RESEARCH ARTICLE

Faculty Mentors' Perspectives on E-Mentoring Post-Professional Occupational Therapy Doctoral Students

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Abstract

E-mentoring is a viable option for mentoring students in occupational therapy educational programs. The objective of this study was to investigate faculty perspectives of faculty-to-student e-mentoring in an online post-professional doctor of occupational therapy program. In a retrospective mixed-method design, nine faculty members described features and outcomes of e-mentoring 48 doctoral students. Online survey results were analysed quantitatively for descriptive statistics; transcripts from structured interviews were analysed using qualitative content analysis. The results showed that successful, satisfactory e-mentoring is student-centered, flexible, frequent, academically and psychosocially supportive; faculty members must be skilled in adapting e-mentoring to the needs and objectives of each mentee; e-mentoring provides opportunities for faculty members and students to achieve academic and professional objectives and growth. The findings suggest that implementation of e-mentoring may be a useful model in other occupational therapy programs. There is a need for future studies with broader participant pool, observable measures of e-mentoring, standardized measures of satisfaction and success and comparison between e-mentoring with and without web camera. Copyright © 2016 John Wiley & Sons, Ltd.

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Introduction

Mentoring is an essential component of occupational therapy practice around the globe. It is both a relationship and a process between at least two individuals that provides support and an exchange of knowledge and expertise (Williams and Kim, 2011). We mentor students in fieldwork experiences and clinicians new to practice and research (Craik and Rappolt, 2006; Copley and Nelson, 2012; Falzarano and Zipp, 2012; Fitzgerald et al., 2015). In addition, occupational therapy educators have begun to report on mentoring within academic programs (Ilott and Allen, 1995; Milner and Bossers, 2004; Milner and Bossers, 2005). This is particularly relevant to occupational therapy graduate students who may benefit from individualized mentoring in their specific research area. Indeed, across a variety of health professions, mentoring has been shown to positively impact students' satisfaction with their academic programs (Maton et al., 2011; Yamada et al., 2014), professionalism (Milner and Bossers, 2005) and professional productivity in terms of

participating in research, publications and presentations (DeFrancisci Lis et al., 2009; Cohen et al., 2012).

E-mentoring is a form of mentoring that uses electronic communication methods to facilitate the mentoring relationship and process (Stewart, 2006; de Janasz and Godshalk, 2013). E-mentoring expands the opportunities and global reach of mentoring by eliminating barriers such as the need to be in the same physical location (Stewart, 2006; Stewart and Carpenter, 2009). This is an important distance education tool: it allows mentors and mentees to connect whether in urban or rural areas, across a country or around the world.

E-mentoring is a particularly viable option for mentoring students engaged in online graduate degree programs. As online education continues to grow universally (Allen and Seaman, 2015) as well as in occupational therapy and other health professions, it is critical to provide evidence-based and quality educational experiences (Bondoc, 2005; Richardson et al., 2008; Doyle and Jacobs, 2012; Mu et al., 2014). E-mentoring is a tool that can contribute to the overall distance learning experiences of students.

Literature review

Much of the literature about mentoring and e-mentoring can be grouped under three main categories: (1) the nature – how it is performed; (2) the perception – how it is viewed by mentors and mentees; and (3) the impact – or outcomes of mentoring. With regard to the *nature* of e-mentoring, three main aspects affect students' satisfaction with these experiences: a plan or structure for mentoring communication, the frequency of mentoring interactions and the opportunity for mentoring participants to meet face-to-face. For business school students, structure is important to satisfaction with the mentoring experience and includes participants agreeing on elements such as the frequency and duration of meetings and technology for electronic communications (Loureiro-Koechlin and Allan, 2010). Studies in both e-mentoring for business students (de Janasz and Godshalk, 2013) and a meta-analysis of traditional mentoring in higher education (Eby et al., 2013) indicate that higher frequency of interactions between mentors and mentees are key to successful e-mentoring relationships. Additionally, business school mentees

felt that face-to-face discussions facilitated building routines in communication and allowed mentoring dyads to agree upon methods and time for communication at a distance (Loureiro-Koechlin and Allan, 2010). In a pilot study, two physical therapist mentees liked face-to-face discussion via web cameras for their e-mentoring in order to facilitate their clinical reasoning (Stewart and Carpenter, 2009).

