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See table of contents

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Article abstract

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Instructor Leadership and the Community of Inquiry Framework: Applying Leadership Theory to Higher Education Online Learning

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Abstract

Higher education institutions continue to invest in online learning, yet research indicates instructors often lack experience, preparation, and guidance for teaching online. While instructor leadership is essential for meaningful online learning, few studies have investigated online instructors' leadership behaviors. This study offers new insights into the conceptual and empirical alignment between instructor leadership, as interpreted through the dual lenses of organizational leadership theory and the Community of Inquiry (CoI) framework, proposing instructor leadership as foundational to the teaching and learning experience in a CoI. Specifically, the convergent mixed methods study investigated students' (N = 87) and instructors' (N = 7) perceptions of instructor servant leadership (SL) behaviors in an online graduate-level course designed to facilitate a CoI. Results demonstrate instructor SL behaviors were perceived differently by students and instructors, instructors' self-perceptions were generally higher than students' perceptions, and students' perceptions of instructor SL were positively correlated with their satisfaction with the course and instructor. Implications offer insights into instructor leadership behaviors important for developing instructor leadership presence to facilitate meaningful learning and student satisfaction in higher education online learning.

Keywords: higher education online learning, community of inquiry, instructor leadership, servant leadership, student satisfaction

Introduction

Teaching online differs from face-to-face teaching (Hung & Chou, 2015; Stavredes, 2011), and pedagogical practices are important to consider when examining instructor and student challenges (Richardson et al., 2016; Stavredes, 2011). Instructors often have limited experience, preparation, and guidance for online teaching (Lowenthal et al., 2019; Richardson et al., 2015). Students face challenges such as isolation, struggles with content, and lack of immediate feedback (Richardson et al., 2015). As higher education institutions continue to increase online courses to use resources more efficiently, reach more students, and increase diversity (Beaudoin, 2015), instructors who can effectively employ evidence-based practices in online pedagogy to improve students' educational experiences, satisfaction, and retention in online programs are needed (Muljana & Luo, 2019; Stavredes, 2011).

Instructor leadership has been conceptualized as an essential pedagogical competency in higher education online learning (HEOL) (Farmer & Ramsdale, 2016; Garrison, 2017). Research in the discipline of instructional communications has long supported the connection between leadership and teaching (Chory & McCroskey, 1999). Since Chory and McCroskey's (1999) investigation of teacher management communication style and students' affective learning, scholars have investigated the relationships among leadership theories and student outcomes. Balwant's (2016) meta-analytic review, for example, included 22 studies on student outcomes related to instructor transformational leadership.

Drawing on organizational leadership theory, Balwant (2016) defined instructor leadership as "a process whereby instructors exert intentional influence over students to *guide, structure, and facilitate* [emphasis added] activities and relationships" (p. 21). Similarly, the Community of Inquiry (CoI) framework, a conceptual model for investigating HEOL, described teaching presence as "the *design, facilitation, and direction* [emphasis added] of cognitive and social processes for the purpose of realizing meaningful and educationally worthwhile learning outcomes" (Anderson et al., 2001, p. 5). Instructor leadership and teaching presence are supported by empirical studies that demonstrated positive associations with student outcomes, such as perceived instructor effectiveness, student satisfaction, cognitive and affective learning, motivation, engagement, participation, and perceived learning (Balwant, 2016; Bolkan & Goodboy, 2009; Kucuk & Richardson, 2019; Pounder, 2008; Zhang et al., 2016; Zhang et al., 2022).

While research studies investigating connections between instructor leadership and organizational leadership theories have primarily focused on transformational leadership (Noland & Richards, 2015), servant leadership (SL), a values-based theory that prioritizes follower needs and development, is aligned with the CoI framework. Thus, this study proposes that instructor leadership, interpreted through the lens of SL theory, is the sine qua non of teaching presence in a CoI. The purpose of the study is to investigate instructor leadership through the dual lenses of the COI framework and SL theory to provide empirical evidence to operationalize the construct of instructor leadership in a CoI.

