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Leadership in Online Education: A Scoping Review

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Abstract

Over the last two decades, we have witnessed a growing interest in online learning. There is an increased focus on online education research due to the COVID-19 pandemic, as the crisis led to online education platforms becoming a necessity for educationists and students. This article reviews online education, purely, in the context of leadership. Past reviews have focused on concepts surrounding online learning such as technology, pedagogy, and student satisfaction. However, limited attention has been drawn to leadership exclusively in relevance to online education. The scoping review analyses 63 articles published between 2002-2022 to answer two research questions. First, what are the research concepts, theories, models, and frameworks operationalized in the publications within this topic domain? Second, who are the stakeholders and leaders identified in literature? Through synthesizing alternative research perspectives in the field of leadership, education, and information and communication technology (ICT), this review identifies four categories of research literature relevant to the topic domain. Following themes emerged from the analysis of the publications: impact of leadership on online education; student experience in an online leadership programme; impact of online education on leadership development of actors in an online education setting; and perception of leadership in an online education setting. Based on the review, an agenda is proposed for future research to enhance our understanding of the role of leadership in online education and elucidate the relationship between leaders and online learning in educational institutions. A lack of focus on the key leaders in the existing literature is made apparent, and further empirical research is recommended. This review makes a theoretical contribution by consolidating existing research in leadership in online education through the synthesis categories and identifying future research pathways. The

findings have practical implications for leadership in online education in educational

organizations through identification of stakeholders and the entities in leadership positions.

Keywords: Leadership, online learning, scoping review, educational leaders, digitized education

1. Introduction

'Education is a prime target for disruption given advances in computer technology, communications platforms, and the internet, which are not currently in widespread use for baseline programs but are becoming more common by existing universities' (Friga, Bettis, and Sullivan, 2003).

Circa start of this century, Friga et al. (2003), in their discussion of the strategic options for business schools, stated the circumstances in which technology was permeating education: as an option for innovation, and not a desperate requirement for educational institutions. Departing from the above statement, in the post-COVID era, and in a world of disruption, division and displacement (Creed et al., 2022), we find online education democratizing access to education (Razmerita et al., 2020). It is becoming a necessity for schools, colleges, and universities across the globe in times of crises, as was evident during the pandemic in the shift of emergency remote teaching in educational institutions (Crick et al., 2021). Online education has been defined as the "use of network technologies for collaborative learning" (Harasim, 2000; p 41) and curriculum delivery through online learning platforms (Singh, 2019).

Effective implementation of technology driven learning innovations entails a discussion of the leadership associated with institutional change (Garrison and Vaughan, 2013). Graham, Woodfield, and Harrison (2013) presented through their framework for adoption of blended learning, the 3S (strategy, structure, and support) indicating the relevance of leadership and its role in technology-based innovations in education. However, as Martin, Sun, and Westine (2020) pointed out, scarce attention has been given to leadership in the context of online education. A scoping review of the literature on leadership and online education is warranted for two reasons. First, to explore how leadership and online learning, as individual concepts, interact with each

other in research. The paper aims to provide scholars with a deeper understanding of the current state of literature through consolidating ideas generated in published research in both these research areas. Second, to identify the stakeholders, leaders, and decision makers in adoption and implementation of online education in higher educational organizations. Ligon, Hunter, and Mumford (2008) differentiated between leaders and people as "their abilities to move beyond description of current system operations to prescriptions of a system as it could be" (p 314). This comment raises a few questions relevant to the topic domain. Who plans for online education based on the contingencies in the organization? Who are the expert leaders (Goodall, 2010) responsible for its successful implementation?

This review allows us to gain an insight into the topic domain of leadership in online education through critical analysis and synthesis of research conducted in the past twenty years. The paper also identifies knowledge gaps to guide future research. E-leadership as a concept has initiated discourse on virtual leadership; however, it needs to be explored further in an online education context. There has been no prior attempt to conduct a scoping review on the topic of "leadership in online education". Reviews conducted exclusively on leadership (Avolio, Walumbwa, and Weber, 2009) or online learning and teaching, e-learning and distance learning (Alem et al., 2014; Martin et al., 2020; Nortvig, Petersen, and Balle, 2018) cover a broad spectrum of research and do not holistically serve our purpose of closely examining the relationship between the two concepts. This paper examines how research conducted in leadership in online education stems from various disciplines, and refers to concepts, theories, models, and frameworks from research areas which include leadership, education and ICT. This study makes an important contribution by identifying how online education and leadership interact, the stakeholders involved and by

defining coding parameters for the synthesis of the literature, developing a roadmap for further interdisciplinary research in leadership in online education.

The scoping review is presented to answer the following research questions:

1. What are the research concepts, theories, models and frameworks operationalized in the research within the topic domain of "leadership in online education"?
2. Who are the stakeholders and leaders identified in existing research literature in the topic domain of "leadership in online education"?

2. Methodology

A scoping review is used as the knowledge synthesis vehicle for this study. Scoping reviews can serve the purpose of mapping the existing multidisciplinary research literature, identifying the gaps, and informing scholars of further research pathways (Munn et al., 2018). PRISMA (Preferred Reporting Items for Systematic Reviews and Meta-Analyses) guidelines were followed for reviewing and screening of articles (Tricco et al., 2018).

2.1 Literature search

Peer review articles were identified from the following data bases: ProQuest RefWorks, Sage Journals online, Academic Search Ultimate, Taylor & Francis Online, Elsevier, and Google scholar was employed as a search engine. The keywords used were: "leadership" and "online learning" OR "online teaching" OR "online education" OR "online programme". The initial search yielded a total of 110 articles. Table 1 presents the inclusion and exclusion criteria.