Overwhelmingly, participants *perceive* e-mentoring and traditional mentoring experiences positively. Across the United States, psychology graduate students reported more satisfaction with their graduate programs if they were mentored (Maton et al., 2011); psychiatry students also reported increased program satisfaction when they reported feeling adequately mentored (DeFrancisci Lis et al., 2009). In New Zealand, e-mentoring for midwives in their first year of practice was positively received by mentors and mentees alike (Stewart, 2006). In occupational therapy specifically, student mentees in Canada reported that group mentoring with a clinician was a valuable experience and enhanced professionalism, thinking and learning (Milner and Bossers, 2005).

E-mentoring and mentoring also *impact* preparation for practice and research. Psychiatry residents with a clearly defined mentor were more likely to complete a peer-reviewed publication, to feel adequately mentored for their work and to feel better prepared for clinical practice (DeFrancisci Lis et al., 2009). Gynaecologic oncology programs with more structured mentoring programs (e.g. formal pairing of mentors and mentees, mechanisms to provide feedback to mentors, progress reports for mentees) produced significantly more plenary research presentations than programs without such mentoring (Cohen et al., 2012). For midwives, the e-mentees reported benefiting from reflecting on their clinical practice, learning new information, addressing clinical queries and discussing professional issues (e.g. ethical dilemmas, career paths) with their e-mentor (Stewart, 2006).

Such research findings may indicate that mentoring within occupational therapy graduate programs can encourage student satisfaction, professionalism and professional productivity. However, most of the mentoring literature within the profession of occupational therapy focuses on mentoring of faculty members or practicing professionals (e.g. Schemm and Bross, 1995; Wilding and Marais-Strydom, 2002; Craik and Rappolt, 2006; Provident, 2006). With the

exception of two studies focused on group mentoring of master's degree students by clinical mentors (Milner and Bossers 2004; Milner and Bossers, 2005), very little is published that empirically explores mentoring or e-mentoring relationships and processes for occupational therapy graduate students.

In order to begin to address this gap in the literature, two related studies were undertaken to understand e-mentoring experiences in the online post-professional Doctor of Occupational Therapy (OTD) program at Boston University. The Boston University students, faculty members and researchers represent 140 countries around the world; the online OTD program is accessible to graduates from US Accreditation Council for Occupational Therapy Education-accredited entry level or World Federation of Occupational Therapists-approved occupational therapy program. For over a decade, students based in the United States and internationally have graduated from the online MS and OTD programs at Boston University.

In the online OTD program, an academic advisor oversees each student's academic program, curriculum and progress. Additionally, each student is paired with two mentors. The first is a faculty member for faculty-to-student e-mentoring; the second is a classmate for peer-to-peer e-mentoring. Both e-mentoring experiences focus on the student's doctoral project, in which the student identifies a clinical need or shortcoming in practice and develops an innovative, evidence-based and theoretically grounded response to address this gap.

A previous study investigated peer-to-peer and faculty-to-student e-mentoring in an online post-professional doctor of occupational therapy program from the *student* perspective (Jacobs et al., 2015). It highlighted the important features of e-mentoring from the students' perspective. These included regularly scheduled meetings and access to multiple methods of distance communication, such as using web cameras or telephone with real-time communication during scheduled meetings and email communication between meetings. Students also reported that e-mentoring experiences positively impacted their professional development in areas such as presentations, publications and research both during and after the OTD program.

As a complement to the Jacobs et al. (2015) study, the research undertaken and reported here investigates faculty-to-student e-mentoring from the *faculty* perspective. The three main study objectives are:

(1) To understand the nature of faculty-to-student e-mentoring (e.g. technologies utilized, frequency and duration of meetings, structure such as mentoring agreements).
(2) To understand faculty perspectives of what features make e-mentoring most successful and satisfactory.
(3) To understand e-mentoring's impact (e.g. professional productivity, professional development) on students and faculty.

