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A Snapshot of How Entry-Level Occupational Therapy Programs Collect and Use Doctoral Capstone Outcomes

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Abstract

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Keywords

Occupational therapy, doctoral capstone, professional practice, doctoral capstone outcomes, occupational therapy education

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ABSTRACT

Entry-level occupational therapy doctorate (OTD) programs are required to gather program evaluation data regarding the doctoral capstone for accreditation purposes. This study aims to describe the processes used by a sample of OTD programs to gather doctoral capstone outcome data and to determine the type of data collected in order to understand the perspectives regarding doctoral capstone outcomes by doctoral capstone coordinators (DCCs) within the United States. The investigators used purposeful sampling to recruit DCCs at accredited entry-level OTD programs in the United States. The most common outcome data collected included information about the doctoral capstone experience from students, student performance outcomes, employment and scholarship outcomes from alumni and employers, and various outcomes from site/expert/faculty mentors. Results highlight the need to disseminate doctoral capstone outcomes as few participants in this study used the data they were collecting outside of their program. By sharing and reporting outcomes of the doctoral capstone, OTD programs, and the profession can collectively benefit. Development of common outcomes, collected across programs, can help to provide data large enough to draw meaningful conclusions regarding the value of the doctoral capstone in occupational therapy education and in strengthening the knowledge of the profession among the public.

Introduction

There has been a steady increase in the number of accredited occupational therapy programs granting an entry-level clinical doctoral degree in recent years. As of March 2022, the Accreditation Council for Occupational Therapy Education (ACOTE[®], 2022) reported 63 accredited, 69 candidate/pre-accreditation, and 67 applicant programs. One key component of an occupational therapy doctorate (OTD) program is the completion of a culminating doctoral capstone in which students carry out an individualized project and experience designed around specific objectives to gain in-depth exposure within an area of focus: clinical practice skills, research skills, administration, leadership, program and policy development, advocacy, education, or theory development (ACOTE[®], 2018). Across the country, entry-level OTD graduates have completed doctoral capstones in various practice settings to gain specific skills. Kemp et al. (2020) highlighted the potential for the doctoral capstone to assist in shaping the profession's future; however, there is limited evidence of the outcomes regarding doctoral capstones. Without data to document the outcomes of the doctoral capstone, it remains unclear how the doctoral capstone may contribute to advancements in the profession.

Literature Review

Evaluating educational outcomes is a required component of occupational therapy education (ACOTE[®], 2018; Grajo & Gutman, 2020; McSherry et al., 2019). When meeting the standards set forth by the accrediting body, entry-level OTD programs must gather information for program evaluation purposes, assessing (a) doctoral capstone performance; (b) student evaluation of the doctoral capstone experience; and (c) evaluation of doctoral capstone outcomes (ACOTE[®], 2018). Kirkpatrick (1976), as cited in Krusen et al. (2020), outlines four levels of educational outcomes:

- 1) Student reactions and feedback to participation in learning activities;
- 2) Changes in attitudes or acquisition of knowledge or skills;
- 3) Changes in behaviors that demonstrate application of knowledge or skills gained; and
- 4) Changes in organizational practices and direct benefits to patients and clients.

In applying the Kirkpatrick levels of outcomes to higher education, Praslova (2010) gave examples of instruments and indicators that can measure these outcomes. Some examples include "student evaluations of instruction... examples of class-specific student work... end-of-program integration papers or projects, internship diaries... alumni surveys, [or] employer feedback" (Praslova, 2010, pp. 222-223). Nghia and Duyen (2019) created a scale for evaluating internship-related learning outcomes; the three main factors measured through nine items included shaping career paths, further developing professional knowledge and skills, and changing learning attitudes and behaviors. Although there is no literature to demonstrate that occupational therapy has used these levels of outcomes or evaluative scales, they could be helpful when measuring doctoral capstone outcomes.

The American Occupational Therapy Association (AOTA, n.d.) reported priority areas for professional advancement such as (a) the promotion of occupation-based practice; (b) equipping learners with skills beyond clinical practice; (c) educating the public about the profession; (d) influencing population health; and (e) promoting new areas of practice. Publishing outcomes that demonstrate how the profession is striving to meet these priority areas is essential. Evidence of specific outcomes from OTD doctoral capstones would help document the value of occupational therapy in many of these priority areas, including promoting new professional practice areas, developing skills beyond clinical practice, and supporting population health initiatives. Deliverables directly from doctoral capstone outcomes can equip doctorate-level graduates to meet current and future workforce demands. Investigating outcomes of the doctoral capstone also provides a mechanism to review if graduates possess the skills to address current societal needs using interventions that address the health of individuals and populations. For doctoral capstone outcomes, however, there is currently variability across institutions in the process of collecting and reporting data from OTD programs, and there is no standard instrument for collecting outcomes.