Table 1. Inclusion and exclusion criteria

Included Publications	Excluded Publications
Primary research articles	Books, systematic reviews, conference proceedings
Published in English	Not published in English
Published in past 20 years (2002-2022)	Not published in past 20 years (2002-2022)

Based upon the above criteria in Table 1, 13 articles were removed as they did not meet the above inclusion criteria. 1 article was removed as it was a duplicate article. Through forward/backward search of the above articles, and secondary database search, 20 more articles were identified which had relevance to the topic. As a part of the further refinement process, articles which did not have an explicit discussion of online learning and leadership, or any synthesis of the relationship between the two concepts were excluded from the study (n=53) leaving us with the remaining 63 articles. Figure 1 is the diagrammatic representation outlining the selection procedure for articles selection for the study.
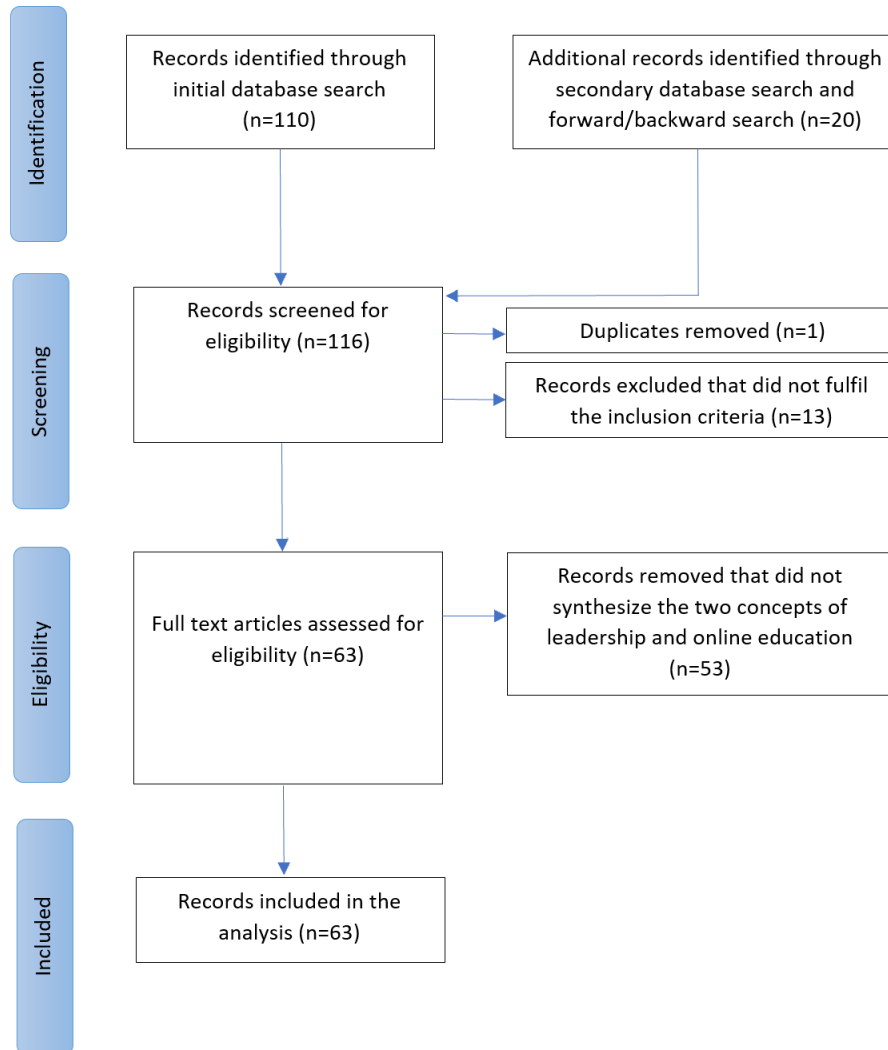
Figure 1. Flow diagram of searched, included/excluded, screened and selected articles (adapted from Tricco et al. (2018)

2.2 Defining coding parameters

The articles included for this study were coded through the coding parameters presented below in Table 2.

Table 2. Coding parameters

Parameter	Details
Foci	Individual, group or organizational level
Research methodology	Qualitative, quantitative, mixed methodology
Study specifics	Case study/essay, longitudinal or cross-sectional, location
Level of education	K-12 school, college, higher educational institution (undergraduate or postgraduate), diploma, or programme
Concept or theory	The theoretical framing of the study in the context of the topic domain of leadership in online education.
Synthesis category	1. Impact of leadership on online education 2. Student experience in an online leadership programme 3. Impact of online education on the leadership development of actors (students, faculty members, administrative staff, and heads of departments) in an online education setting. 4. Perception of leadership in an online education setting

The focus for each publication was identified as individual, group, or organizational level based on the unit of analysis in the study. Research methods adopted were coded under methodology and study specifics. The level of education at which the particular study is conducted was

documented. Given the topic domain, it is not surprising that the research was conducted across k-12 schools, colleges, and universities. However, due to the fact that online leadership development programmes have been on the rise during the past two decades, a proportion of the articles were also based on these being offered to participants. Theoretical framing in Table 2 documents the concepts, theories, models, and frameworks which were referred to in each publication, leading us towards broader research areas such as education, leadership, and ICT (Figure 3). This signifies an interdisciplinary approach in the research previously conducted in the topic domain and highlights the potential of future research across a spectrum of research domains in the context of leadership in online education.