Literature Review

The Community of Inquiry Framework

The CoI framework, the most referenced and empirically supported model for studying HEOL communities (Valverde-Berrocoso et al., 2020), is based on a constructivist perspective of online learning as a social and collaborative community in which instructors and students actively participate in and share responsibility for learning (Garrison, 2017; Garrison & Arbaugh, 2007). The theory conceptualized the types of and interactions among elements necessary for meaningful learning. Garrison et al.'s (2000) seminal article defined social presence (SP), cognitive presence (CP), and teaching presence (TP) as three interdependent elements in a CoI.

The model described SP as social and emotional projection and perception of authentic others in online environments (Garrison & Arbaugh, 2007). Social presence is characterized by open communication, group cohesion, and affective expression and is necessary for collaborative inquiry. Collaborative inquiry is the heart of CP, defined as learners' abilities to construct and confirm meaning through reflection and discourse. Cognitive presence requires TP to help learners develop higher level thinking. Finally, TP integrates social and cognitive processes through design, facilitation, and direction to achieve educational outcomes (Garrison & Arbaugh, 2007).

The ways in which instructors and students engage in online courses have evolved with technology. While early CoI research focused on discussion forums (Archer, 2010), Shea et al. (2010) suggested investigating the presences throughout all course components. Researchers have also proposed many other presences (Kozan & Caskurlu, 2018) and noted a lack of research regarding specific roles of instructors and learners in online learning environments (Shea et al., 2022). Xin (2012) argued that while the model's three presences are useful for analysis, online interactions are not easily categorized. These observations provide a basis for investigating instructor leadership as foundational to TP but also, given the essential nature of TP (Alotebi et al., 2018; Farmer & Ramsdale, 2016; Garrison, 2013, 2017), lead to the possibility that instructor leadership may be foundational to the teaching and learning experience in the CoI framework.

Instructor Leadership and the Community of Inquiry Framework

Balwant's (2016) conception of instructor leadership as an influential process to guide, structure, and facilitate activities and relationships is similar to Garrison et al.'s (2000) conception of TP in a CoI: teaching presence is considered the CoI framework's binding element through which "student activity is influenced" (p. 96) by the teacher "proactively guiding" (p. 102) reflection and discourse, managing "structural concerns" (p. 101), and "facilitat[ing] an educational transaction" (p. 101). Furthermore, TP has been interpreted as "effective instructional leadership" (Szeto, 2015, p. 192) in which formal leadership creates a collaborative learning environment "free of coercion and intimidation" (Garrison, 2013, p. 3). Instructor leadership is "essential to precipitate and purposely focus collaborative inquiry (teaching presence) if educational goals are to be achieved" (Garrison, 2013, p. 4). Swan et al. (2020) noted that the most recent research into TP positioned it as "the key to developing online communities of inquiry" (p. 7). While instructor leadership has been most explicitly aligned with TP, instructor leadership is also important for facilitating the deep and meaningful learning associated with CP (Alotebi et al., 2018) and the shared learning experience essential to SP (Garrison et al., 2000).

Servant Leadership Theory

Researchers have recently applied values-based leadership theories to the study of instructor-student relationships in higher education (Balwant, 2019). This study proposes servant leadership (SL) theory as particularly relevant to instructor leadership in HEOL. Servant leadership is a values-based leadership approach, conceptualized by Greenleaf (e.g., Greenleaf, 1970/2008), in which leaders prioritize followers' needs, goals, and well-being, leading to increased engagement, follower satisfaction, and effective performance (Eva et al., 2019).

While there is not one agreed upon definition of SL (Lemoine & Blum, 2020), scholars have recently conceptualized SL as "an (1) other-oriented approach to leadership (2) manifested through one-on-one prioritizing of follower individual needs and interests, (3) and outward reorienting of their concern for self towards concern for others within the organization and the larger community" (Eva et al., 2019, p. 114). This definition captures the core elements of SL articulated by Greenleaf (1970/2008). Servant leaders take care of others' needs, reflect on their service to others, and recognize and model "leadership for the common good" (Greenleaf, 1970/2008, p. 35). Servant leaders' focus on followers' personal growth and social responsibility (Eva et al., 2019; Van Dierendonck, 2011) also aligns with a CoI, which is "intended to focus on learning experiences that have societal value as well as the ability for the individual to grow and continue learning" (Garrison, 2017, p. 69).