The few published studies discussing entry-level doctoral capstone outcomes often report data from a single program or from a limited number of participants. Outcomes reported include changes in student knowledge, skills, and attitudes (Krusen et al., 2020; Mu & Coppard, 2007; Smallfield & Wood, 2019), development of a community-centered project (Zajac, 2017), and increased awareness of occupational therapy and job opportunities related to doctoral capstones (Kiraly-Alvarez et al., 2022). Also noted in the literature is variability between programs regarding the processes for doctoral capstone implementation and evaluation (Kemp et al., 2020). Understanding the types of outcome data collected by programs and the methods used to collect the data would assist doctoral capstone coordinators (DCCs) in using a more uniform capstone evaluation process to more effectively communicate the value and impact of the occupational therapy doctoral capstone on the priorities of the profession. Therefore, the aim of this study is to describe the processes used by OTD programs to gather doctoral capstone outcome data, the type of data collected, and the perspectives of doctoral capstone outcomes by DCCs within the United States. This collected data may support the development of more robust doctoral capstone outcome tools that will continue to advance the profession of occupational therapy.

Methods

Participants

The investigators used purposeful sampling to recruit DCCs at accredited entry-level OTD programs in the U.S. The investigators sent a recruitment survey via publicly available emails, a listserv for DCCs through the AOTA, an online forum for occupational therapy educators, and a Canvas mentoring platform for DCCs. Potential participants were eligible if they met the following inclusion criteria: a participant was a DCC in an entry-level OTD program in the U.S. that had graduated at least one cohort of OTD students, was able to communicate in English (verbally or through an interpreter) and had access to a phone or internet to participate in an interview.

Procedures

A qualitative descriptive approach is beneficial for gathering rich, comprehensive data about a particular event or topic (Colorafi & Evans, 2016; Kim et al., 2017). The investigators used this approach to gather qualitative data through individual semi-structured interviews. The investigators developed an interview guide based on a review of the literature, consideration of ACOTE® (2018) standards, and the investigators' personal experiences as DCCs. Open-ended, semi-structured interview questions were designed to elicit information related to the research aims. The interview process included how the DCC participants gather and use outcome data on the doctoral capstone process in their program, the types of data they collect, barriers to data collection, and their perspectives of doctoral capstone outcomes. The study qualified as Non-Regulated Research and Institutional Review Board (IRB) approval was received (Protocol number: 20210628NRR), and all investigators received approval from the IRB at their respective universities.

Eligible participants completed a virtual interview with one of the investigators using Zoom's teleconferencing platform. Interviews lasted approximately 30-45 minutes. Interviews were audio-recorded and transcribed verbatim by the investigators with the help of Amazon Web Services' automated speech recognition technology integrated within Zoom.

Data Analysis

The investigators analyzed the interview transcripts using content analysis to identify trends and frequencies within the data from the participants' interviews (Vaismoradi et al., 2013). To ensure validity, two investigators coded each transcript individually and then met to compare and reach an agreement on the codes. Then three investigators collectively combined coded data to review commonalities and frequencies until consensus was achieved. To further enhance rigor, the investigators invited participants to engage in member checking by sending a summary of results for them to review for accuracy (Stanley & Nayar, 2014). Investigators asked the participants to report their agreement with this summary to determine if the results captured what the interviewee had reported during the interview (Creswell & Creswell, 2018). In the event a participant did not agree, the investigators reviewed the data to ensure data was not inadvertently omitted from the final results.

Results

Twenty DCCs responded to the recruitment survey indicating an interest in participating in an interview. All recruited participants were screened for eligibility with an initial demographic form that ensured they met all inclusion criteria. All DCCs that responded were eligible to complete the semi-structured interview; however, due to scheduling difficulties, investigators could not interview three potential participants. Therefore, 17 DCCs representing OTD programs from 12 states in all regions of the United States participated in the interviews. Participants had served as a DCC for an average of 3.6 years (range of .42 - 14 years) and worked at programs that had graduated an average of 4 cohorts (range of 1 - 14).