2.3 Publication trend

Figure 2 is indicative of the interest in the topic domain in the review timeline. Two specific peaks are apparent, signifying two eras when the relevant conversations in research and practice were transpiring, in the context of leadership in online education.
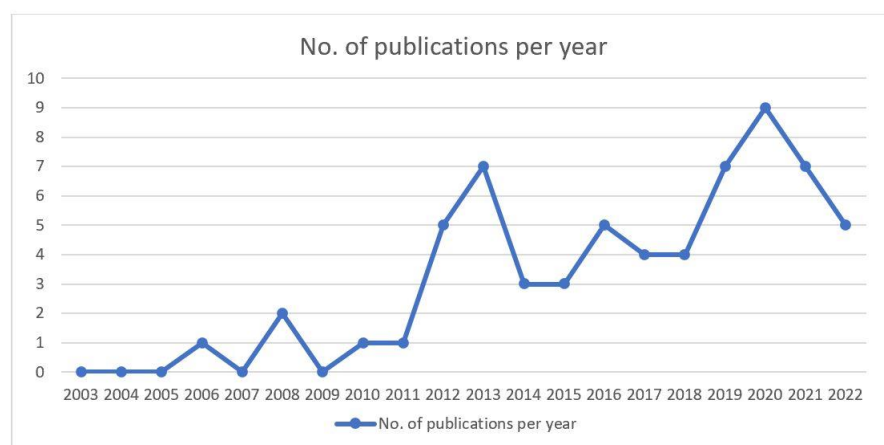
Figure 2. Number of publications per year (2003-2022)

Around the start of the century, growing ease of communication and acceptance of social media tools and online communication paved the way for progress in development of online education platforms (Redpath, 2012). As Proserpio and Gioia (2007), predicted the "virtual generation of students" (p 69) to be the future recipients of education; scholars, practitioners and leaders prepared for the challenges of imparting education to this generation of students. The growing interest in massive online open courses (MOOCs), and the possibility of conducting trainings from participants across the globe, also triggered the development of online leadership programmes for students, faculty members, educators and professionals from various backgrounds and disciplines (Passarelli, 2014)

The second era of interest in research on this topic was during the COVID-19 pandemic. The challenges faced by the global community became the impetus for research scholars to redirect research (Muzio and Doh, 2021) and seek solutions to overcome the impact of the pandemic on education. This was an era when academic leadership was steering the way into the unknown territory of emergency remote teaching and learning (Fernandez and Shaw, 2020). Closures of educational institutions across the world forced scholars to take stock of leadership research during the crisis, in the political, social, and organizational aspects (Bailey and Breslin, 2021). For educational researchers, the digital disruption in pedagogy provided an opportunity to evaluate the outcome of integration of technology with the curriculum in schools, colleges, and universities (Watermeyer et al., 2021).

Presented below is the analysis of the review based on the synthesis categories identified in Table 2.

3. Analysis and synthesis categories

Categorization of the papers revealed the following four emergent themes synthesized through analysis of the articles. Seven articles were categorized in more than one category.

3.1. Impact of leadership on online education

Critically analyzing the research on educational technology research, Jameson (2013) comments on the need of the strategic alignment of leadership with technology research in higher education, and hence deviating from the prevailing practice of primarily focusing only on research on the online classroom and technology driven instructional design and pedagogy. Digital leadership (Tigre, Curado et al. 2022) and e-leadership (Avolio, Sosik et al. 2014) are concepts arising from the discussions on the rise of technology and its implementation in organizations. In the field of educational research, the research on these concepts has been extended to explore the role of leadership in adoption and implementation of these technologies in educational institutions (Chang and Lee 2013, Garrison and Vaughan 2013, Chua and Chua 2017). During the pandemic, the role of the academic leadership shifted towards management of the crisis, and effective implementation of the emergency remote teaching and learning (Borup, Jensen et al. 2020, Fernandez, Green et al. 2021). With this notion that leadership has played a pivotal role in the adoption of technologies in educational institutions, and will continue to do so, we further examine the papers that have researched in this topic domain with the 'lens' of impact or influence of leadership on online education

With this notion that leadership has played a pivotal role in the adoption of technologies in educational institutions, and continues to do so, the 17 papers of this category are summarized in Table 3 and discussed below.

Table 3. Summary of articles reviewed in the category of "Impact of leadership on online education."

Publication	Focus	Methodology	Study specifics	Level of education	Theory/ concept
Otte and Benke (2006)	Organization	-	Essay	-	▪ Strategic leadership
Brigance (2011)	Group	-	Essay	Higher education	▪ Collaborative leadership ▪ Learning agility model
Ashbaugh (2013)	Organization and individual *(instructional designer)*	Qualitative	Case study Canada US	Higher education	▪ Leadership competency ▪ Strategic leadership ▪ Learner satisfaction theory
Chang and Lee (2013)	Group	Quantitative	Case study Taiwan	University	▪ Leadership style: Transformatio

Publication	Focus	Methodology	Study specifics	Level of education	Theory/ concept
					nal/ transactional
Holt et al. (2013)	Organization, education sector	Qualitative	Longitudinal case study Australia	Higher education	▪ Distributed leadership/ shared leadership
Kahai, Jestire, and Huang (2013)	Individual *(student)*	Quantitative	Case study US	University	▪ Leadership style: transformational/ transactional ▪ Collaborative learning
Garrison and Vaughan (2013)	Organization	Qualitative	Two case studies Canada	Higher education	▪ Collaborative leadership ▪ Inquiry through blended learning (ITBL)

