Evaluating Impact of an Online Leadership Course for Newly Graduated Occupational Therapists

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Abstract

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Keywords

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ABSTRACT
Leadership has been established as a key competency for occupational therapists, however the literature on how occupational therapists conceptualize leadership is limited. Additionally, there is a dearth of literature on best practices to develop occupational therapists' leadership skills and there is yet to be an evaluation of an online educational approach. This study aimed to understand if an online educational platform contributed to the development of leadership skills among occupational therapists. Participants were newly graduated occupational therapists who participated in a four-week Leadership Skills Development Massive Open Online Course (MOOC). This study used a mixed methods quasi-experimental design with two intervention cohorts and time series delay. All participants completed the MindTools Leadership Skills Assessment, the Authentic Leadership Self-Assessment Questionnaire and open-ended self-reflection questions. Analysis of the data was conducted using RStudio, for the quantitative data, and thematic coding, for the qualitative data. The results showed there was not a significant change in scores on the leadership evaluation tools over time. However, cohort A demonstrated an increase in self-awareness and cohort B showed increases in balanced processing, providing support, and stimulation. Both cohorts showed increases in relational transparency. Participants reported that participating in the MOOC provided education on how to further develop leadership skills. Leadership skill development takes time to develop and further evaluation is required to determine if these skills continue to develop when put into practice.

Introduction

Leadership is an ambiguous construct that has been labelled as abstract, context dependent and having many definitions (Allio, 2012; Summerfield, 2014). While there is no one consistent interpretation and application of leadership, it is commonly understood to be what an individual does to ensure a shared goal is achieved by influencing, motivating and guiding others (Al-Sawai, 2013). Leadership skills have been established as key competencies for health professionals (Al-Sawai, 2013; Brown et al., 2014), as there is an increasing body of evidence that highlights the strong correlation between interdisciplinary leadership and high-quality patient care (Corrigan et al., 2000; Ju & van Schaik, 2021; Mianda & Voce, 2018). There is also evidence to suggest that positive leadership can increase job satisfaction, thus increasing workforce retention (Mianda & Voce, 2018).

While there is emerging consensus that leadership skills are essential for health professionals, the evidence on how to build and develop these skills remains thin. Mianda and Voce (2018) completed a review of the literature on interventions targeted at developing leadership skills among health professionals. Their findings highlighted that much of the literature is focused on developing leadership skills among physicians, with nurses appearing second, and interventions targeting allied health representing a small portion of the present evidence. The findings also highlighted that the majority of the educational interventions to develop and enhance leadership skills are based in the workplace and were predominantly coaching and mentorship in design. Other interventions employed more traditional educational approaches, such as self-directed, case-based and problem-based learning (Ju & van Schaik, 2021). The authors reflected that the evidence on these interventions is still of low to moderate quality and there is a dearth of evidence on how to support leadership skill development among novice and front-line health professionals.

Leadership in Occupational Therapy Scope of Practice

Specific to occupational therapy, there has been a lack of a consistent theory on how to incorporate leadership into the scope of practice or how it can be utilized within novel healthcare environments (Townsend et al., 2011). The *Leadership in Enabling Occupation (LEO) Model* is one occupational therapy model that focuses on proactive leadership initiative and provides clear guidelines for leadership in enabling occupation. Specifically, it examines the inter-relationship of four key leadership elements: scholarship, accountability, funding, and workforce planning. It is a model that looks to assist occupational therapists in creating optimal practice conditions and optimal access to the profession's broad range of services (Townsend et al., 2011). Even though this model offers a contextual framework on which to view occupational therapy leadership, and has been in circulation for many years, to date it has been referenced by researchers and authors in only twelve publications.

It is therefore not surprising to find that in practice occupational therapists require more support with developing leadership skills. Many authors have advocated that to advance the profession and improve access to services, occupational therapists need to further develop their leadership skills and step into leadership opportunities (Clark, 2010; Heard, 2014). Occupational therapists who have transitioned to leadership roles have shared that there was a lack of support for this transition, and they would have valued more leadership specific education to support the development of these specific skills (Shams et al., 2019).

Leadership Skill Development Course
Newly graduated occupational therapists are known to seek online continuing professional development opportunities (Fitzgerald et al., 2015; Hollis & Madill, 2006). Despite the interest in educational opportunities for newly graduated occupational therapists, there were no online leadership specific educational offerings targeted at occupational therapists. In a response to this unmet need, we launched a Leadership Skills Development Massive Open Online Course (MOOC) in fall 2020. Enrollment in this MOOC allowed for a free and flexible way to learn new and or enhance leadership skills in an asynchronous self-paced online educational platform. All Canadian 2020 MScOT graduates were invited to register for the Leadership MOOC.