Method

Research design

This is a retrospective mixed-method study. Participants completed a survey that gathered basic descriptive, quantitative information about the nature, perception and impact of e-mentoring dyads. Because this is a new area of research, a follow-up interview with each participant qualitatively explored e-mentoring experiences in order to understand the phenomenon in more depth (Elo and Kyngas, 2008).

Participants and procedures

Nine faculty members from the Boston University Sargent College online post-professional OTD program were invited to participate in this study. All consented and completed the online survey and follow-up interview (100% participation) between February and April 2015. Faculty members were asked about each of their e-mentoring dyads (range 1–11, mean 5.33 e-mentoring dyads). In total, the nine participants described faculty-to-student e-mentoring experiences of all 48 graduates of the OTD program as of April 2015.

The Boston University Institutional Review Board approved the study procedures and the letter of consent presented to the participants. Study participants were recruited through e-mail including a recruitment letter and consent form. The URL link to the online survey was included in the recruitment letter. Prior to the beginning the online survey, the faculty members were asked to consent to participate in the study. Only the participants who gave consent were able to continue with the survey. After completion

of the survey, the participants were contacted to schedule and complete a follow-up interview.

Data collection and analysis

Online survey

The authors developed a 28-item online survey (refer to Tables I–III), guided by the literature reviewed in this paper's introduction, especially findings by de Janasz and Godshalk (2013) and Eby et al. (2013). Three initial questions asked to the faculty members are about mentoring roles and technology skills. The faculty members reported good (22%), very good (56%) or excellent (22%) technology skills. The faculty members have e-mentored a mean of 5.33 students, with a range of 1–11 students. No additional demographic information was gathered about the faculty mentors or student mentees. The faculty members then completed 25 questions about the nature, perception and impact of e-mentoring for each of their e-mentoring dyads. All questions were multiple choice. The survey was distributed using Qualtrics® Research Suite platform (Qualtrics, 2014). Answers to each survey question were analysed for descriptive statistics such as percentage of e-mentoring pairs.

Interview

The authors developed a structured follow-up interview consisting of 11 open-ended questions about the nature, perception and impact of the faculty-to-student e-mentoring experience from the faculty perspective (refer to Table IV). The first ten questions were topical such as "What is your preferred frequency for e-mentoring and why?", "From your perspective, what makes mentoring a quality experience?" and "Has e-mentoring contributed to your own professional development? If so, how?" The final question was open-ended for any additional comments by the interview participants about their e-mentoring experiences. The interviews lasted approximately 20 minutes each. The third author conducted and recorded all the interviews utilizing a web camera and the Adobe® Connect™ platform, a web-based conferencing platform (Adobe 2014). She then transcribed each recording using a word processing program.

The first two authors used inductive qualitative content analysis process guidelines described by Elo and Kyngas (2008) and Graneheim and Lundman

(2004) to qualitatively analyse the interview transcripts. The authors reviewed the transcriptions separately using an open coding process (Elo and Kyngas, 2008) to note important words or statements with common meanings. Each author separately condensed the meaning of the noted words or statements into code words and then grouped these code words into subcategories and categories. To improve trustworthiness of analysis (Graneheim and Lundman, 2004), the authors then met to discuss, reflect and agree upon final code words, subcategories and categories. It was agreed that the terms *nature*, *perception* and *impact* from the literature overview continued to accurately describe and guide the grouping of code words into meaningful categories for understanding the e-mentoring experiences of the study participants. Finally, the authors worked together to identify illustrative quotations for each category from the interview transcripts.