Publication	Focus	Methodology	Study specifics	Level of education	Theory/ concept
Gallego-Arrufat, Gutierrez-Santiuste, and Campana-Jimenez (2015)	Organization and individual *(teacher)*	Qualitative	Case study Spain	K-12 school	▪ Distributed leadership
Hilliard (2015)	Organization and individual *(student)*	-	Essay	Higher education	▪ Blended learning
Mirriahi et al. (2015)	Organization	Qualitative	Case study Australia	Higher education	▪ Strategic leadership ▪ Constructivism theory ▪ Principles of adult learning
Makina (2016)	Organization	Qualitative	Conceptual	Higher education	▪ Connectivism theory

Publication	Focus	Methodology	Study specifics	Level of education	Theory/ concept
Kranzow (2013)	Individual *(student)*	Qualitative	Conceptual	Higher education	• Intrinsic motivation • Community of inquiry framework
Alward and Phelps (2019)	Group	Qualitative	Case study US	University	• Leadership traits
Cheng, Hwang, and Lai (2020)	Individual *(student)*	Quantitative	Case study Taiwan	University	• Group leadership • Collaborative learning
Fernandez and Shaw (2020)	Organization and individual *(leader)*	Qualitative	Essay	Higher education	• Shared leadership • Servant leadership
Bebbington (2021)	Organization and education sector	Qualitative	Essay	University	• Strategic leadership

Publication	Focus	Methodology	Study specifics	Level of education	Theory/ concept
Rahman and Subiyantoro (2021)	Individual *(principal)*	Qualitative	Case study Indonesia	University	▪ Strategic leadership

End of Table 3

Otte and Benke (2006) proposed institutional transformation through strategic planning at all levels of the organization, instead of online education remaining an isolated function of the educational institution. This resonates with the discussion by Brigance (2011) on collaborative leadership and "shared vision" (p 43) between university management, faculty members and instructional designers. Ashbaugh (2013) explored leadership competencies required by instructional designers. Collaborative leadership was also considered in a case study by Garrison and Vaughan (2013) of two Canadian universities, to gauge the impact of leadership on online education through the *inquiry through blended learning* (ITBL) approach (Garrison et al., 2010). Meanwhile, strategic leadership was the focus of publications by Bebbington (2021) and Rahman and Subiyantoro (2021), during the pandemic.

Leadership styles, transformational/ transactional, were used for the theoretical framing of case studies in the discussion of impact of leadership in case studies by Chang and Lee (2013) and Kahai et al. (2013). Alward and Phelps (2019) focused on perceived leadership traits and competencies required to effectively lead virtual teams in higher education. Contrary to the discourse of individual leader style and traits theories, distributed leadership was used as the lens for research by Gallego-Arrufat et al. (2015), Holt et al. (2014), and in an essay by Fernandez

and Shaw (2020). Fernandez and Shaw (2020) also indicated the relevance of servant leadership, a concept that was visited earlier by van de Bunt-Kokhuis and Sultan (2012) where the authors advocated the case for servant leadership in online learning communities.

3.2. Student experience in an online leadership programme

Day (2000), at the turn of the century, suggested leadership development as being at its "zenith" (page 581), and in a discussion of the nuances associated with the distinction between leader and leadership development, indicated the relevance of leadership trainings and interventions within conceptual, practical and research contexts. O'Connell (2014) suggests that challenges of leadership training include the fact that leadership research and practice are "temporal and contextual ," (page 1012) and effective leadership is difficult to conceptualize, and measure, with change in organizational work practices and competitive factors due to global shifts in trends caused by the advancement in technology (Sugiyama, Cavanagh et al. 2016). In such a climate, leadership talent has become a key component in the constitution of an organization's human capital (Avolio, Avey et al. 2010) and "strategically relevant" (page 129) leadership development programmes can play a pivotal role in an organization's contingency planning and growth (McCall Jr 2004). Technology has also facilitated access to leadership development opportunities in the form of online leadership development programmes being offered by institutions of higher learning. This paper reviews 31 articles in which the student experience is the theme of the study conducted in an online leadership programme. The findings are summarized below in Table 4.

Table 4. Summary of articles reviewed in the category of "student experience in an online leadership programme."

Publication	Focus	Methodology	Study specifics	Level of education	Theory/ concept
Krieger and Stockton (2004)	Individual *(educational group leader)*	Qualitative	Case study US	Training programme for educators	▪ Developmental theory
McCotter (2008)	Individual *(student)*	Quantitative	Case study US	University	▪ Communities of inquiry ▪ Intrinsic motivation
Moore (2008)	Organization	Qualitative	Case study US	University	▪ Reel leadership ▪ Learning communities
Phelps (2012)	Individual *(student)*	-	Essay	College and university	▪ e-Leadership
Powell et al. (2012)	Individual *(course leads in a medical college programme)*	Quantitative	Case study UK	Higher education	▪ Medical leadership competency framework

Publication	Focus	Methodology	Study specifics	Level of education	Theory/ concept
van de Bunt-Kokhuis and Sultan (2012)	Individual *(educational leader)*	-	Essay	-	▪ Servant leadership
Haber-Curran and Tillapaugh (2013)	Individual *(student)*	Qualitative	Case study US	Undergraduate leadership minor course	▪ Adaptive leadership
Passarelli (2014)	Organization	-	Essay	International leadership programme	▪ Leadership development
Mirriahi et al. (2015)	Organization	Qualitative	Case study Australia	Higher education	▪ Strategic leadership
Curtin (2016)	Individual (student)	Qualitative	Case study US	University	▪ Leadership theory (broad range)
Jenkins (2016)	Individual *(participants of a*	Quantitative	Case study International	Higher education	▪ Instructional learning theory