During member checking, all but two participants agreed the summary of the collected data (reported below) was accurate based on their interviews. Two participants indicated the summary was reflective of their interview but did not represent what their program, as a whole, did for the collection of outcomes. In these two cases, the investigators returned to the data and ensured that information from each participant was represented in the final results. Final results were grouped into categories based on the type, method of collection, barriers, use, responsibility, perspectives, future considerations, and suggestions of the outcome data described.

Types of Outcome Data Collected

Participants reported a variety of doctoral capstone outcome data collected from various stakeholders. The most common outcome data collected included information about the doctoral capstone experience from students, student performance outcomes, employment and scholarship outcomes from alumni and employers, and various outcomes from site/expert/faculty mentors.

Student Performance Outcomes

Attitude, Behavior, Knowledge, Participation and Skill Data. Fourteen participants (82.4%) reported collecting student reactions and feedback about their participation in the doctoral capstone. Most commonly, students complete a formal evaluation of the doctoral capstone experience (64.7%) or informal reflections on their experience (41.2%). While less common, participants also reported having students review their mentors and/or sites (23.5%) or provide feedback through the formal university course evaluation process (11.8%). Most participants also reported collecting data regarding changes in student attitudes or behaviors and acquisition of knowledge or skills. Eleven participants (64.7%) reported evaluating student performance and/or achievement of learning objectives completed by the site, faculty, or expert mentor. Five participants (29.4%) also reported their students completing a self-evaluation or self-reflection of their skills.

Employment and Scholarship Data. Twelve participants (70.6%) indicated they collected general employment information from their alumni or students as they graduated. Six participants (35.3%) reported collecting more specific information about employment opportunities directly related to engagement in the doctoral capstone. Three participants (17.6%) reported gathering information from alumni about their use of skills learned during the doctoral capstone in their current jobs. Two participants (11.8%) also reported gathering information from employers about the performance of their employees who are alumni of their OTD programs. Finally, six participants (35.3%) reported gathering information from their students and alumni about various scholarship endeavors resulting from the doctoral capstone, including conference presentations, publications, and additional research.

Program Operational Outcomes

Assessment of Doctoral Capstone Outcomes from Mentors. Six participants (35.3%) reported gathering feedback from site, expert, and/or faculty mentors. Two participants expanded on these outcomes, specifying that mentors are asked about their satisfaction with the students' doctoral capstone project or feedback for the DCC. While not as common, three participants (17.6%) indicated they gather various outcomes about direct benefits to the sites or populations served by the doctoral capstones. Some of these outcomes included site use of the student project and effectiveness of the student project.

Sustainability of Doctoral Capstone. Programmatic feedback included collection of data from stakeholders that provides information to the program about the doctoral capstone experience. Data collected as programmatic feedback from the mentor related to the sustainability of the individual doctoral capstones. Such outcomes from program evaluation of the mentors included: (a) enhanced awareness of occupational therapy, disability, and diversity by site stakeholders; and (b) the long-term impact of the doctoral capstone project on consumers.

Supplemental Outcomes

Participants also reported collecting other supplemental outcomes that were not as common as those reported above but are still important to note. These outcomes included the types or locations of doctoral capstone sites (17.6%), categories of doctoral capstone experience focus areas (11.8%), student reflections on curricular themes (11.8%), types of deliverables created through student doctoral capstone projects (11.8%), creation of fieldwork opportunities resulting from doctoral capstones (5.9%), and data about mentors (5.9%).

Approaches Used for Outcome Data Collection

Participants also described their processes to capture the outcome data reported above. Most processes were embedded within the doctoral capstone processes, while others were part of larger programmatic or university program evaluation processes. Data collection efforts during the doctoral capstone processes included (a) collection/administration of evaluations, forms, or surveys during or after the doctoral capstone experience to capture formal and informal outcomes (82.4%); (b) focus groups (23.5%); (c) student portfolios (17.6%); (d) informal site mentor follow-ups (11.8%); (e) tracking ongoing correspondence during the doctoral capstone (5.9%); (f) faculty debriefing (5.9%); (g) discussion boards (5.9%); and (h) SWOT analysis (5.9%). Data collection efforts that were part of larger programmatic or university efforts included (a) alumni surveys (47.1%); (b) graduate surveys, exit surveys, or program evaluations completed at graduation (29.4%); (c) employer surveys (11.8%); and (d) university course evaluations (11.8%).

The following were described when participants were asked to consider what additional assessments could be used to demonstrate doctoral capstone contributions. Three participants (17.6%) discussed the need for pre- and post- surveys of doctoral capstone

mentors. Two participants (11.8%) suggested long-term and routine student or alumni surveys. Less commonly mentioned suggestions included a mixed methods study (5.9%), disseminating outcomes outside the occupational therapy community (5.9%), and assessment of outcomes for mentor education and resources (5.9%).