Results

The nature of e-mentoring

Important subcategories of the *nature* of e-mentoring are structure and content (refer to Table I). *Structurally*, the e-mentoring in this program typically occurs weekly or bi-weekly for 30–60 minutes per session. When interviewed, all nine faculty mentors emphasized that this frequency of meetings was important to help the student sustain focus and motivation. One interview respondent stated that her mentee "seems to feel that the weekly meetings are energizing and are a good check-in point", and this frequency of meeting provides the opportunity to "build our relationship and keep the direction of her work moving" (participant 4). Additionally, all faculty mentors underscored that the meeting frequency was student-centered and could change according to the needs of the student and the phase of his or her doctoral project.

The mentors reported multimodal e-mentoring using web camera and telephone for meetings and email for communication between meetings. Eight of the nine faculty mentors interviewed stated that they preferred to use web camera when meeting with mentees; one participant stated that she did this so that the e-mentoring "feels more of like an in-person relationship" (participant 1). However, six mentors (participants 1, 3, 4, 6, 8, 9) emphasized that they use the telephone if this better meets the needs or

Table 1. Online survey: nature of mentoring experience

Survey question	Percentage of sample[a] (*n* = 48 mentoring dyads)
During your time as a faculty mentor for this OTD student, how frequently did you typically meet with him/her?	
Less than once a month	0
Once a month	0
2–3 times per month	8
Every 2 weeks	28
Every week	32
More than once a week	32
How long was your typical mentoring interaction?	
0–15 minutes	0
15–30 minutes	24
30–45 minutes	32
45–60 minutes	32
more than an hour	12
How long did you work with this OTD mentee?	
First semester only	8
Until his/her doctoral project was complete	28
Duration of OTD program	48
Other	16
What technology did you typically use to interact with this mentee?	
Web camera	64
Telephone	72
Typed live chat	4
Asynchronous message board	0
Email	80
Other	32
What did you typically discuss with this mentee in a mentoring session?	
Coursework	64
Professional goals	68
Professional networking	36
Scheduling of assignments	76
Editing of written assignments or OTD project components	80
Discussion about what elements of the mentoring relationship are working	40
Discussion about what would be helpful to add to the mentoring experience (e.g. more discussion of professional goals or academic skills, etc.)	28
Accessing university or other resources	32
Problem-solving online course or chat technology	0
Emotional or psychosocial support	32
Professional publications	12
OTD project	100
Other	8
What was the nature of your mentoring interactions?	
Led by faculty member	20
Led by student	4
Led equally by both	72
Dynamic changed over time. If so, describe how:	4
Did you complete mentoring agreements with this OTD mentee?	
Yes	100
No	0
How often did you complete mentoring agreements with this mentee?	
Just once, at the end of the first semester in the OTD program	54
Every semester	38
Every year	8
Other	0

(Continues)

Table . (Continued)

Survey question	Percentage of sample[a] (*n* = 48 mentoring dyads)
What did your mentoring agreements with this mentee include?	
Specific plans for (e.g. due dates, window for comments or edits) assignment review	43
Specific plans for regular mentoring meetings	38
Deadlines for providing minutes from the mentoring meeting	9
Additional professional goals or projects	5
Additional personal goals or projects	0
Other	6
What kind of support did you provide your mentee?	
Challenging assignments, such as reviewing an unfamiliar body of knowledge	92
Task assistance	88
Exposure and visibility	16
Sponsorship	4
Protection	0
Coaching	72
Other	24
What kind of support behaviours did you provide to your mentee?	
Encouragement	96
Acceptance	88
Confirmation	92
Counselling	32
Role modelling	64
Engaging in social activities with the mentee	4
Other	2

[a]Note that percentages may total to more than 100, as participants could indicate multiple responses on some questions.

availability of the student or as a backup to web camera technology. For one student, "the best time to talk was the middle of the day on her [the student's] lunch break and she really didn't have Internet access…so we would talk by phone" (participant 8). Another mentor noted that the web camera and electronic communication platform allowed for cost-effective e-mentoring internationally (participant 3), that is, there were no international fees associated with using these technologies as opposed to international telephone calls.