Publication	Focus	Methodology	Study specifics	Level of education	Theory/ concept
	leadership programme)				
Sweetman (2018)	Individual *(participant of leadership programme)*	Qualitative	Case study US	Post-graduate program	▪ Transformative learning theory
McRay, Goertzen, and Klaus (2016)	Individual *(student)*	Qualitative	Case study US	Higher education	▪ Community of inquiry framework
Purcell (2017)	Organization	-	Essay	Education sector	▪ Community engaged pedagogies
Manning-Ouellette and Black (2017)	Individual *(student)*	Qualitative	Case study US	Higher education	▪ Experiential learning
Könings et al. (2018)	Individual *(participant of*	Quantitative	Case study The Netherlands	Professional Public Health programme	▪ Problem-based learning

Publication	Focus	Methodology	Study specifics	Level of education	Theory/ concept
	leadership course)				
Bowden, Guignard, and Davis (2019)	Organization	Qualitative	Case study US	University	▪ Leadership competencies
Goertzen and Squire (2019)	Individual *(student)*	Qualitative	Case study US	University	▪ Action learning
Moldoveanu and Narayandas (2019)	Organization and individual *(leader)*	-	Essay	Executive education	▪ Leadership development
Shah et al. (2019)	Individual *(student)*	Qualitative	Data analysis	Health care professional programme	▪ Leadership development
Cathro (2020)	Individual *(participant of course)*	Qualitative	Case study International	Professional training programme	▪ Experiential learning
Curtindale, Krylova,	Individual *(student)*	Quantitative	Case study International		▪ Collaborative learning

Publication	Focus	Methodology	Study specifics	Level of education	Theory/ concept
and Minyurova (2020)					
Haber-Curran and Cooper (2020)	Individual *(student)*	Qualitative	Case study International	Higher education	▪ Emotionally intelligent leadership model
Hayes and Irby (2020)	Individual *(principal)*	Qualitative	Case study US	University	▪ Instructional leadership
Fernandez et al. (2021)	Individual *(participant of leadership course)*	Quantitative	Case study US	Healthcare professionals' leadership program	▪ Leadership development
Greenleaf and Goertzen (2021)	Individual *(student)*	Qualitative	Case study US	University	▪ Theory of service learning ▪ Collaborative learning

Publication	Focus	Methodology	Study specifics	Level of education	Theory/ concept
Vito and Schmidt Hanbidge (2021)	Individual *(student)*	Qualitative	Case study Canada	University	▪ Theory of service learning
Whitehall, Bletscher, and Yost (2021)	Individual *(student)*	Quantitative	Case study	Post-graduate leadership course	▪ Authentic leadership
Zhu, Shek, and Chan (2021)	Individual *(student)*	Quantitative	Case study Hong Kong	University	▪ Service leadership model
Guthrie, Batchelder, and Purita (2022)	Organization	Qualitative	Case study US	Leadership programme for college students	▪ Leadership development
Klaus, Mcray, and Bourgeois (2022)	Organization	Qualitative	Case study US	University	▪ Student learning outcomes

Action research conducted by McCotter (2008) observed the role of intrinsic motivation and operationalized the communities of practice concept (Wenger, McDermott, and Snyder, 2002), in a study of an educational leadership program. In the context of learning experience of students in online leadership classes, learning communities were discussed by Moore (2008), and by Phelps (2012) in an essay highlighting the need for the development of students' digital literacy and e-leadership skills.

Leadership development through online leadership programmes remained the focus of publications by authors in the areas of executive education (Passarelli, 2014; Moldoveanu and Narayandas, 2019), professionals in healthcare (Shah et al., 2019; Fernandez et al., 2021), students (Guthrie et al., 2022), and education leaders such as principals and instructional designers (Hayes and Irby, 2020). Haber-Curran and Cooper (2020) observed the participant outcomes of a hybrid, global leadership programme through the lens of *emotionally intelligent leadership model* (Levy Shankman, Allen, and Haber-Curran, 2015). Similarly, service-learning, as a concept, was used to guide research in studies by Greenleaf and Goertzen (2021), Vito and Schmidt Hanbidge (2021), and Zhu et al. (2021). Klaus et al. (2022) conducted a comparison between face to face, hybrid and an online leadership programme and observed student outcomes in a US university.

3.3 Impact of online education on the leadership development of actors in an online education setting

Ligon, Hunter et al. (2008) cite McAdams (2001) construction of life narratives (page 315) to comment upon the significance of developmental events in the leadership type and orientation of outstanding leaders. They propose that it is the combination of emotional and cognitive response

to certain events, milestones, and occurrences in lifetime that can lead to the sensemaking of the current circumstances for an individual. It is this sensemaking that can further provide a cognitive framing for a leader in similar circumstances in the future. Education, besides the receiving of the formal curriculum, is an experience in itself (Dewey 1986).