Barriers to Outcome Data Collection

There were a variety of barriers identified in response to collecting outcome data. The most common barrier, reported by eleven participants (64.7%), was a low response/participation rate from students or mentors. Other barriers reported included lack of processes or systems for collecting data (23.5%), loss of graduate contact information (23.5%), and inconsistencies in outcomes due to the individuality of the doctoral capstone (11.8%).

Less common barriers to outcome data collection included no release time for the DCC (5.9%); lack of time to develop tools (5.9%); program-specific evaluations (5.9%); different interpretations of what constitutes research (5.9%); lack of transparency by students (5.9%); incorrect timing of data collection (5.9%); explaining what the doctoral capstone is (5.9%); COVID burnout at sites (5.9%); the site did not want outcomes highlighted (5.9%); and site mentor's work sites not supporting dissemination (5.9%).

Use of Doctoral Capstone Outcome Data

Participants described how doctoral capstone outcome data was reported and used in their program. Participants reported doctoral capstone outcome data in annual or internal reports (23.5%), at faculty meetings (11.8%), to doctoral capstone committees/task groups (11.8%), and through information or doctoral capstone posters on the program website (11.8%). Other participants reported doctoral capstone outcome data to the program director (5.9%); in a program newsletter (5.9%); with assessment committees (5.9%); during department retreats (5.9%); on a grant report (5.9%); and through publication (5.9%).

Most participants used their doctoral capstone outcome data to inform the program and make curriculum changes (82.4%) or revise the doctoral capstone process (17.6%). Four participants (23.5%) described using the data to recruit new doctoral capstone sites/mentors. In contrast, other participants used outcome data during student recruitment (11.8%) or while informing students what to expect during a doctoral capstone (5.9%). Other uses of doctoral capstone outcome data included educating the community about occupational therapy (17.6%), demonstrating the value of a doctoral capstone (11.8%), changing education/training to sites (5.9%), informing practice (5.9%), maintaining relationships with sites (5.9%), and meeting ACOTE® standards (11.8%).

Responsibility

Participants described who was responsible for collecting and reporting the doctoral capstone outcome data described above. Fourteen participants (82.4%) reported that it is the responsibility of the DCC, and nine participants (52.9%) reported the program director as having some responsibility for the collection and reporting of the data. While

not as common, six participants (35.3%) listed someone in the administration team, which may include an assistant, dean, clinical education services office, assessment committee, university system for course evaluations, or all faculty. Finally, an alumni office was reported to participate in collecting and reporting doctoral capstone outcome data (11.8%).

Perspectives of the Doctoral Capstone

Participants were asked to share their perspectives on whether the doctoral capstone is advancing occupational therapy practice or providing new opportunities for the profession. While there were varied responses to this question, the strongest themes included (a) the doctoral capstone being a means for change and advancement in the profession (n=6, 35.3%); (b) allowing for the development of skills for use in future practice (n=4, 23.5%); (c) an opportunity for demonstrating the value of occupational therapy (n=4, 23.5%); and (d) supporting out of the box thinking and role expansion of occupational therapy into new practice settings (n=4, 23.5%). Other perspectives, which represented fewer responses, included (a) contributing to the community (17.6%), (b) developing leadership and advocacy skills (11.8%), and (c) producing change in occupational therapy curriculum (11.8%).

Suggested Doctoral Capstone Outcomes

Participants were asked to consider outcomes related to the doctoral capstone that are needed but not currently represented in the literature. The DCCs provided many suggestions in this area, with the most frequent recommendation being the sustainability of doctoral capstone projects (29.4%). Other suggestions identified by multiple participants were a need to publish and share (a) what DCCs are already doing (23.5%); (b) the value and awareness of the doctoral capstone (17.6%), (c) longitudinal outcomes of the doctoral capstone (17.6%), (d) shared outcomes outside of the occupational therapy profession (11.8%), and (e) development of an outcome data measurement tool (11.8%).

Discussion

With a steady increase in the number of OTD programs in the United States, there is a need to determine and report the outcomes of doctoral capstones. To achieve this, a better understanding of outcome data types and methods for collecting this information is a necessary first step. This study aimed to describe the process of gathering outcome data and the type of data collected by DCCs within the United States. Many participants reported collecting outcomes directly from OTD students through self-reflection of experiences, self-evaluations, written reflection, focus groups, or surveys. These outcomes align with the approach described by Kirkpatrick (1976), as cited in Krusen et al. (2020), which outlined changes in behaviors that demonstrate knowledge or skill acquisition.