As a relatively new leadership theory, SL has many proposed models. Van Dierendonck (2011) synthesized seven models into six key characteristics; only Laub's (1999) captured all six (Table 1).

Table 1

Comparing Servant Leadership (SL) Characteristics

Laub's SL characteristics (1999)	Van Dierendonck's SL characteristics (2011)
Values people	Interpersonal acceptance
Develops people	Empowering and developing people
Builds community	Stewardship
Displays authenticity	Authenticity
Provides leadership	Providing direction
Shares leadership	Humility

Laub (1999) was among the first to provide an operational definition of SL based on empirical data (Van Dierendonck, 2011), and his is one of the most cited SL definitions (Parris & Peachey, 2013). Laub's (1999) conceptual model, developed through an extensive literature search and Delphi study including 14 experts, consisted of 18 observable SL behaviors aligned with the six proposed characteristics (Table 2). Laub's (1999) SL behaviors provided the foundation for examining instructor leadership in this study.

Table 2

Servant Leader Characteristics and Behaviors

Servant leader characteristics	Servant leader behaviors
Values people	By believing in people
	By serving others' needs before his or her own
	By receptive, non-judgmental listening
Develops people	By providing opportunities for learning and growth
	By modeling appropriate behavior
	By building up others through encouragement and affirmation
Builds community	By building strong personal relationships
	By working collaboratively with others
	By valuing the differences of others
Displays authenticity	By being open and accountable to others
	By a willingness to learn from others
	By maintaining integrity and trust
Provides leadership	By envisioning the future
	By taking initiative
	By clarifying goals
Shares leadership	By facilitating a shared vision
	By sharing power and releasing control
	By sharing status and promoting others

Note. Adapted from "Assessing the servant organization: Development of the organizational leadership assessment (OLA) instrument," by J.A. Laub, 1999, Florida Atlantic University, ProQuest Dissertations Publishing, p. 83. Copyright 1999 by James A. Laub.

Servant Leadership and Higher Education Learning

Multiple studies have made conceptual connections between SL and higher education learning environments. Buchen (1998) conceptualized SL as critical to collaborative faculty-student relationships. Kondrasuk and Bernard (2013) made similar connections, applying Spears's (2002) tenets of SL to higher education, noting that at its core, servant teaching represents a commitment to student-centered learning, impacting course design, instructional practices, and assessment.

Studies also provide empirical connections between SL and higher education learning. In face-to-face settings, undergraduate students perceived more SL behaviors in their most effective professors (Drury, 2005). McCann and Sparks (2018) found significant positive relationships between students' perceptions of SL characteristics and instructional quality. Among undergraduate students, SL qualities in an instructor were positively correlated with learning and engagement (Noland & Richards, 2015). In one of the few studies focused on HEOL, Sahawneh and Benuto (2018) found a strong positive correlation between instructor SL and students' instructor satisfaction in an online community college course.

Synthesizing calls for research in SL and CoI literature, this study contends that to better understand leadership in a CoI, there is a need for research that (a) explores characteristics (Garrison & Arbaugh, 2007; Rebeor et al., 2019; Richardson et al., 2015) and behaviors (Hung & Chou, 2015) of instructors in a CoI; (b) considers instructor and student perceptions of instructor presence in a CoI (Richardson et al., 2015); (c) includes multiple rater comparisons in SL studies (Eva et al., 2019); and (d) compares instructor and student SL perspectives (Sahawneh & Benuto, 2018). This study addressed the following research questions.

In an online course designed to facilitate a Community of Inquiry:

- What are students' perceptions of their online instructor's servant leadership behaviors?
- What are online instructors' self-perceptions of their servant leadership behaviors?
- How do instructors' self-perceptions compare to students' perceptions of their instructor's servant leadership behaviors?
- How do students' perceptions of their instructor's servant leadership behaviors correlate with students' satisfaction with the course and instructor?
- What insights do students' and instructors' survey comments add to the quantitative survey results?