The *Leadership Skills Development* MOOC was a completely online asynchronous course that was hosted on a university academic learning platform. The MOOC consisted of four modules which were completed by learners over a four-week time frame. Specifically, the MOOC topics were: (1) The foundation of leadership (2) What does leadership look like? (3) What makes YOU a good leader? (4) What does leadership mean for new graduates? Module 1 aimed to assist students under the main concepts of leadership, identifying different leadership theories and introduced how leadership connects to the field of occupational therapy. Module 2 delved into familiarizing students with examples of leadership within the past and present context and introduced the connection of leadership to models and frameworks associated with the occupational therapy profession. Module 3 explored leadership styles and how they are not standardized but rather are individualized. It reiterated the importance of self-awareness in leadership and made connections between the competencies of an occupational therapist and leadership. Specifically, leadership styles such as authoritarian, laissez-faire, democratic, servant, transactional, and transformational were addressed. Module 4 concluded with introducing to students how to deal with skeptics of their own leadership and resistance to change, understanding imposter syndrome and its impact on their own leadership and finally applying a vision statement for their own future as leaders. The overall theme of the MOOC was that leadership can take many forms and that "you don't need to be in a manager role to demonstrate leadership." Each module consisted of two or three short video lectures and various interactive activities and assessments such as discussion boards, quizzes, and peer reviewed assessments designed to apply and consolidate the content learned for the week. All learners were sent weekly reminders to encourage them to complete the learning materials for that week.

Leadership skills support new graduates to advocate for themselves in various areas, such as seeking out mentorship and ensuring fair and equitable treatment at work. This skill is also crucial to advocate for client needs and rehabilitation goals, especially in a setting where the occupational therapy role is new or misunderstood. As a continually emerging profession, it is crucial that students and newly graduated occupational therapists are given ample opportunities to access their leadership skills and freedom to explore professional development opportunities. Subsequently, the aim of this study was to understand and accumulate evidence if participating in a leadership skills MOOC contributed to the development of leadership skills in newly graduated occupational therapists.

Methods

Study Design

We employed a mixed methods quasi experimental design with two intervention cohorts and time series delay. This design was utilized to understand self-reported leadership skills before and after the intervention. Data were collected at three time points from both cohorts, between November 2020 and ending in February 2021 (see Table 1). As can be observed, participants completed the outcome measures at three points in time, however cohort A received the MOOC intervention first and cohort B received the intervention second.

Table 1

Data Collection and Intervention Model

	November 2020 = T1	December 2020	January 2021 = T2	February 2021	March 2021 = T3
Cohort A	O1, Q	X1	O2		O3, Q
Cohort B	O1, Q		O2	X2	O3, Q

O = outcome; X = intervention; Q = self-reflection questions

Leadership skills were assessed through the administration of two standardized and readily available tools called the *MindTools Leadership Skills Assessment* and the *Authentic Leadership Self-Assessment Questionnaire* (Panczyk et al., 2019; Yan et al., 2019). These questionnaires assessed the development of leadership skills and consisted of multiple-choice Likert questions. Additionally, participants responded to open-ended self-reflection questions that explored the participants' experience with the MOOC. The questions were created by the research team to explore the participants' own views on their leadership skills and their application in practice. These open-ended questions were only provided at time period 1 and time period 3. Demographic information of the participants, age, gender and intended practice area was also collected.

Upon the end of the course, MOOC completion data was extracted from the online platform and research participants were categorized as "Completed," meaning they had completed all the assignments and learning activities or "Not Completed." Information about how well they performed on the assignments and learning activities was not considered.

This study received Research Ethics Board (REB) approval from the University of Toronto with Protocol #39558.

Participants
All MScOT graduates of 2020, from the fourteen Canadian MScOT programs, were invited to register for the *Leadership Skills Development* MOOC. Learners were recruited directly through the fourteen Canadian MScOT programs and on Facebook group, *OT Students & Grads Canada.* All learners were assigned to cohort A or cohort B at the time of registering for the MOOC. Research participants were identified as individuals who chose to participate in the research study upon registering for the Leadership MOOC and completed the consent process. There was no obligation for MOOC learners to participate in the study.

Data Analysis

Quantitative Data
The independent variables in this research project were time of course delivery (cohort A and cohort B) and participation in the MOOC. The dependent variable was the rating on the two leadership assessment tools.