Programs collected few outcomes from alumni regarding employment or skills gained during the doctoral capstone experience. Anecdotally, each of this study's investigators knew of new positions created as a direct result of a doctoral capstone project or a partnered capstone site offering positions to an OTD graduate that were not previously

advertised as a job for an occupational therapy professional. Further research regarding the impact of the OTD doctoral capstone on the occupational therapy workforce is needed. A previous study began to report outcomes related to the workforce and the job market (Kiraly-Alvarez et al., 2022), yet additional research would help strengthen these findings. The OTD doctoral capstone can help the profession achieve aspects of *Vision 2025* (AOTA, 2017) by bringing occupational therapy to a broader reach of clients, populations, communities, areas of practice, and specialties.

Along with outcomes related to alumni, a lack of outcome data from mentors was also found. Mentors serve a critical role in occupational therapy education, and mentorship can result in knowledge acquisition, enhanced professional behaviors, and translation of skills (Doyle et al., 2016; Doyle et al., 2019). The relationship between student and mentor assists in the development of knowledge and skills and in the formation of the doctoral capstone project. Nearly 65% of participants indicated barriers to data collection were low response and participation from sites or mentors. As a result of this barrier, only a few of the participants in this study indicated gathering these types of outcomes. Because mentors remain uncertain regarding the logistics (time requirements, specific roles, communication expectations) of mentoring an OTD student for their doctoral capstone, outcomes must be gathered from mentors and disseminated to provide further clarity on the doctoral capstone process. Although research indicates that high interaction rates between student and mentor lead to greater project success (Eby et al., 2013), there is currently insufficient outcome data within occupational therapy to provide mentorship recommendations, including the amount of time and style of mentorship or other details.

One of the most impactful takeaways from this study is the need to disseminate doctoral capstone outcomes. Few of the participants in this study used the data they were collecting outside of their program. By sharing and reporting outcomes of the doctoral capstone, OTD programs and the broader profession can collectively benefit. Development of common outcomes, collected across programs, can help to provide data large enough to draw meaningful conclusions regarding the efficacy of the doctoral capstone in occupational therapy education and in strengthening the knowledge of the profession among the public.

Limitations

Although the investigators employed various methods to ensure the study's rigor, there were limitations. Some participants only held the DCC role for a short time and had not been through a complete capstone process with a cohort. Therefore, reporting all the outcome data collection processes completed by their program may have inaccuracies. Additionally, four of the investigators conducted interviews with the participants. Although the investigators used the semi-structured interview guide, they may have used different approaches in asking follow-up questions, resulting in varying degrees of details in participant responses. These factors may have resulted in less robust data, potentially impacting the richness of the results.

Implications for Occupational Therapy Education

This study provides occupational therapy educators with initial insight regarding the types and methods of data collection utilized by DCCs and entry-level OTD programs. These results help to understand and illustrate doctoral capstone outcomes collected from OTD graduates, employers, doctoral capstone sites, stakeholders, and professional occupational therapy programs. The information gathered from the study can serve as a helpful first step in developing best practices for outcome data collection and reporting to demonstrate the value and impact of the doctoral capstone more fully in the occupational therapy profession.

Based on the results of the study, the investigators have developed two resources with recommended doctoral capstone outcomes that DCCs can integrate into OTD program assessment methods across the United States. A more detailed overview of data collected, types of evaluations, timeframes for evaluation, stakeholders and participants, and implications relevant for occupational therapy programs is available in Table 1. The table is representative of both the outcomes and data currently being collected by programs and the outcomes and data identified as being important for programs and the profession. A quick reference guide for doctoral capstone outcomes is available for the public (see Figure 1). The intention is that the guide can serve as a snapshot for programs to understand best practices in assessing doctoral capstone outcomes. Additionally, other relevant stakeholders, such as students, sites, and mentors, can easily understand how their contributions fit into the big picture of assessing the doctoral capstone through relevant, meaningful, and important outcomes.

The recommended questions will assist programs in eliciting information aligned with Kirkpatrick's (1976) four levels of educational outcomes, as cited in Krusen et al. (2020), and reflect the AOTA's (n.d.) priorities for professional advancement. Providing a more uniform approach to doctoral capstone outcome data collection and reporting has the potential to support DCCs and OTD programs in better articulating the value of the entry-level OTD degree, enhancing opportunities to establish partnerships for doctoral capstone experiences in both traditional and non-traditional professional practice settings, and increasing visibility and awareness for the occupational therapy profession.