All e-mentoring pairs created a mentoring agreement initially, which included specific plans for meeting scheduling and assignment deadlines. Nearly half of the mentoring pairs used mentoring evaluations, and when they did, this was typically performed just at the end of the first semester. One mentor described how these documents "give a sense of academic professionalism that…this is the method that we follow" (participant 4). Another participant explained how she used mentoring agreements and evaluations "in the beginning when we are trying to establish the relationship" (participant 2), but that

over time, they may not be necessary because the mentor is always checking in and asking students if the resources and feedback are helpful and useful. In contrast, participant 6 stated that she uses the mentoring evaluations each semester "to get feedback from the student just like we would in any class we are teaching so that we can help them meet their goals…and to see how we might improve this relationship." Some faculty mentors also ask students to write meeting minutes "because it's really important to make sure we are both hearing and saying the same thing" and because "it keeps us organized" (participant 6).

In terms of *content* (refer to Table I), the faculty mentors reported on the survey that e-mentoring focuses on academic goals (e.g. the OTD project) and professional goals of the student. The faculty mentors provided instrumental support such as challenging assignments (i.e. reviewing a new body of literature) and psychosocial supports such as encouragement and confirmation.

The interviews with the faculty mentors verified these survey results; when asked, all nine mentors

Table 2. Online survey: perception of mentoring experience

Survey question	Percentage of sample[a] ($n = 48$ mentoring dyads)
What attributes do you share with your mentee?	
Overall similarity	4
Attitudes	36
Values	52
Beliefs	8
Personality	8
Culture	0
Education (entry into OT at a BS level)	8
Education (entry into OT at a MS level)	4
Specialty in OT	40
Job rank/status	0
Geographic location	8
Employment setting	0
Organizational setting	0
Gender	76
Other	16
Did you feel your mentoring interactions with this mentee were:	
Too short	0
Too infrequent	12
Just right	80
Too long	8
Too frequent	0
What is your perceived level of satisfaction with your relationship with your mentee?	
Very satisfied	24
Satisfied	56
Neutral	20
Unsatisfied	0
Very unsatisfied	0
What was your level of satisfaction (e.g. your enjoyment with the experience) with this mentoring experience?	
Very satisfied	24
Satisfied	56
Neutral	20
Unsatisfied	0
Very unsatisfied	0
What was the level of success (e.g. the mentoring relationship achieved what you hoped it would) with this mentoring experience?	
Very successful	12
Successful	76
Neutral	12
Unsuccessful	0
Very unsuccessful	0

[a]Note that percentages may total to more than 100, as participants could indicate multiple responses on some questions.

stated that they felt that both academic or instrumental and psychosocial support "matter a lot" (participant 2) to successfully help the student through their doctoral project. All nine stated that they provided both types of support to their mentees, depending on the needs of the students. One participant described this individualized support as follows:

"sometimes one fed into the other. There might be times when the student felt off track, but really they were not, so my psychosocial support was in validating ideas… the content they already had. And then there were other times when they needed content knowledge from me and I would provide that in a very direct way and that had less to do with the psychosocial part" (participant 5).

Table 3. Online survey: impact of mentoring experience

Survey question	Percentage of sample[a] (*n* = 48 mentoring dyads)
Beyond completing his/her OTD project, do you think your mentoring experience:	
Encouraged this mentee to publish professionally	24
Encouraged this mentee to give a professional presentation	60
Encouraged this mentee to conduct research activities	40
Encouraged this mentee to write a grant	16
Encouraged this mentee to make a job change	20
Helped this mentee take on a new professional role in a professional association	8
Other	40
Since your faculty mentoring experience, do you think this mentee is:	
More willing to ask questions of others	36
More willing to seek out other mentors	44
More willing to take on professional association roles or responsibilities	48
More willing to engage in clinical research	36
More willing to provide presentations	52
More willing to write publications	24
Other	24
Beyond completing his/her OTD project, do you think your mentoring experience:	
Encouraged this mentee to publish professionally	24
Encouraged this mentee to give a professional presentation	60
Encouraged this mentee to conduct research activities	40
Encouraged this mentee to write a grant	16
Encouraged this mentee to make a job change	20
Helped this mentee take on a new professional role in a professional association	8
Other	40
Did or has your mentoring relationship continued post-graduation of the mentee?	
Yes	32
No	68
How long has (did) your mentoring relationship continued post-graduation?	
0–3 months post-graduation	0
3–6 months post-graduation	17
6–12 months post-graduation	0
1–2 years post-graduation	0
To present day	83
How frequently do/did you interact?	
Once per year	29
3–4 times per year	43
Every 2 months	14
Every month	0
Every week	0
Other	14
What is/was the nature of your continued mentoring post-graduation?	
Clinical skills	0
Professional publications and presentations	27
Professional networking	18
Mentoring for professional association role	9
Mentoring for academic role	18
Mentoring for research role	9
Other	18