Initially all completed data were analyzed using descriptive statistics on total scores to examine trends. Second, data from the two questionnaires were analyzed using multivariate analysis of variance (MANOVA). This was done within each questionnaire separately using total scores for each cohort, across time periods using RStudio (Version 1.4.1106; Team, 2020). Further individual question level analysis was conducted using MANOVA to identify any significant differences for individual questions across time periods.

Qualitative Data
Lastly, open-ended responses for the questions were thematically coded by two members of the research team using the six-stage thematic analysis framework outlined by Braun and Clarke (2006). We first met as a research team to familiarize ourselves with the data by reviewing responses to each question. We generated initial codes that addressed the initial objective of our research. The research team then reviewed the list of codes that were gathered and created a coding scheme that was applied to all the data. Synthesis of the data began, and we combined similar codes into larger categories. We obtained the categorized data to develop our initial themes. Once we reached saturation of themes, we gave each theme a title to reflect the data that was collected (Braun & Clarke, 2006, 2019). Two individuals from the research team were involved in conducting all steps of the analysis.

Results

Participants

A total of N=104 newly graduated occupational therapists registered as learners for the MOOC (each cohort had 52 occupational therapists). After registration, all learners were invited to participate in the research study. Participants were free to complete the MOOC and not participate in the research study, and therefore not all MOOC participants are considered within these results. At the start of the research study, cohort A had n=29 participants and cohort B had n=24 participants. Not all research participants completed all data collection and therefore at the end of the study cohort A had n=16 participants and cohort B had n=10 participants who completed the questionnaires at all three points in time.

Leadership Skill Development Measurement

As can be seen in Table 2 there were slight increases in the overall average scores of each leadership questions, from both cohorts, over the three time periods. Despite this rise in overall scores, the MANOVA results indicated these results were not significant. Overall, across both cohort A and B, no significant leadership skill development was reported across time period 1, 2 and 3 on either the *MindTools Leadership Skills Assessment* or the *Authentic Leadership Self-Assessment Questionnaire.*

Table 2

Leadership Skill Development Reported for Each Cohort

Cohort	Questionnaire	P value	Mean score at T1, T2, T3
A	Authentic Leadership Self-Assessment Questionnaires	0.407	58.8, 61.0, 61.4
	MindTools Leadership Skills Assessment	0.948	59.4, 59.1, 61.7
B	Authentic Leadership Self-Assessment Questionnaires	0.759	42.6, 44.0, 44.2
	MindTools Leadership Skills Assessment	0.908	40.6, 40.9, 43.5

This analysis was followed with a question level analysis of the data. At this level of analysis, a few statistically significant shifts were noted. Specifically, cohort A reported a significant difference across time periods for the following questions: *I can list my three greatest strengths* and *I admit my mistakes to others* from the *Authentic Leadership* portion of the questionnaire. Additionally, participants from cohort B reported a significant difference across time period for the following questions: *I listen closely to the ideas of those who disagree with me,* and *I rarely present a "false" front to others* from the *Authentic Leadership* and *I think that teams perform best when individuals keep doing the same tasks and perfecting them, instead of learning new skills and challenging themselves* from *MindTools* portion of the questionnaire (see Table 3).

Table 3

Leadership Skill Development Reported for Specific Questions

Cohort	Questionnaire	Questions	P values
A	Authentic Leadership Self-Assessment Questionnaires	I can list my three greatest strengths (Q5)	<0.00
		I admit my mistakes to others (Q16)	<0.03
B	Authentic Leadership Self-Assessment Questionnaires	I listen closely to the ideas of those who disagree with me (Q7)	<0.01
		I rarely present a "false" front to others (Q12)	<0.05
	MindTools Leadership Skills Assessment	I think that teams perform best when individuals keep doing the same tasks and perfecting them, instead of learning new skills and challenging themselves (Q12)	<0.04

Self-Reflection Evaluation

The open-ended questions asked at time period 1 and time period 3 highlighted similar themes from the responses of the students in both cohorts. At time period 1, many participants reported they lacked confidence, experience and exposure to leadership and wanted to get more comfortable with unfamiliar leadership principles/theories and roles (i.e., role emerging occupational therapy roles). Participants expressed that to build leadership skill and confidence in their own abilities, they would like time, practice, peer support, feedback, psychological safety, and the opportunity to accumulate knowledge and experience through for example professional development courses and mentorship. Many participants expressed they would like gradual progressive exposure to leadership through practice.