Table 1

Overview of Data, Evaluations, and Implications Relevant for OTD Programs

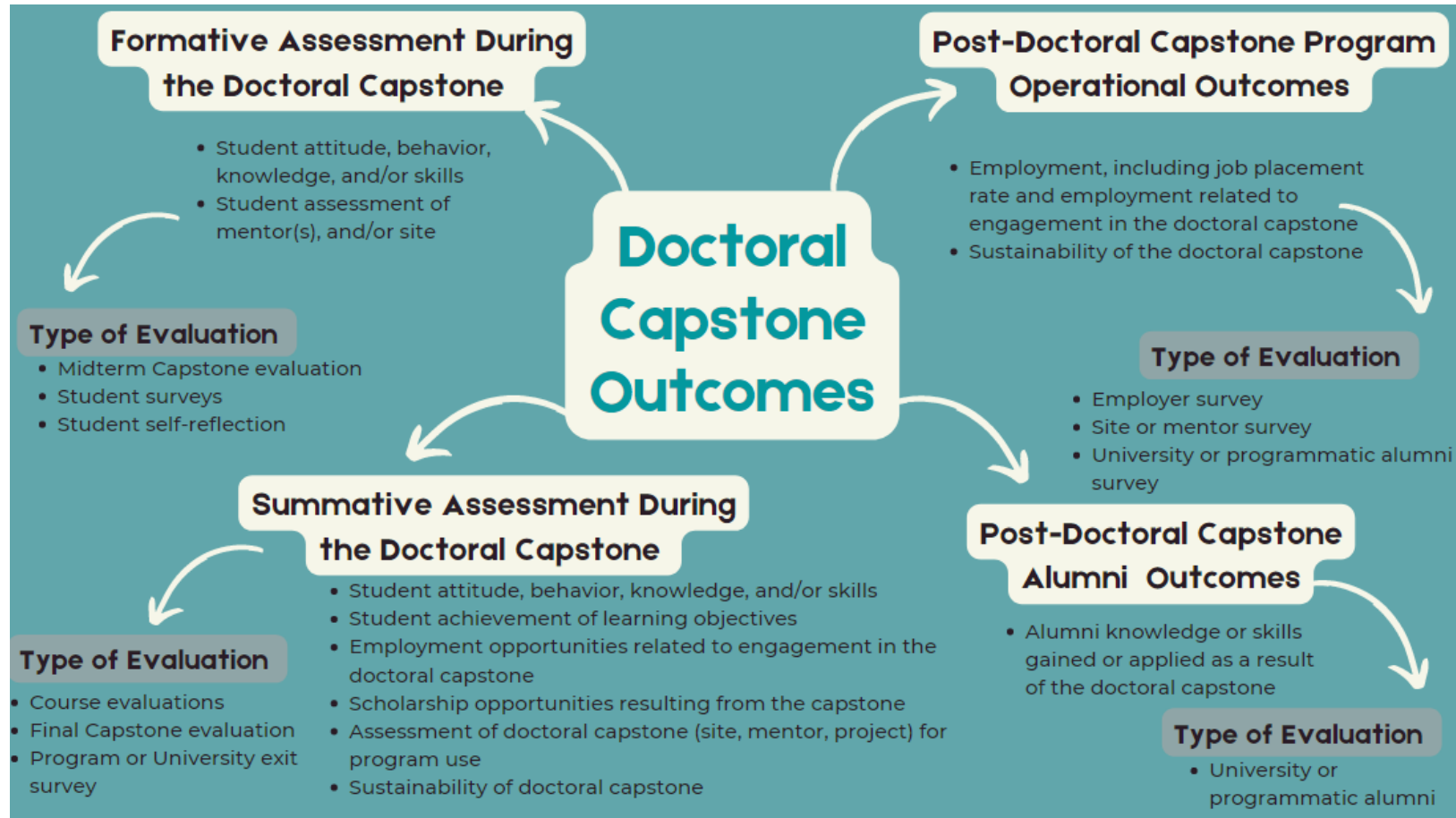
Timeframe		Type of data collected		Type of evaluation	Participant	Implications
Doctoral Capstone Experience	Formative	Student Performance Outcomes	Attitude, behavior, knowledge, and/or skills	Midterm Doctoral Capstone evaluation	Mentor(s)	Allows for immediate reflection on skill development and fosters discussions between students and mentors. Provides insight into experiences at Doctoral Capstone site and with Doctoral Capstone mentor. Can speak to feasibility of sustainability of site for future doctoral capstones.
				Self-reflection	Students	
		Program Operational Outcomes	Student assessment of mentor(s) and/or site	Student survey Midterm Doctoral Capstone evaluation	Students	
	Summative	Student Performance Outcomes	Attitude, behavior, knowledge, and/or skill	Self-reflection	Students	Can provide valuable data on the skills gained from a doctoral capstone that can be generalized across students. Employment may relate to general employment information collected or may include a question specific to the employment opportunities directly related to engagement in the doctoral capstone.
				Course evaluation		
				Final Doctoral Capstone evaluation		
Employment			Final Doctoral Capstone evaluation	Students		
Program or University exit survey						