McCall Jr (2004) questions the rhetoric of learning to lead through experience, however, Lord and Hall (2005) propose learning beyond training and emphasize the significance of leadership development at a deeper, cognitive level. In the context of youth leadership development, early developmental factors include early learning experiences such as education, sports and practice. In an online educational setting, this experiential learning can be translated to peer-interaction, team work related to online learning, and the required motivational drive for academic progress (Murphy and Johnson 2011). Whereas, in the context of the teacher and educational administrative staff leadership development through experience, prior research has emphasized the development of technology leadership, and a higher teacher morale during the technology-education integration activities of schools (Baylor and Ritchie 2002). Below, Table 5 summarizes the articles reviewed of the synthesis category of the impact of online education on leadership development of the actors in an online education setting.

Table 5. Summary of the publications reviewed in the category of "impact of online education on the leadership development of actors in an online education setting."

Publication	Focus	Methodology	Study specifics	Level of education	Theory/ concept
Moore (2008)	Group	Qualitative	Case study US	University	▪ Reel leadership

Publication	Focus	Methodology	Study specifics	Level of education	Theory/ concept
					▪ Learning communities
Ellis, Polizzi, and Rushton (2017)	Individual *(teacher)*	Qualitative	Case study US	K-12 school	▪ Teacher leadership
Xie et al. (2018)	Individual *(student)*	Quantitative	Case study US	University	▪ Collaborative learning
Shelton and Archambault (2019)	Individual *(teacher)*	Qualitative	Case study US	K-12 school	▪ Teacher leadership
Xie et al. (2019)	Individual *(student)*	Quantitative	Case study US	University	▪ Collaborative learning
Cheng et al. (2020)	Individual *(student)*	Quantitative	Case study Taiwan	University	▪ Collaborative learning
Downing (2020)	Individual *(student)*	Quantitative	Case study	University	▪ Active learning ▪ Experiential learning
Kim, Lee, and Wang (2020)	Individual *(student)*	Qualitative	Longitudinal case study	University	▪ Leadership style: transformational

Publication	Focus	Methodology	Study specifics	Level of education	Theory/ concept
					and transactional

End of Table 5

Moore (2008), in a study of American university students' leadership development through online book discussions, emphasized the significance of 'fostering a sense of community' (p 34). Similarly, in an analysis of group discussions in an online collaborative learning course, Xie et al. (2018) focused on team leadership and the development of leadership skills of students. Collaborative learning is further discussed by Xie et al. (2019) and by Cheng et al. (2020) in this category. Meanwhile, Downing (2020) presented a case for facilitation of relational leadership development through active learning. Analysis of online group discussion of an online course identified students as emerging leaders (transformational or transactional) in the longitudinal study by Kim et al. (2020).

3.4 Perception of leadership in an online education setting

In this review, 11 articles have been identified that focus upon the perception of leadership in an online educational setting. These are presented below in Table 6.

Table 6. Summary of articles reviewed in the category of "perception of leadership in an online education setting."

Publication	Focus	Methodology	Study specifics	Level of education	Concept/ theory
Bogler, Caspi, and Roccas (2013)	Group	Quantitative	Case study Israel	University	▪ Transformational leadership ▪ Passive leadership
Pacios and Bueno de la Fuente (2013)	Group	Mixed methodology	Case study Spain	University	▪ Team leadership
Holt et al. (2014)	Organization	Qualitative	Case study Australia	Higher education	▪ Distributed leadership
LaFrance and Beck (2014)	Individual *(teacher)*	Qualitative	Case study United States	K-12 school	▪ Modes of learning
Gallego-Arrufat et al. (2015)	Organization and individual *(teacher)*	Qualitative	Case study Spain	K-12 school	▪ Distributed leadership

Publication	Focus	Methodology	Study specifics	Level of education	Concept/ theory
Holland and Piper (2016)	Individual *(teacher)*	Qualitative	Essay	K-12 school	▪ Teaching leadership ▪ Student leadership development ▪ Technology integration education (TIE) ▪ High trust leadership
Chua and Chua (2017)	Organization	Qualitative	Case study US	K-12 school	▪ e-leadership
Xie et al. (2019)	Individual *(student)*	Quantitative	Case study US	University	▪ Collaborative learning
Azukas (2022)	Individual *(principal)*	Qualitative	Case study US	K-12 school	▪ Virtual leadership ▪ Contextual leadership

Publication	Focus	Methodology	Study specifics	Level of education	Concept/ theory
					▪ Professional standards for educational leadership
Lee (2022)	Organization	Quantitative	Multiple case studies Hong Kong	K-12 school	▪ Strategic leadership
Luo et al. (2022)	Individual *(student)*	Quantitative	Case study China	University	▪ Collaborative learning ▪ Student leadership development

End of Table 6

Nworie, Haughton et al. (2012) examine the key leadership positions relevant to the online educational programs being offered by US higher educational institutions to reveal that "distance education leaders are not managers who oversee specific programs but rather educational leaders" (page 196). Their research resonates with the concepts of academic leadership and e-leadership , and emphasizes upon the need for online education leaders to be equipped with qualities to overcome the organizational challenges associated with online learning and

digitization of education. Extending the debate on academic leadership, Holt, Palmer et al. (2014) conduct senior leadership interviews to gain insight in the perception of distributed leadership in the quality management of online learning environments in higher educational institutes in Australia.

How instructors are perceived as leaders in an online education setting is the research question of Bogler, Caspi et al. (2013) study in a university in Israel. Transformative and passive leadership styles were discussed, with a higher level of student satisfaction being exhibited where the instructor's leadership style was perceived as transformational. Contrarily, perception of a passive leadership correlated with a lower student satisfaction. Transformational leadership was also discussed by Kim, Lee et al. (2020), in their analysis of online group discussion identifying emerging leaders exhibiting either transactional or transformational leadership, in a US university post-graduate programme.