Methodology

This convergent mixed methods study examined instructor SL behaviors within a CoI. In a convergent design, researchers collect quantitative and qualitative data and merge the results to make comparisons and develop a clearer understanding of the phenomenon than may be possible through either data type alone (Creswell & Plano Clark, 2018). Specifically, this study employed descriptive statistics and correlation analyses to investigate numerical survey data and thematic analysis to analyze participants' open-ended survey responses, adding insights to the quantitative results.

Context and Participants

Data for the study were gathered from an eight-week online advanced instructional design course that is part of a learning design and technology master's degree program in the college of education at a large, public Midwestern university. The course was purposefully selected for its intentional design to facilitate a

CoI focused on collaborative, constructivist engagement and instructor leadership to facilitate the course's case-based learning approach. This study examined instructors ($N = 7$) who taught seven different sections of the course and their respective students ($N = 87$) during the fall 2019 semester. The student and instructor response rates were 91% and 100%, respectively. Five female and two male instructors had doctoral degrees in a curriculum and instruction-related area and were experienced teaching online courses. Students were primarily working professionals (95%) with teachers/instructors making up the largest percentage (38%), followed by those in instructional design or other training roles (36%). The remainder (21%) worked in non-instructional educational roles, corporate settings, or other fields. All students had taken previous online courses in the degree program. The female to male ratio of students was approximately 3:1, but this varied in each course section.

Data Sources and Analysis

Two researcher-developed surveys consisted of an 18-item inventory based on Laub's (1999) SL behaviors (Table 2) to measure student perceptions and instructor self-perceptions of instructors' SL behaviors. Following approval by the institutional review board, researchers emailed an invitation and survey link to students and instructors during week seven of the course. Students were offered one bonus point on their final grade with no penalty for non-participation. Cronbach's alpha for the 18 survey items was 0.96 for students, 0.93 for instructors, and 0.96 combined, indicating internal consistency among survey items and reliability of the survey in measuring instructor SL behaviors. Two student survey questions measured satisfaction with the course and instructor.

Both surveys included open-ended responses. Forty-eight percent ($n = 42$) of students and 57% ($n = 4$) of instructors included commentary. The mean perception of instructors' SL behaviors was similar in the group of students who added comments ($M = 4.23$) and students who did not add comments ($M = 4.16$). The four instructors who added comments represented a range of self-perceptions, from the highest ($M = 4.94$) to the lowest ($M = 3.78$) and two in between ($M = 4.72$, $M = 4.50$).

Results of student and instructor surveys were reported using descriptive statistics. The relationships between students' aggregate instructor SL ratings and student satisfaction ratings of the course and instructor were analyzed using Spearman correlations (r_s) at a .05 alpha significance level. Open-ended responses were analyzed using thematic analysis to develop an understanding of and insights about the phenomenon (Boyatzis, 1998). The researchers used a hybrid approach (Fereday & Muir-Cochrane, 2006) in which the participant responses were first analyzed inductively, without regard for the SL behaviors that defined the study, to discover themes across the responses. Following the initial analysis, the resultant themes were categorized deductively according to Laub's (1999) SL behaviors. This process allowed themes to emerge directly from the data and revealed some themes that were important yet would not have been captured through a strictly deductive approach.

Results

Students' and Instructors' Perceptions of Instructor Servant Leadership

Students' perceptions and instructors' self-perceptions of instructor SL behaviors were determined by calculating the means of students' and instructors' ratings across each of the SL behaviors (Table 3).

