillsets of students and practitioners alike and is a model that can be leveraged to support future occupational therapy practitioners' role in leadership, management, and administration.

Dissemination of Capstone Findings. The Doctoral Capstone in its entirety at our institution requires students to provide a written document and deliver an oral defense that satisfies the academic institution's requirements for a professional doctoral degree. The written document is a customized product based on each student's individual capstone project, including the findings of their systematic/scoping review,

needs assessment and client/implementation report. Students must also create a poster representing their full Doctoral Capstone, including both project and experience for public dissemination. Other methods of dissemination have included poster presentations at state and national conferences as well as publication of projects on partner sites' websites and social media platforms.

Influences from Implementation Science. All EL-OTD curricular components (e.g., advanced coursework, Capstone Project, Doctoral Capstone Experience) prepare EL-OTD cohorts not only to be skilled, client-centered occupational therapists, but to also serve as evidence-based practice implementers—a concept drawn from the field of implementation science. Broadly defined, the field of implementation science examines the factors, strategies, and models that influence utilization of evidence-based interventions and programs in healthcare practice (Eccles & Mittman, 2006). Our EL-OTD curriculum allows students to build their capacity for implementing evidence in practice and challenges their ability to think critically and effectively collaborate with clinical sites to enhance the quality of care delivered to occupational therapy clientele. By conducting needs assessments and completing implementation reports with clinical sites, students are exposed to the complex factors that can either impede or promote the implementation of evidence. The well-established 17-year research-to-practice gap continues to plague the occupational therapy profession, meaning that there is a substantial time lag between empirical discoveries and the application of these research findings in practice (Juckett et al., 2019). To minimize this time lag, our curricular model helps equip students with the skills needed to identify interventions and programs appropriate for implementation while also recognizing the factors influencing the implementation of evidence in real-world occupational therapy settings. Understanding these factors is a critical first step in determining potential *strategies* that can address these factors and support the use of evidence in practice. Examples of strategies that may expedite the use of evidence include the delivery of ongoing intervention trainings, the development of educational materials designed for practitioners, and pilot testing programs with small groups of clients before site-wide implementation—all of which are strategies that have been endorsed by past EL-OTD students. The Doctoral Capstone prepares students to enter the occupational therapy workforce with the ability to recognize the diverse factors that influence evidence implementation as well as the strategies that can support the successful implementation of evidence-based practices, interventions, and programs.

Discussion

Though informed by expert recommendations and evidence-based educational strategies (Knowles, 1975; Rabow et al., 2000), we continue to refine our curricular model based on our experiences with three EL-OTD student cohorts. Below we describe the lessons we have learned after deploying our curriculum and share how we have adjusted the structure of our advanced courses and the Doctoral Capstone to optimize student learning.

Advanced Coursework

Advanced clinical courses (e.g., pediatrics, assistive technology, orthopedics, and neurorehabilitation) have been through three iterations, and while they will continue to evolve each year, some key enhancements have been made to improve the rigor and comprehensiveness of these courses. First, all advanced practice courses provide flexibility and fluidity in how the course content is structured and delivered based on the needs of each class. Second, advanced clinical course instructors strongly emphasize students' intensive preparation prior to class, thereby mitigating students' reliance on written outlines/documents. This level of preparation has cultivated a more authentic dialogue among student leaders, student members, and faculty clinicians. Additionally, over the past three years, there has been an increased focus on student leaders facilitating discussion and analysis (with limited faculty insertion), timekeeping and redirecting conversation, assessing peer participation, and reflecting on the leading experience.

Doctoral Capstone

While a hallmark goal of the Doctoral Capstone has been to develop students' skills for appraising and implementing evidence into practice with occupational therapy stakeholders, we did not have a common language or nomenclature upon which students could report their findings. Our curricular model is now heavily informed by the field of implementation science (Powell et al., 2015; Proctor et al., 2013), and we have adopted well-established reporting guidelines (e.g., GRADE, Guyatt et al., 2008) to assist students in their documentation of findings. Additionally, based on feedback from partner sites and site mentors, we found that our Doctoral Capstone originally seemed elusive and difficult to describe. This feedback has led us to develop collaborations with site mentors early in the process of pairing students to partner sites in order to clearly define the student's role and the goals of the Doctoral Capstone. To clarify the purpose of the Doctoral Capstone, we have also developed and led continuing education courses designed for practitioners who want to understand the difference between fieldwork and capstone as well as the defining components of our EL-OTD curricula.

Plans for Program Evaluation

Annually, our program invites recent graduates to complete a "Graduate Survey" and provide information relative to their current employment status and satisfaction with their experience as an EL-OTD student. Graduates are also able to provide information that represents their current skill level as practitioners. For instance, using a Likert scale, graduates can report the extent to which they agree with 32 statements pertaining to their current practitioner role. Three statements are listed below as examples:

- *I am able to identify, select, and use appropriate assessment tools for evaluation of my clients.*
- *I use research evidence in developing my intervention plans.*
- *I apply evidence-based clinical guidelines in my practice.*

For the upcoming Graduate Survey that will be administered in Fall 2021, we plan to include additional questions that indicate *how often* graduates are a) searching for evidence related to a clinical problem and b) using evidence to guide daily decision-making in practice. Given our interest in understanding how the Doctoral Capstone influences our graduates' immediate employment, we will also include questions about if/how Doctoral Capstone influenced our students' competitiveness on the job market. Moreover, we also plan to revise our Employer Survey (administered annually) to determine the clinic- or facility-level impact of the Doctoral Capstone. Together these surveys will provide additional data for future publications regarding the impact of the EL-OTD program.

Implications for Occupational Therapy Education

Our reflections from guiding three cohorts through our doctoral curriculum may be of use to other programs interested in adopting or revising their own EL-OTD curricular models:

1. With the focus on producing practitioners who are skilled in leadership and evidence appraisals, EL-OTD programs may consider assignments that require students to perform a rigorous systematic or scoping review of the literature on a topic of interest. Through this process, students can also learn how different guidelines and tools used by medical systems (e.g. GRADE, PRISMA checklists) can enhance their review experience.
2. To emphasize lifelong learning, consider the use of Learning Through Discussion approaches (Rabow et al., 2008) in advanced clinical coursework to allow students to explore their areas of interest via advanced clinical skill application.
3. To build a reciprocal relationship between EL-OTD programs and capstone sites, programs may find value in including site stakeholders in the customization of each student's Doctoral Capstone, to ensure the capstone meets the needs of all involved.
4. Occupational therapy practitioners are expected to implement evidence-based and evidence-informed interventions. As such, EL-OTD curricula informed by the field of implementation science may enhance these implementation efforts and expedite the translation of evidence into occupational therapy practice.

Conclusion

While ACOTE-accredited EL-OTD programs across the country can exercise their own autonomy when building curricular models, there is great value in programs sharing their strategies, challenges, and successes in relation to curricular development and refinement. Building off the educational goals originally proposed by The Ohio State University, the EL-OTD curriculum presented in this paper represents one example of how advanced clinical coursework and the Doctoral Capstone can provide students with robust opportunities to appraise research, apply evidence in the clinical setting, and modify evidence for the client context—all of which are hallmark characteristics of evidence-based practice. By sharing this curricular structure and the valuable lessons learned from past student cohorts, this one example may provide clarity to the curricular components that differentiate entry level doctoral education in occupational therapy.

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