Pacios and Bueno de la Fuente (2013) observe an online higher education program in Spain and posit that the team dynamics within such a setting led to capacity building of participants for teamworking and leadership development. Similarly, group dynamics, self-regulation, and perceived leadership are focused upon in an online collaborative learning group in a graduate program in a US university by Xie, Hensley et al. (2019).

In this review, four studies were identified in the above mentioned synthesis category that were conducted in a K-12 schools educational setting. LaFrance and Beck (2014) operationalize *modes of learning theory* (Norman 1978) in their critique of educational leadership programs for k-12 school leaders. They suggest that educational leaders required a varied skill set more suited to the challenging landscape of education and adoption of educational technologies. Similarly, instructional leadership in k-12 schools, and how it is perceived by students, is the topic of

research by Gallego-Arrufat, Gutiérrez-Santiuste et al. (2015). E-leadership is the focus of a study by Chua and Chua (2017) which employs the grounded theory method to develop an e-leadership model, in k-12 school educational setting. Furthermore, k-12 leadership perspectives through the lens of the *professional standards for educational leadership* are reviewed in a qualitative research by Azukas (2022), and it is proposed that virtual and contextual leadership requires unique competencies when engaging across different leadership domains.

Holland and Piper (2016), in an analytical essay, review student leadership development and *technology integration education* (Holland and Piper 2014), in the context of the definition of educational leadership. Further, leadership behavior and student leadership development in a collaborative learning program in a university in China are discussed in a quantitative study (Luo, Han et al. 2022), with the findings suggesting that perceived leadership roles as per the assigned leadership roles have an impact on the level of participation in online group engagements.

3.5 Stakeholders and leaders

This review identified various stakeholders in the existing literature in relevance to the topic domain. Distributed, shared, and collaborative leadership were predominantly discussed in most articles, hence the focus of most studies was organizational. For example, Holt et al. (2014) focused on the organization wide role of distributed leadership in universities. Therefore, several stakeholders such as academic heads, teachers, and students were mentioned. In articles focused on online leadership programmes, the primary stakeholders identified were the participants of the programmes such as students, teachers, educational leaders, and health care professionals (Fernandez et al., 2021; Hayes and Irby, 2020; McCotter, 2008). Research addressing the leadership development due to online learning and teaching focused on either group (study

groups/ teams) (Moore, 2008) or individual stakeholders (students and teachers) (Ellis et al., 2017; Kim et al.,2020).

While there is reasonable conceptualization of leadership in the literature, the identification of who the key leader is in an online educational setting remains limited. The role of instructional designers is acknowledged (Ashbaugh, 2013, Brigance, 2011), but only as the developers of the curriculum for online delivery. Principals, teachers, and academic leaders are mentioned in the literature as playing a pivotal part in the adoption of online education (Fernandez and Shaw, 2020; Gallego-Arrufat et al., 2015; Mirriahi et al., 2015). *However, the entity that acts as the custodian of the entire process is not revealed.* Virtual leaders (Alward and Phelps, 2019) actively lead virtual teams but it is not clear as to whether they contribute to the process through their technological expertise. Authors have gravitated towards the idea of distributed leadership in online education, yet the key question that remains: who makes the decisions regarding distribution of roles, delegation of authority, and horizontal and vertical coordination, in an online educational setting?

