

RESEARCH-BASED ARTICLES

Graduate Student Perceptions of Online Learning

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Keywords: graduate education, online education, student perceptions, asynchronous learning, community of inquiry framework, CoI framework
<https://doi.org/10.65201/001c.161722>

Journal of Online Graduate Education

Vol. 9, Issue 1, 2026

This qualitative study explored graduate students' perceptions of fully asynchronous online learning in a graduate education program at a university in the Western United States. Guided by the Community of Inquiry (CoI) framework and self-regulated learning theory, the study explored perceived benefits, challenges, and strategies for navigating online coursework. Data were collected through open-ended survey responses from 30 graduate students and analyzed using thematic analysis. Six themes emerged: flexibility and autonomy, course design, instructor engagement, peer interaction and sense of community, self-regulation and time management, and institutional support. Findings indicate that students valued flexibility and autonomy, which supported their ability to balance academic, professional, and personal responsibilities. However, inconsistent instructor engagement, limited peer interaction, and challenges with self-regulation and time management were reported as barriers to sustained engagement. Course design and institutional support were identified as critical structural factors shaping students' experiences and ability to succeed in asynchronous environments. The findings suggest that in fully asynchronous graduate education, instructional design, instructor presence, peer interaction, and institutional support must be intentionally aligned with learners' self-regulatory capacities to support engagement, persistence, and meaningful learning. The findings contribute to understanding how instructional, social, learner, and institutional factors interact in shaping experiences in asynchronous online learning environments.

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Perceptions of online learning inform educators' understanding of how teaching presence, social presence, and cognitive presence shape students' experiences and outcomes in online education (Garrison, 2017; Toma & Berge, 2024). Understanding student perceptions is particularly important given ongoing skepticism surrounding the quality of online education (Cabrera et al., 2024; Tuckel & Pok-Carabalona, 2023). In addition to students' skepticism, research indicates that some faculty continue to question the effectiveness of online instruction, contributing to doubts about whether online learning produces outcomes comparable to face-to-face instruction (Ahmed et al., 2023; Cabrera et al., 2024). Beyond faculty perspectives, employer perceptions of online degrees further influence the legitimacy of online learning, particularly when degrees are obtained from

for-profit or exclusively online institutions (Naresh & Rajalakshmi, 2020). While these external perspectives are important, they often emphasize validation rather than capturing how learning is experienced in online environments, suggesting the importance of studying students' perceptions directly.

Much of the existing literature, however, is limited to undergraduate populations or focuses on temporary shifts to online learning (Hilton et al., 2020; Tuckel & Pok-Carabalona, 2023; Wenli et al., 2022), leaving a gap in understanding how graduate students experience asynchronous online programs designed as long-term instructional models. Graduate learners differ from traditional undergraduates in age, professional experience, and external responsibilities (Panadero et al., 2023; Park & Choi, 2009). These differences shape motivation, expectations for flexibility, and approaches to learning in online environments, particularly where self-direction is required (Cercone, 2008; Kahu et al., 2020; Lee & Choi, 2011). Consequently, there is a pressing need to explore how graduate students perceive and navigate online learning environments, particularly in fully asynchronous programs where flexibility and self-regulation are central to persistence (Kahu et al., 2020; Lee & Choi, 2011). This study addresses that need by examining graduate students' perceptions of asynchronous online programs and identifying key instructional factors that shape their overall perceptions and outcomes. Unlike prior studies that have relied on quantitative or mixed-methods approaches, this study provides a qualitative examination of graduate students' lived experiences in fully asynchronous programs, offering deeper insight into how learners interpret and navigate instructional structures, interaction, and self-regulation. This focus allows for a more precise understanding of how self-regulated learning functions as an enabling condition for engagement within the Community of Inquiry (CoI) framework in fully asynchronous graduate education.