Table 3

Instructor Servant Leadership Behaviors Rated by Students and Instructors

	Students	Instructors
Instructor behavior	*M* (*SD*)	*M* (*SD*)
Believes in students	4.52 (0.86)	4.71 (0.49)
Puts students' needs before their own	4.06 (1.03)	4.43 (1.13)
Demonstrates receptive and non-judgmental listening	4.50 (0.91)	4.57 (0.79)
Provides opportunities for students' learning and growth	4.45 (0.96)	4.86 (0.38)
Models the kind of behavior they desire from the students	4.24 (1.06)	4.71 (0.49)
Builds students up through encouragement and affirmation[a]	4.30 (1.05)	5.00 (0.00)
Builds strong relationships with students[b]	3.47 (1.10)	4.00 (1.00)
Works collaboratively with students	3.90 (1.07)	4.29 (0.76)
Values differences	4.18 (1.03)	4.71 (0.49)
Displays openness and accountability with students	4.29 (0.96)	4.86 (0.38)
Demonstrates willingness to learn from students	4.10 (1.07)	4.71 (0.49)
Demonstrates integrity and trust[c]	4.57 (0.76)	4.86 (0.38)
Helps students envision their futures	3.80 (1.14)	4.71 (0.49)
Takes initiative in leading	4.34 (0.05)	4.71 (0.49)
Clarifies goals	4.24 (1.06)	4.71 (0.49)
Helps students understand the value of the course	4.06 (1.23)	4.86 (0.38)
Shares power and decision-making about activities and outcomes	4.06 (1.21)	4.29 (1.11)
Facilitates and promotes students' leadership	4.43 (0.90)	4.86 (0.38)

Note. [a]Highest average rating, instructors. [b]Lowest average rating, instructors and students. [c]Highest average rating, students.

Students' Perceptions

Students rated most highly the statement, "In this course, my instructor demonstrates integrity and trust" (*M* = 4.57, *SD* = 0.76). Students noted instructors displayed "candor, transparency, and wise counsel," demonstrated "being attentive to the discussion," and maintained "a high level of professionalism." Students also perceived, "My instructor demonstrates that he/she believes in the students in this course" (*M* = 4.52, *SD* = 0.86). One student said, "[The instructor] speaks to us as students, future IDers [instructional designers], and human beings . . . [They] helped me think that I can do this!" Others

expressed instructors' support of their frustrations, respect for students' thinking, and involvement in discussions to foster student agency. Finally, "My instructor demonstrates receptive and non-judgmental listening in this course" (M = 4.50, SD = 0.91) was also highly perceived by students. Students observed their instructor was "always willing to take the time to answer my numerous questions," and "I never was made to feel I was asking a silly question."

The least perceived behavior was "My instructor builds strong relationships with the students in this course" (M = 3.47, SD = 1.10). One student expressed, "it's not always appropriate to build what I would call a strong relationship." Other students commented, "it seemed like our instructor was absent" and "I have not developed a real relationship . . . due to the fast timeline and distance nature of the course."

Qualitative data also illuminated student perspectives about the quality, quantity, and timeliness of instructor feedback. One student commented, "the instructor is very thorough in reviewing our work with detailed feedback." Another noted their instructor's use of video feedback was "a different and respectable approach to providing an insight to how we are doing," but also thought rubrics would have been more informative. Multiple students mentioned timely feedback, such as "quick, helpful responses to questions." Negative comments included a need for "more personalized feedback," "critiques or confirmation," and "feedback on how to improve."

Instructors' Perceptions

Instructors rated themselves highest on building students up through encouragement and affirmation (M = 5.00, SD = 0.00). One instructor encouraged students by relating to similar life experiences: "I have been in their shoes before." They also commented they "provide a lot of encouragement via email." Another instructor referenced discussion board engagement: "I often either praise or (gently!) challenge student contributions after summarizing them."

Like students, instructors perceived integrity and trust as one of the most important behaviors (M = 4.86, SD = 0.38). One instructor commented, "My goal is to project trust as a leader by offering a routine built on best practices. No surprises if possible." Instructors also agreed least with the statement, "I build strong relationships with the students in this course" (M = 4.00, SD = 1.00). One instructor noted, "I feel that I get to show more leadership qualities to students who reach out to me regularly via email. It is easier to get know students at a more personal level when there's regular off-Blackboard interactions."

Of the four instructors who offered comments, all indicated course design influenced leadership behaviors. For example, errors cause instructors to "lose credibility . . . Students are less likely to trust the course content and instructor. The leadership quotient goes down." One instructor commented the highly structured course left "very little wiggle room . . . This makes agency hard to actuate."