[a]Note that percentages may total to more than 100, as participants could indicate multiple responses on some questions.

Perception of e-mentoring

De Janasz and Godshalk (2013) and Eby et al. (2013) reported that different aspects of perceived similarities between mentor and mentee supported quality mentoring experiences. In our study, the faculty mentors most frequently noted on the survey (refer to Table II) similarity in values, practice specialty and gender with their mentees. However, when questioned about this in interviews, six of

Table 4. Structured interview: questions

Introductory statement: In the online survey portion of this research study, we asked you to describe aspects of your faculty-to-peer mentoring experiences in the OTD program. In this interview, we would like to discuss the following questions:

1. When engaging in e-mentoring, what technology (e.g. web cameras, telephone, email) do you prefer to use and why? Is this different from the technology you typically use in e-mentoring?

2. What is your preferred frequency for e-mentoring (e.g. weekly, bi-weekly, etc.) and why?

3. From your perspective, what makes mentoring a quality experience? What makes it a successful? What makes it satisfactory?

4. Do you think that it helps if the mentee has similar attitudes, values, beliefs or personality? Do you think that it helps if you have similar experiences to share with your mentee?

5. Do you think it helps if the relationship is structured with regular meetings, mentoring agreements, mentoring evaluations, etc.?

6. Does type of content or support (e.g. instrumental vs. psychosocial) matter?

7. Does mentee motivation and social capital affect the mentoring relationship – and if so, how?

8. Has e-mentoring contributed to your own professional development? If so, how?

9. Other than distance and technology, is the e-mentoring experience distinct from in-person mentoring?

10. What could be improved about the e-mentoring experiences you have with students?

11. Do you have any additional comments about your e-mentoring experiences?

the nine felt that quality mentoring did not require shared demographics, attitudes, values, beliefs or personalities; the other three (participants 1, 2, 9) stated that these shared characteristics could be helpful, but were not critical. One participant stated that "we as faculty need to modify the way we mentor to best fit" and that "the faculty has to have an attitude of flexibility to meet the student where they are, to help make sure that there's a readiness to learn in the student" (participant 6). Similarly, a majority of the interviewees did not think practice similarity was necessary for quality mentoring (participants 2–4, 6–8).

> "They don't have to have the same professional experiences as me. Sometimes there are some similarities, but I simply take the information about who they are, what they're thinking, what they're interested in and then use that information and combine that with my experience with research and writing and how the doctoral program works in terms of the doctoral project and I just apply my knowledge to their context" (participant 7).

The other three felt that they could perhaps provide "resources and more advice and recommendations because I've experienced" (participant 9) similar practice experiences and needs.

When asked on the survey about their perceptions of their interactions with mentees, the majority of mentors reported that the frequency and duration of interactions with mentees were just right, that they were

satisfied or very satisfied with the relationship formed with their mentees, that they were satisfied with each mentoring experience as a whole, and that the mentoring relationships were successful in that mentees achieved their objectives. When asked in the interviews what makes e-mentoring experiences a quality, successful and satisfactory experience, most or all faculty mentors described three main characteristics: focusing on the learning needs and process of the students (participants 1–8), good communication (all participants) and developing the mentor–mentee relationship (participants 1–3, 5, 7, 8). It is notable that the faculty mentors reported a neutral level of satisfaction with 20% of the mentoring relationships formed and mentoring experiences as a whole and a neutral level of success with 12% of the mentoring pairings. The interviews did not provide any information about why there were neutral responses on a minority of the mentoring relationships in terms of satisfaction and success.