		Scholarship	Final Doctoral Capstone evaluation	Students	Scholarship outcomes at the end of the doctoral capstone may also speak to opportunities gained directly from the doctoral capstone.	
			Program or University exit survey			
		Student performance based on achievement of learning objectives	Final Doctoral Capstone evaluation	Site, faculty, or mentor(s)	Quantitative and qualitative data can capture the immediate learning outcomes from achieving the learning objectives of the doctoral capstone.	
		Program Operational Outcomes	Assessment of doctoral capstone (site, mentor, project) for program use	Final Doctoral Capstone evaluation	Mentor (Faculty, site, etc.) and/or Student	Speaks to quality of the experience and contributes to findings related to sustainability.
				Program or University exit survey		
		Sustainability of doctoral capstone	Final Doctoral Capstone evaluation	Mentor (Faculty, site, etc.)	Student	Opportunities exist to expand on this area to build sustainable doctoral capstone opportunities within and across programs.
Post-Doctoral Capstone Experience	Program Operational Outcomes	Employment	Employer Survey	Employer	Programs collect job placement and performance outcomes per ACOTE® Standard A.6.3 Program Evaluation. Recommendation to	

					ensure collection of data related to employment that was directly related to doctoral capstone.
		Sustainability of doctoral capstone	Site or mentor survey	Site or Mentor	Timeframe for assessment may be dependent on site, project, and nature of relationship. It may include a check-in within 1-3 years and then 3-5 years post-doctoral capstone experience with a site.
	Alumni outcomes	Knowledge or skills gained or applied as a result of doctoral capstone	University or programmatic alumni survey	Alumni	Recommendation for timeframes including: within 1-3 years and then 3-5 years of graduation.

Figure 1

Quick Reference Guide for Doctoral Capstone Outcomes



Conclusion

This study summarizes the most common types of doctoral capstone outcomes that OTD programs currently collect, processes for collecting and disseminating outcomes, and DCC perspectives about doctoral capstone outcomes. The majority of programs represented in the study collect outcome data during or immediately following the doctoral capstone. Fewer programs currently collect post-doctoral capstone outcomes from alumni which could help inform the value and purpose of the doctoral capstone. This study also highlights unique processes that only a few programs are currently using but could be beneficial for more programs to adopt. The results from this study can be helpful for OTD doctoral capstone program development at new OTD programs or program enhancement within existing programs. The results also emphasize the need for better dissemination of doctoral capstone outcomes outside of OTD programs to demonstrate the value of the doctoral capstone to students, sites, and communities.