Other instructor comments focused on time constraints: "In eight-week courses, time is a factor that sometimes hinder[s] the demonstration of leadership behaviors." Time was also a course-specific issue: "There is so much involved in this course, I was not able to get into the discussion boards as often as I would have liked." Finally, instructors mentioned experience as a constraint: "I think it will be better the next time I teach the course since I'll have experience under my belt," and "I am hindered by the lack of experience with any other course like this for the students."

Comparing Students' and Instructors' Perceptions

Students' perceptions and instructors' self-perceptions of instructor SL behaviors were determined by calculating the aggregate mean of student and instructor ratings (Table 4).

Table 4

Descriptive Statistics of Student and Instructor Responses by Course Section

Instructor	*N*	*M* (*SD*) Student	*M* (*SD*) Instructor
All	87	4.19 (0.79)	4.66 (0.42)
Inst1	13	4.64 (0.48)	3.78
Inst2	14	4.50 (0.44)	4.94
Inst3	15	4.06 (0.87)	4.83
Inst4	12	4.31 (0.64)	4.94
Inst5	10	3.81 (1.21)	4.89
Inst6	12	4.11 (0.68)	4.50
Inst7	11	3.79 (0.82)	4.72

Apart from Inst1, instructors' self-perceptions were higher on average than students' perceptions. While one instructor noted, "I post my announcements three times a week on the same days and around the same time . . . Consistency and predictability can be reassuring for students," a student perceived the instructor's behaviors differently: "I don't feel like the instructor has had much of a presence in this course. Just about the only interaction I have with [them] is reading email announcements and grading rubrics." Another instructor positively viewed their engagement in online discussions: "Interesting to think about what 'listening' looks like in an online format. I can only assume that it should involve a lot of summarizing and paraphrasing what students have said to show that you're paying attention." However, a student in the same section commented that in discussions, "the instructor was posting tons and tons of responses. This made it harder for me to participate . . . It felt like there was nothing left that I could contribute."

Despite differences, there were also cases in which instructors' and students' perceptions were similar. One instructor commented on the importance of keeping students informed: "I think the key is to prep the students for what's coming up . . . Not having that class road map . . . unsettles some students." This was echoed by a student: "[The instructor] provides updates and reminders throughout the course that make it easy to keep on top of things."

Inst1 had the highest student perception of SL (M = 4.64, SD = 0.48) and lowest self-perception (M = 3.78). This instructor commented that course constraints limited their ability to demonstrate leadership behaviors. Students in the course, however, shared a different perspective. One noted, "[They lead] by being with us. I appreciate that." Another stated, "I appreciate seeing [them] joining in with us in being curious and pondering." Conversely, Inst5 had the largest mean difference between student perception (M = 3.81,

SD = 1.21) and self-perception (*M* = 4.89). While this instructor did not offer comments, student comments reflected dissatisfaction with clarity in expectations, responsiveness, and timeliness of feedback.

Perceptions of Instructor Servant Leadership and Student Satisfaction

The two satisfaction questions in the student survey were analyzed using Spearman's rho (r_s) to determine the correlation between students' satisfaction with the instructor and course and perceptions of instructors' SL behaviors (Table 5).

Table 5

Servant Leadership (SL) and Student Satisfaction With Course and Instructor

Instructor	N	*M* (*SD*) SL	*M* (*SD*) Course Satisfaction	*M* (*SD*) Instructor Satisfaction	r_s SL/ Course	r_s SL/ Instructor
All	87	4.19 (0.79)	3.90 (1.19)	4.22 (1.03)	0.70*	0.75*
Inst1	13	4.64 (0.48)	4.46 (0.88)	4.92 (0.28)	0.41***	0.47***
Inst2	14	4.50 (0.44)	4.64 (0.50)	4.36 (0.63)	0.69**	0.67**
Inst3	15	4.06 (0.87)	3.33 (1.23)	4.27 (0.80)	0.57***	0.61***
Inst4	12	4.31 (0.64)	4.17 (1.19)	4.67 (0.65)	0.58***	0.82**
Inst5	10	3.81 (1.21)	3.70 (1.49)	3.40 (1.51)	0.82**	0.93*
Inst6	12	4.11 (0.68)	3.67 (1.16)	3.92 (1.24)	0.76**	0.77**
Inst7	11	3.79 (0.82)	3.18 (1.17)	3.73 (1.19)	0.89*	0.90*

*$p < .001$. **$p < .01$. *** $p < .05$.