When the questionnaire was repeated at time period 3, many reported increased confidence with their potential and wanting to explore more opportunities to build their leadership skills. Respondents also found comfort in shared experiences as all MOOC registrants had opportunities to share and reflect through interactive discussion board posts. They expressed appreciation for the knowledge obtained about the background of leadership and occupational therapy and also various learning theories/models that could help support their growth.

For continued leadership skill development, participants wanted to seek feedback and learn with and from peers/colleagues and want to be more trusting of their capabilities and leadership potential as they engage in new opportunities (namely leadership opportunities). Many participants expressed hope to continue exploring other courses, continued education and learning while practicing building skills.

Discussion

Leadership skill development is a highly important competency for occupational therapists, however very little is known about best practices for developing leadership skills. This study did not find significant shifts in overall leadership skills as measured by two standardized leadership assessment tools after participants completed a leadership MOOC. The study results show that there was not significant leadership skill development across three time periods, however minor yet significant shifts were noted in self-awareness, balanced processing and providing support and stimulation. Additionally, the participants reported an increase in confidence as a result of learning about leadership, and they expressed they had a stronger foundation on which to develop future leadership skills.

Specifically, this study identified that participants had significant shifts in relational transparency, self-awareness, balanced processing, providing support and stimulation based on specific questions within the leadership assessment tools. Specifically, cohort A showed a significant difference across time periods for the following questions: *I can list my three greatest strengths* and *I admit my mistakes to others* from the *Authentic Leadership* portion of the questionnaire. The first question is indicative of self-awareness while the second question shows relational transparency. Increased self-awareness is important for an authentic leader as knowing oneself, one will be able to have a strong sense of self that can help in guiding decisions and subsequent behavior (Showry & Manasa, 2014). It has also been shown to be important for new learners to assess their current self and where they would like to be in the future (Farr & Brazil, 2009; Showry & Manasa, 2014). Relational transparency also plays an important role in authentic leadership. Transparency between the leader and coworkers or other members of the team, be it good or bad, results in higher levels of trust in the leader (Burke & Cooper, 2006; Yue et al., 2019).

Alternatively, participants from cohort B reported a significant difference across time period for the following questions: *I listen closely to the ideas of those who disagree with me* and *I rarely present a "false" front to others* from the *Authentic Leadership* and *I think that teams perform best when individuals keep doing the same tasks and perfecting them, instead of learning new skills and challenging themselves* from the *MindTools* portion of the questionnaire. For the first significant question for the *Authentic Leadership* questionnaire, it is indicative of improvements in balanced processing and the second question is indicative of relational transparency. Similar increases in the same category were seen for cohort A as well following the MOOC. Balance processing, also known as unbiased processing, refers to the idea of being objective and acceptance of oneself as an authentic leader. Increases in this show that individuals can acknowledge their shortcomings/areas of improvements, have greater self-esteem, and can objectively evaluate a situation (Burke & Cooper, 2006). The significant question for *MindTools* portion showed increases in providing support and stimulation. This can indicate that the individual has shown improvements in being highly motivated at work. This was evident in the responses from participants that stated

that they felt more ready to utilize skills that they learned in their work environment. The responses expressed by participants are in line with what is found in leadership skill development for young engineers with leadership skills progressively increasing as they move into their career (Farr & Brazil, 2009).

One hypothesis for these findings is due to the shortened time of this study. The MOOC itself was conducted over a four-week period and leadership is a skill that takes many years to develop (Shamir, 2011). However, participants also subjectively agreed that this would be a progressive growth from their responses in the questionnaire. They also indicated they had gained more knowledge and skills on leadership. This is in line with the findings that they showed some significant changes in specific questions while overall there was not a significant change as measured by the leadership tools.

Leadership Theory
Outside of the occupational therapy literature, many models and frameworks have been designed to dissect the concept of leadership, and determine best practices to incorporate it into education, practice and development in healthcare. The newly graduated learners of the *Leadership Skills Development* MOOC were educated on these leadership theories in an attempt to expand their conceptual frameworks and provide tools to apply a leadership lens to occupational therapy practice. Specifically, the leadership theories addressed were Trait Theory, Behavior Theory, Contingency Theory and Power and Influence Theory.

Trait Theory emphasizes that effective leaders share a number of common personality traits including extraversion, conscientiousness, agreeableness, neuroticism, and openness. While there is no one ideal set of traits for all circumstances, they reflect people's leadership capabilities (Amanchukwu et al., 2015; Asrar-ul-Haq & Anwar, 2018; Gregoire & Arendt, 2014; Jogulu & Wood, 2006). While Trait Theory is perceived to be out of date to those who align themselves with leadership development, these views are still commonly held within the general public (Amanchukwu et al., 2015; Asrar-ul-Haq & Anwar, 2018; Gregoire & Arendt, 2014; Jogulu & Wood, 2006). While occupational therapy programs may not be teaching this theory, practicing clinicians may still experience these views and perceptions in practice settings. Occupational therapists must have the skills to advocate for a change in view that trait theory is out of date and no longer supported by the evidence as a positive model on which to view leadership.