4. Discussion and Conclusion

Although the literature on online education has yielded important insight, further alignment of online education research with leadership research is needed. An interdisciplinary approach has been sought in analysis of the publications in this review. A subset of research area papers was identified through the coding criteria. Figure 3 encapsulates the diverse theories, models, and frameworks being operationalized across the papers selected for the review, drawing attention to the complexity of the alternative theoretical starting points for research in online education. Stakeholders and main actors have also been identified in the online educational leadership setting (Figure 3).
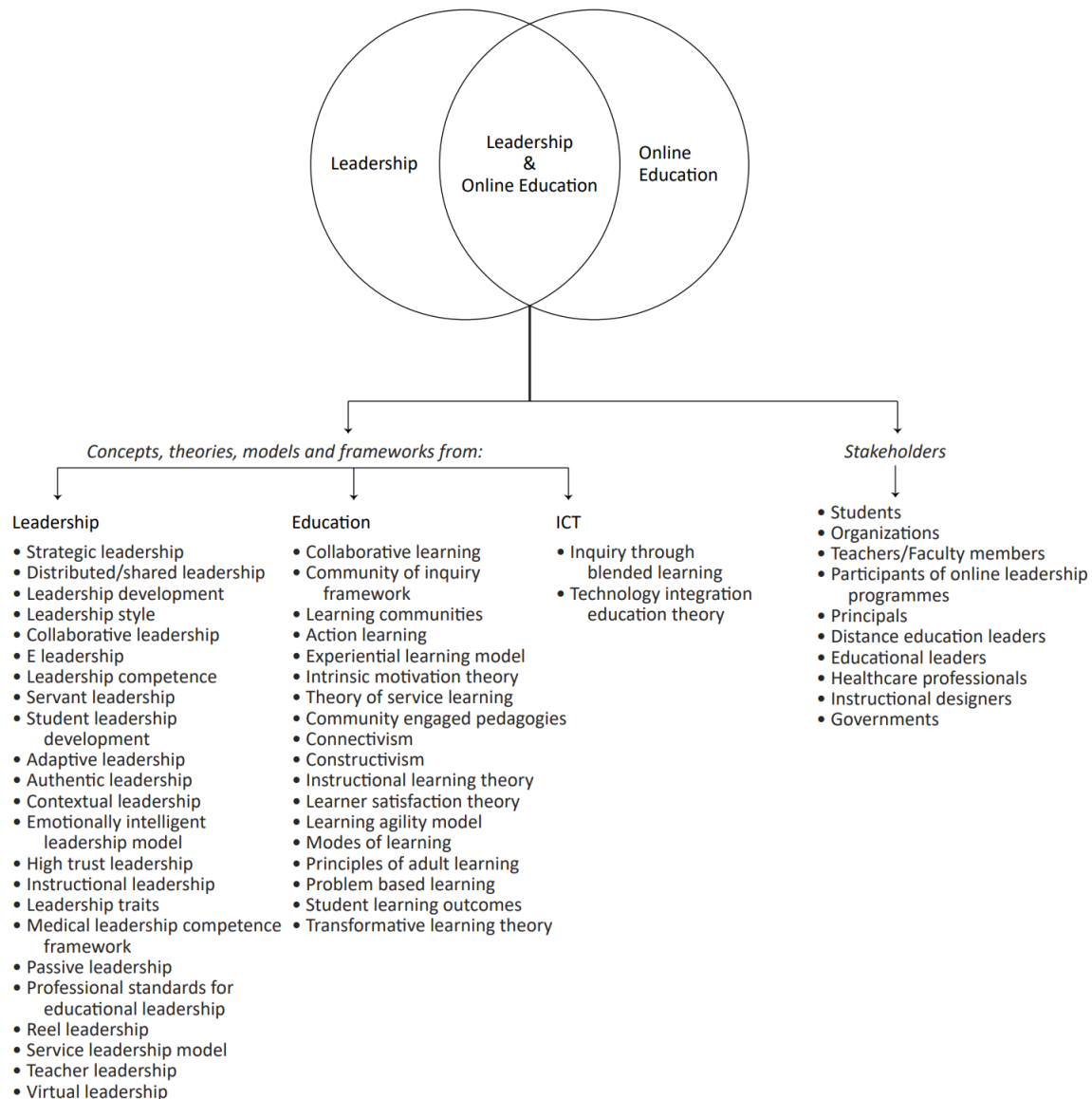
Figure 3. An overview of the leadership in online education research. (The data is shared in descending order of the frequency in publications)

Bryman (2007) identified a lack of research on evaluation of leadership effectiveness in higher education. Years later, we find this phenomenon compounded in the online education terrain. Upon reflection of the content of articles within each category, it is discovered that insufficient attention has been given to the direct impact of leadership on online education. Given the

relevance of digitization of education currently (and in the future), discourse and research regarding leadership of online education is necessary. Assuming that leadership is contextual (Oc, 2018), an agenda is proposed for further research that brings together diverse streams of research to explore the role of leadership in online education adoption, implementation, and delivery in educational institutes. This research situates our understanding of online education research as an interaction point with leadership research, highlights existing themes that converge through the synthesis categories identified, and recommends further in-depth, extended research.

Additionally, this review identified the stakeholders in literature on the topic domain. Although various actors have been identified, there is limited discussion of the leaders in such a setting. For the most part, empirical research surrounding online education adoption is more process oriented with an emphasis on systems rather than people. Authors have advocated distributed leadership and shared leadership as a viable solution to the problem of successful implementation of online education (Fernandez and Shaw, 2020; Garrison and Vaughan, 2013). Yet, organisations have always existed in a state of shared leadership where tasks and functions are delegated through effective lateral and vertical coordination (Lumby, 2003). Hence, a focus should be on the leader, who acts as the custodian of the function of online education in its state of distributed responsibilities across the organisation. Principals, academic heads, and instructional designers are discussed in few papers (Ashbaugh 2013; Azukas, 2022; Brigance, 2011; Hayes and Irby, 2020) but can these entities be called 'expert leaders' when it comes to the adoption and sustainability of online education in institutions? Nworie et al. (2012) focus upon distance education leaders, but it is an umbrella term for leadership engaged in the management of online education. Leadership for online education implementation requires technical expertise

and competence (Goodall, Artz, and Oswald, 2016), experience in management of virtual teams (Kahai et al., 2017), besides the knowledge of the core function of education delivery. Individuals leading the online education function require certain skills specific to virtual environments and technology, beyond the "foundational skills traditionally associated with leadership" (Pulley et al., 2001; p. 225). These experts can work in tandem with the academic leadership of schools, colleges, and universities to successfully deliver online education. In this topic domain of leadership in online education there has been no discussion surrounding *chief information officers* or *chief digital officers* which have been known in literature for their role in digital transformation of various organisations, including educational institutes (Davison, Wong, and Peng, 2023). There is tremendous opportunity to explore through focused research on these actors in this setting. Therefore, further empirical research is recommended to observe the role of these experts in their organisations, in relevance to the success of the outcome envisioned.

In conclusion, leadership is a key topic in the online education domain that can yield important insight into how educational organisations adopt, implement, and sustain online education. However, leadership for online education is least researched upon in literature. Interdisciplinary research is proposed to expand our knowledge on how, through effective leadership, institutions navigate the challenges posed by online education. Theories extracted from diverse streams of disciplines also direct us to various stakeholders in the online education setting. As this review makes clear, there is a need to explicate leadership in these organisations to identify the integral actors engaged in the decision making, innovation and management of the online learning systems. Through relevant empirical research, further theory development is encouraged, giving due attention to the actual leaders of online education. In the world of online learning, such theory development and research can have a practical, direct impact on the quality of education.

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