Results of the Spearman correlation indicated significant and moderately strong positive associations between students' mean rating of instructors' SL behaviors and course satisfaction ($r_s(87) = .70$, $p < .001$) and instructor satisfaction ($r_s(87) = .75$, $p < .001$). Correlation analyses within each instructor's section also indicated moderate to strong positive associations between students' mean rating of their instructor's SL behaviors and satisfaction.

Discussion and Implications

This study used the dual-theoretical lenses of the Community of Inquiry (CoI) framework and servant leadership (SL) theory to conceptualize and investigate instructor leadership in a collaborative, constructivist higher education online learning (HEOL) environment. The results extend previous research, investigating characteristics (Garrison & Arbaugh, 2007; Rebeor et al., 2019; Richardson et al., 2015) and behaviors (Hung & Chou, 2015) of instructors in a CoI and comparing students' and instructors' perceptions of instructor SL (Eva et al., 2019; Sahawneh & Benuto, 2018). Results offer insights into instructor leadership behaviors important for developing instructor presence to facilitate meaningful learning and student satisfaction in HEOL.

Students' Perceptions of Instructors' Servant Leadership Behaviors

Students' most highly rated perceptions of instructors' SL behaviors were instructors' demonstration of integrity and trust and receptive, non-judgmental listening, while the least perceived was building strong relationships with students. This difference is interesting, as integrity, trust, and listening are important aspects of interpersonal relationships. In a CoI, however, the instructor-student relationship is shorter than the leader-follower relationship in professional settings. While integrity, trust, and listening remain important, students may not perceive these as characteristics of a strong relationship with their instructor.

Research indicates online instruction requires instructional and communication strategies in which many instructors lack explicit training and experience (Lowenthal et al., 2019). In a CoI, feedback, as a form of instructor-student communications (Richardson et al., 2016), is critical for students' growth and development. Comments from students in this study emphasized the importance of quality, quantity, and timeliness of instructor feedback. While one instructor's students appreciated video feedback, students also desired more details. Thus, instructors should consider using variable feedback strategies to enhance their leadership presence.

Instructors' Self-Perceptions of Servant Leadership Behaviors

Instructors' most highly rated self-perception of their SL behaviors was providing encouragement and affirmation. While some valued individual communications, others encouraged students more visibly through discussion forums, announcements, and video. This finding substantiates CoI research indicating that instructors have different perspectives about what type of presence is most meaningful (Richardson et al., 2016). However, visibility of leadership behaviors can influence followers' perceptions (Lee & Carpenter, 2018). Leaders have the most information about their own behaviors, while others see behaviors through select interactions. In a CoI, instructors should ensure their presence is broadly visible to students (Shea et al., 2010). While individual engagement is important, using technology to incorporate more broadly observed behaviors may improve instructors' leadership presence in a CoI.

Instructors' comments indicated teaching a course they did not design constrained their leadership. This aligns with CoI research indicating that non-designer instructors "felt restricted or frustrated, in part due to the lack of flexibility or level of customization they could bring to the course" (Richardson & Kozan, 2016, p. 93). However, other research has indicated that despite this constraint, instructors find ways to personalize their presence (Richardson et al., 2016). Laub's (1999) SL behaviors and the CoI framework (Garrison et al., 2000) include authenticity as an important element. Thus, while non-designer instructors may not have control over core course elements, Dennen and Arslan (2022) offer an extensive list of ways online instructors can establish an instructor persona through written, visual, and symbolic cues that may help instructors visibly demonstrate leadership in a course.