Behavior Theory dissects how leaders behave and emphasizes that one can be trained to be a leader utilizing various methods (Amanchukwu et al., 2015). This is important as the occupational therapy curriculum is designed to coach and mentor student occupational therapists to become professionals through clinical placements, mentorship, interprofessional education and research. Contingency theory reiterates that leadership styles vary depending on the situation. This is also important as occupational therapists work in various settings for home care to hospitals to private practice and with a wide lifespan of clients, from infants to older adults. It is important that leadership capacity of occupational therapists is adaptable and optimal for the

varying situations (Amanchukwu et al., 2015). Lastly, Power and Influence Theory emphasizes how leaders can influence others they work with to achieve goals. As occupational therapists are taking on more leadership roles as clinical practice leaders, team leads, senior managers, care coordinators and educators, it is important to explore their influence (Amanchukwu et al., 2015; Asrar-ul-Haq & Anwar, 2018; Blake & McCanse, 1991; Fleming-Castaldy & Patro, 2012; Gregoire & Arendt, 2014).

Implications for Occupational Therapy Education
It is important to understand that although existing leadership theories highlight different styles of leaders, there is no one right type of leadership, especially in a dynamic holistic profession such as occupational therapy, with a wide scope of practice. This is because occupational therapists are required to creatively problem solve and utilize their leadership skills in various situations. It is essential that occupational therapy curriculums continue to seek opportunities to prepare students to enter the workforce with leadership tools and skills. Additionally, it is important that new graduates are provided opportunities to continue to explore and develop leadership skills after graduation and beyond their official role at work such as traditional non-leadership roles by title (Townsend et al., 2011). Seasoned and experienced occupational therapists also need to be equipped with tools to continue to grow their own leadership skills, as well as tools to support early leadership development for the newer graduates. To achieve these shifts in practice, more occupational therapy specific theories and conceptual frameworks on which to build these practice-based applications are needed. Further research is also required to deepen the understanding of how leadership skills are best taught to student and practicing occupational therapists.

Limitations
While initial completion rate of the time period 1 questionnaires was high for this research study, we completed the study with a 40% study retention rate from the first questionnaire to the final questionnaire. This may have resulted in a retention bias between the people who decided to finish the study, with the ones who finished all three questionnaires being prone to increased commitment to leadership development or time management skills. The high attrition rates may have been caused by various reasons such as individuals not wanting to be on the screen for too long due to zoom fatigue and the fact that part of the study took place over the winter holiday season.

It is also important to note that study participants took the *Leadership Skills Development* MOOC during the COVID-19 pandemic where access to uninterrupted internet for active participation, trying to navigate registration and job market, practical application of the concepts learned in the course in clinical settings/jobs and fostering peer dialogue may have been difficult to conduct. Furthermore, an additional aspect of the timing of the MOOC delivery should be considered. Cohort A took the study soon after many students completed their degrees while students from cohort B completed the MOOC around the same time as the National Occupational Therapy Certification Examination (NOTCE). These contextual factors also may have contributed to the results observed.

Conclusion

This study evaluated if a *Leadership Skills Development* MOOC contributed to the development of leadership skills. From the results, it is evident that the Leadership MOOC did not significantly shift overall measure of leadership skills, however there was some impact in addressing certain aspects of leadership. Seeing a major increase or change in leadership skills does take time, as commented by both the respondents and previous literature. Significant positive correlations were found for specific questions pertaining to characteristics of an authentic leader. Future studies should examine growth in leadership skills over a longer time rather than a shorter time interval.

It is fundamental that entry level occupational therapists have opportunities to develop leadership skills for continued professional development. Online delivery allows for an accessible way to deliver content and connect with other professionals to build leadership skills. Respondents reported that the MOOC was highly educational and had helped them learn more about leadership. This has also further helped them to address how to better use leadership in their workplace. MOOCs are showing to be beneficial tools to further consolidate knowledge to improve upon the leadership skill set over time. More research is required to understand if this type of educational approach has a longer-term impact on the development of leadership skills. Additionally, further research is required to build evidence on other mechanisms that are pivotal to supporting occupational therapists to develop these essential skills to work at the top of their scope and enable system level change.

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