References

- American Occupational Therapy Association. (n.d). *Vision 2025*.
<https://www.aota.org/aboutaota/vision-2025.aspx>
- American Occupational Therapy Association. (2017). *Vision 2025*. *American Journal of Occupational Therapy*, 71, 7103420010.
<https://doi.org/10.5014/ajot.2017.713002>
- Accreditation Council for Occupational Therapy Education. (2018). 2018 Accreditation Council for Occupational Therapy Education Standards and Interpretive Guide. *American Journal of Occupational Therapy*, 72, 7212410005p1-7212410005p83.
<https://doi.org/10.5014/ajot.2018.72S217>
- Accreditation Council for Occupational Therapy Education. (2022). *Schools*.
<https://acoteonline.org/all-schools/>
- Colorafi, K. J., & Evans, B. (2016). Qualitative descriptive methods in health science research. *HERD: Health Environments Research & Design Journal*, 9(4), 16-25.
<https://doi.org/10.1177/1937586715614171>
- Creswell, J. W., & Creswell, J. D. (2018). *Research design: Qualitative, quantitative, and mixed methods approaches* (5th ed.). SAGE Publications, Inc.
- Doyle, N., Jacobs, K., & Ryan, C. (2016). Faculty mentors' perspectives on e-mentoring post-professional occupational therapy doctoral students. *Occupational Therapy International*, 23(4), 305-317. <https://doi.org/10.1002/oti.1431>
- Doyle, N., Gafni Lachter, L., & Jacobs, K. (2019). Scoping review of mentoring research in the occupational therapy literature, 2002-2018. *Australian Occupational Therapy Journal*, 66(5), 541–551. <https://doi.org/10.1111/1440-1630.12579>
- Eby, L.T.T., Allen, T.D., Hoffman, B.J., Baranik, L.E., Sauer, J.B., Baldwin, S., Morrison, M.A., Kinkade, K.M., Maher, C.P., Curtis, S., & Evans, S.C. (2013). An interdisciplinary meta-analysis of the potential antecedents, correlates, and consequences of protégé perceptions of mentoring. *Psychological Bulletin*, 139(2), 441-476. <http://doi.org/10.1037/a0029279>
- Grajo, L. C., & Gutman, S. A. (2020). Measuring educational outcomes in occupational therapy. In S. D. Taff, L. C. Grajo, & B. R. Hooper (Eds.), *Perspectives on occupational therapy education* (pp. 75-93). SLACK Incorporated.

- Kemp, E., Domina, A., Delbert, T., Rivera, A., & Navarro-Walker, L. (2020). Development, implementation, and evaluation of entry-level occupational therapy doctoral capstones: A national survey. *Journal of Occupational Therapy Education*, 4(4). <https://doi.org/10.26681/jote.2020.040411>
- Kim, H., & Sefcik, J. S., & Bradway, C. (2017). Characteristics of qualitative descriptive studies: A systematic review. *Research in Nursing & Health*, 40, 23-42. <https://doi.org/10.1002/nur.21768>
- Kiraly-Alvarez, A. F., Clegg, A., Lucas Molitor, W., & Friberg, D. (2022). An exploration of the occupational therapy doctoral capstone: Perspectives from capstone coordinators, graduates, and site mentors. *Journal of Occupational Therapy Education*, 6(1). <https://doi.org/10.26681/jote.2022.060114>
- Krusen, N. E., Murphy-Hagan, A., & Foidel, S. (2020). The purpose of capstone in an entry-level clinical doctorate: A scoping review. *Journal of Occupational Therapy Education*, 4 (4). <https://doi.org/10.26681/jote.2020.040404>
- McSherry, R., Bettany-Saltikov, J., Cummings, E., Walker, K., Ford, K., & Walsh, K. (2019). Are you measuring the impacts and outcomes of your professional doctorate programme? *Studies in Continuing Education*, 41(2), 207-225. <https://doi.org/10.1080/0158037X.2018.1555801>
- Mu, K., & Coppard, B. M. (2007). The development of an entry level occupational therapy doctorate in the USA: A case illustration. *World Federation of Occupational Therapists Bulletin*, 56(1), 45-53. <https://doi.org/10.1179/otb.2007.56.1.007>
- Nghia, T. L. H., & Duyen, N. T. M. (2019). Developing and validating a scale for evaluating internship-related learning outcomes. *Higher Education*, 77, 1-18. <https://doi.org/10.1007/s10734-018-0251-4>
- Praslova, L. (2010). Adaptation of Kirkpatrick's four level model of training criteria to assessment of learning outcomes and program evaluation in Higher Education. *Educational Assessment, Evaluation and Accountability*, 22, 215-225. <https://doi.org/10.1007/s11092-010-9098-7>
- Smallfield, S., & Wood, S. (2019). Student perspectives of the occupational therapy doctoral experience in an academic setting. *Journal of Occupational Therapy Education*, 3 (1). <https://doi.org/10.26681/jote.2019.030108>
- Stanley, M., & Nayar, S. (2014). Methodological rigour: Ensuring quality in occupational therapy qualitative research. *New Zealand Journal of Occupational Therapy*, 61(1), 6-12.
- Vaismoradi, M., Turunen, H., & Bondas, T. (2013). Content analysis and thematic analysis: Implications for conducting a qualitative descriptive study. *Nursing & Health Sciences*, 15, 398-405. <https://doi.org/10.1111/nhs.12048>
- Zajac, E. M. (2017). Occupational therapy in positive youth development. *World Federation of Occupational Therapists Bulletin*, 73(1), 29-35. <https://doi.org/10.1080/14473828.2016.1219500>