Comparing Perceptions of Servant Leadership Behaviors

In this study, six of seven instructors' self-perceptions of their SL behaviors were higher than students' perceptions. Leadership studies have demonstrated that leaders who overestimate their leadership behaviors may be perceived as less effective, while leaders who underestimate themselves may be perceived as more effective (Aarons et al., 2017). This study supports that contention, as students had a higher perception of SL behaviors in the instructor who rated themselves lowest (Inst1), while the greatest mean

difference in student and instructor perceptions occurred with instructors who had the two lowest student perceptions of instructor SL behaviors (Inst7 and Inst5).

Servant leaders may underestimate their leadership behaviors because of their awareness of their own and others' perceptions (Powers & Moore, 2005; Van Dierendonck, 2011). Servant teachers are self-reflective practitioners who seek feedback and view their performance with a growth mindset (Powers & Moore, 2005). Comments from Inst1's students reflected behaviors aligned with servant teaching, and their students reported the highest instructor satisfaction. Outcomes from this study suggest the use of student and instructor leadership assessments may help instructors become aware of and understand their leadership behaviors, which can facilitate effective instructional practices and increase student satisfaction.

Students' Course and Instructor Satisfaction

As previously noted, Inst1 had the highest student perception of SL behaviors and the greatest measure of student satisfaction. Comments from students in this section focused on their positive perception of the instructor's presence in the course, while in other sections, students desired increased instructor presence. Interestingly, one student in Inst1's section noted the instructor contributed too much in discussions, limiting their ability to participate. Stavredes (2011) cautioned that too much instructor presence may discourage student engagement. This is supported in Shea et al.'s (2010) social network analysis in which students perceived higher TP in the instructor who contributed fewer but more instructional posts. This insight suggests instructors should carefully balance instructional quality and quantity of contributions to enhance their leadership presence.

Findings in this study align with literature in the CoI framework (e.g., Boston et al., 2019) and SL theory (Eva et al., 2019) that demonstrated correlations between the theoretical frameworks and satisfaction. This held true for satisfaction with the course and instructor. Student satisfaction has been positively associated with persistence in online courses (Weidlich & Bastiens, 2018). Given that this study demonstrated strong positive correlations between instructor SL and student satisfaction, developing instructors' SL skills is one potential way to help increase satisfaction in online courses.

Insights From Students' and Instructors' Comments

Instructor and student comments provided insights about leadership in CoIs. Most relevant were comments about building strong relationships, students' comments about instructor feedback, and instructors' comments about course design. These comments underscore contextual and interpersonal differences between a CoI and an organizational setting regarding leadership behaviors. Thus, measures developed to assess organizational SL may not fully translate to educational settings (Balwant, 2016). This does not mean, however, that instructors do not exhibit SL behaviors, but evaluation instruments should carefully consider contextual differences.

Conclusion

This convergent mixed methods study is based upon findings from one institution's eight-week online graduate-level instructional design course designed to facilitate a Community of Inquiry (CoI). Findings

may not apply to different educational levels, disciplines, instructional approaches, or durations. While the study focused on instructor behaviors, factors such as course design, instructor experience, and instructor-specific characteristics may influence instructors' behaviors; these factors were beyond the scope of this study. Finally, data were collected from a small sample and based on one instrument.

Findings and limitations lead to several recommendations for future research. First, this study is aligned with research that positions leadership as an essential element of a CoI (Alotebi et al., 2018; Farmer & Ramsdale, 2016; Garrison, 2013, 2017). More studies are needed to better understand how to develop effective online instructor leadership behaviors. Case studies may be particularly relevant to investigate instructors' leadership perceptions and in-course actions.

Second, while this study demonstrated alignment between servant leadership (SL) and the CoI framework, future studies are needed to advance understanding of how SL is related to interactions among cognitive, social, and teaching presences. Quantitative correlational studies may be useful to investigate the relationships between specific dimensions of SL and the CoI presences and understand the strength of these relationships. While a growing body of research exists regarding instructor presence (e.g., Collins et al., 2019; Oyarzun et al., 2018; Richardson et al., 2015; Stavredes, 2011), investigating the concept using a leadership framework can provide insights useful for instructors' pedagogical practices. Finally, this study showed moderate to strong correlations between instructor SL and student satisfaction. Future studies using larger sample sizes, different disciplines, and different educational levels may help determine whether this correlation exists beyond the specific sample in this study.

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