In the interview, the faculty members were asked whether, besides distance and technology, e-mentoring was distinct from face-to-face mentoring. One participant simply stated "no" (participant 9), and another stated e-mentoring is "just as good" (participant 7). One participant said that although e-mentoring allows for mentoring at a distance, she prefers in-person mentoring (participant 2). Two participants (1, 3) reported that there were more scheduled aspects (i.e. planning meetings, communicating via email) to an e-mentoring relationship; an on-campus mentoring relationship might have more spontaneous meetings and interactions because mentor and mentee are in the

same location. Participants 4, 5 and 8 noted that e-mentoring relied more on interpersonal communication to verify student needs and objectives. Finally, one participant noted that the relationship had more personal aspects since both mentor and mentee often spoke from home and therefore saw personal aspects of one another's lives and had less workday interruptions (participant 6).

When queried about what could be improved in the e-mentoring experiences, the faculty members most frequently cited technology (participants 6, 9) and simplifying mentoring documents such as mentoring agreements, evaluations and meeting minutes (participants 3, 7, 8).

Impact of e-mentoring

On the survey, the faculty mentors were asked about the impact of e-mentoring on the professional behaviours of their mentees (refer to Table III). The mentors reported that the e-mentoring experiences most commonly encouraged the students to provide professional presentations, engage in research activities and publish professionally. They also felt that the mentees were more willing to provide professional presentations, take on professional association roles or responsibilities and seek out other mentors.

In the interview, when the mentors were asked whether the e-mentoring experiences have impacted their own professional development, seven of the nine reported that it has. Four interviewees indicated that these experiences allowed for developing mentoring skills (participants 3–6), two stated that this contributed to their own learning in terms of content (participants 2, 7), and one reported that it focused on understanding features of virtual learning experiences (participant 9).

Discussion

This retrospective mixed-method study explored 48 faculty-to-student e-mentoring pairs' experiences in a post-professional OTD program from nine faculty mentors' perspectives. The faculty mentors completed surveys and structured interviews with questions about the nature, perception and impact of the e-mentoring experiences.

The faculty mentors' responses about the *nature* of e-mentoring indicate that both structure and content are critical aspects of successful and satisfactory e-mentoring relationships. *Structurally*, the participants indicated that frequent contact with mentees (i.e. weekly or bi-weekly) and program-long mentoring relationships contributed to creating student-centered e-mentoring processes, corroborating previous research (de Janasz and Godshalk, 2013; Eby et al., 2013). Loureiro-Koechlin and Allan (2010) found that structural elements such as agreeing on frequency and duration of meetings and technology for electronic communication ensure satisfaction with mentoring experiences; our results indicate that other important structural elements to successful e-mentoring experiences are documentation such as mentoring agreements, evaluations and meeting minutes. Such documentation helps the mentoring pair to communicate, organize, set objectives and review progress. A final structural element highlights the importance of communication mode in e-mentoring. There is limited published research where e-mentoring utilizes web cameras. The faculty mentors in this study preferred to use web cameras for optimal e-mentoring because it has a face-to-face element. Additionally, this technology was preferred because it has no distance or international fees, whereas other technology such as telephone may. However, the same participants emphasized that flexibility in technology is also critical, because at times, alternate technology such as telephone was needed for students to access mentoring.

The faculty mentors corroborated previous research (Webb et al., 2009; Eby et al., 2013) that it was important to provide psychosocial support as well as instrumental or academic support to mentees in the *content* of their mentoring. The participants in our study emphasized that the level of each type of support needed to be student-centered and dependent on the phase of the student's doctoral work.

A meta-analysis of mentoring experiences indicated that deep-level similarity (i.e. similarity in values, beliefs or personality) and experiential similarity (i.e. similarity in education, academic discipline, employment setting) were related to perceptions of relationship quality (Eby et al., 2013). In this study, the faculty mentors perceived some similarities such as values and practice specialty with their mentees. However, in contrast to the Eby et al. (2013) study, the majority of mentors in our study felt that such

similarities were not necessary for quality e-mentoring experiences. In fact, this majority described how mentoring is based on flexibility, attention to the students' needs and objectives and mentoring skills such as providing guidance and resources regardless of personal characteristics, practice experiences or areas of expertise. Also, unique to this study is how the mentors described how they believe quality, successful and satisfactory e-mentoring is achieved: by focusing on the learning needs and process of mentees, by having clear and open communication and by developing the mentoring relationship over time.

Previous research from the perspective of mentees has found that mentoring has positive *impacts* on the professional preparedness, behaviours, development and productivity of mentees (Milner and Bossers, 2005; DeFrancisci Lis et al., 2009; Maton et al., 2011; Cohen et al., 2012; Yamada et al., 2014; Jacobs et al., 2015). In this study, the faculty mentors agreed that the e-mentoring positively impacted the professional behaviours of students in areas such as research, publications, professional roles and responsibilities and seeking out other or continued mentoring. Interestingly, the majority of the faculty mentors also felt that the e-mentoring had positively impacted their own professional development, particularly in the areas of honing mentoring skills and continuing education (i.e. adding to their own content knowledge on a variety of doctoral project topics).

Limitations and implications for future research

This study explored all 48 e-mentoring experiences of nine faculty mentors at a single university. The small sample size and single location may limit generalizability to other occupational therapy and health profession programs. The validity and reliability of survey and interview questions may be limited as they were not previously standardized but based on published research findings about mentoring (de Janasz and Godshalk, 2013; Eby et al., 2013). The impact of e-mentoring is based on report rather than observable measures. The interview transcripts were first analysed separately and then re-analysed after author discussion and agreement to increase trustworthiness of results, but nonetheless, other researchers may have analysed the qualitative data differently (Graneheim and Lundman, 2004). Additionally, the retrospective nature

of the study has inherent limitations: More recent mentoring experiences may be recalled with more detail than those from several years ago. Finally, because of the size of the occupational therapy department, most if not all participants were familiar with all three authors; this familiarity may have biased their responses.

Future research may benefit in particular from a broader participant pool, a more detailed examination of demographic information about mentors and mentees and utilizing observable measures to determine how e-mentoring is carried out and how it impacts mentors and mentees. Additionally, standardized measures of satisfaction and success may add to how mentoring participants perceive of e-mentoring experiences. Finally, a comparison between e-mentoring with and without web camera technology may be important to determine if there is a significant difference in electronic communication methods for e-mentoring.

Conclusion

The findings of the current study provide insights into the important features of e-mentoring in an online post-professional occupational therapy doctoral program. Such findings may provide guideposts for occupational therapy and other health professions when implementing an e-mentoring program. First, e-mentoring is successful and satisfactory when it is student-centered, flexible, frequent and facilitated by good communication and instrumental and psychosocial supports. Second, faculty members can utilize mentoring skills to adapt to the needs and objectives of each mentee, regardless of personal characteristics or clinical or research interest. Third, e-mentoring has the potential to guide students in their doctoral work as well as in other professional behaviours such as professional presentations, publications, research, professional association roles and responsibilities and further mentoring. Fourth, e-mentoring provided faculty mentors the opportunity to address lifelong and academic learning objectives as well as refine mentoring skills. E-mentoring is a tool that can be implemented for mentors and mentees at a distance in order to facilitate academic and professional development of occupational therapists regardless of time zone or location.

Research ethics

This research proposal was reviewed by the Boston University Charles River Campus Institutional Review Board, ethics committee reference number 3686E. The Institutional Review Board determined that the protocol mentioned in the preceding texts is not human subject research as defined by 45 CFR 46.102.

Conflict of interest

The authors declare no conflict of interest.

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