Literature Review

Research examining online learning consistently identifies student-instructor and peer interaction, learner engagement, and course structure as central determinants of students' perceptions of learning quality. Across institutional contexts, students frequently report preferring face-to-face instruction, attributing this preference to reduced isolation, clearer communication, and greater opportunities for spontaneous interaction (Hilton et al., 2020; Tuckel & Pok-Carabalona, 2023; Wenli et al., 2022). These patterns suggest that perceived limitations in social and instructional presence continue to shape attitudes toward online education, particularly in asynchronous formats where interaction must be intentionally structured rather than organically occurring (Hilton et al., 2020; Tuckel & Pok-Carabalona, 2023; Wenli et al., 2022). These findings are consistent across modalities; however, studies focusing specifically on graduate learners suggest

that expectations for autonomy and relevance to professional practice further shape perceptions of engagement and course value (Bolliger & Halupa, 2018; Kumar & Johnson, 2019).

Research indicates that both community and active engagement independently contribute to the quality of online learning (Hilton et al., 2020; Toma & Berge, 2024). Social presence and collaborative learning are key drivers of engagement, yet fostering meaningful connections in asynchronous courses remains challenging (Toma & Berge, 2024). Limited instructor–student interaction and superficial peer engagement have been linked to disengagement and lower satisfaction (Hartline et al., 2022; Hilton et al., 2020; Wenli et al., 2022). Instructor presence, particularly when perceived as connected and responsive, significantly shapes students' experiences, reducing anxiety and supporting engagement (Bolliger & Halupa, 2018; Hartline et al., 2022). Collectively, this research suggests that engagement in online learning is influenced less by modality itself and more by the visibility, responsiveness, and intentionality of instructional and social presence (Bolliger & Halupa, 2018; Hartline et al., 2022; Toma & Berge, 2024).

Course design further influences how students perceive their online learning experiences, particularly in graduate programs where clarity and alignment with professional goals are critical (Hu et al., 2024; Martin et al., 2020). Clear organization, logical content sequencing, and structured learning activities have been linked to increased satisfaction and sustained participation (Hu et al., 2024). In asynchronous environments, where learners navigate content independently, clear expectations and scaffolded assignments are especially important. Effective course design functions not only as a structural guide but also as a mechanism for sustaining engagement and supporting learners as they manage cognitive and temporal demands (Hu et al., 2024; Martin et al., 2020).

Perceptions of online education are also shaped by broader questions of legitimacy and value. Faculty skepticism toward online instruction (Cabrera et al., 2024) and employer hesitation regarding online degrees (Naresh & Rajalakshmi, 2020) continue to influence how online programs are viewed by stakeholders. While these perspectives emphasize external validation and outcomes, they do not fully account for how students experience learning in online environments. Understanding student perceptions is therefore essential for examining the mechanisms that support or hinder meaningful engagement in asynchronous contexts.

While prior research has examined online learning through the CoI framework, much of this work has focused on undergraduate populations or mixed samples and has often emphasized engagement and satisfaction broadly. Fewer studies have qualitatively explored graduate students enrolled in fully asynchronous programs as a distinct population, despite evidence that graduate learners differ significantly from undergraduates in autonomy, professional context, and learning expectations (Cerccone, 2008; Kahu et al.,

2020; Park & Choi, 2009). Existing graduate-focused research has primarily relied on quantitative or mixed-methods approaches, limiting insight into how learners interpret and navigate their experiences. Additionally, limited research has explored how graduate students experience the interaction between flexibility, instructional design, and self-regulated learning within asynchronous environments. Although research on online graduate education has increased, much of this work has focused on specific elements of the learning experience, such as mentoring, persistence, or satisfaction, rather than providing a holistic examination of how graduate students interpret and navigate fully asynchronous learning environments (e.g., Bolliger & Halupa, 2018; Kumar & Johnson, 2019). In addition, many studies rely on quantitative or mixed-methods designs, which, while valuable, offer limited insight into the processes through which graduate learners make meaning of flexibility, interaction, and instructional structures in asynchronous contexts. Fewer studies have employed qualitative approaches to examine these dynamics holistically within fully asynchronous graduate programs. Building on this body of work, this study addresses these gaps by providing a qualitative, graduate-specific analysis of asynchronous online learning grounded in both the CoI framework and self-regulated learning theory.

Although the CoI framework has been widely applied in online learning research, scholars have noted limitations in its application to asynchronous and graduate-level contexts. Specifically, the framework has been critiqued for underemphasizing learner autonomy and self-regulation, which are particularly salient in fully online graduate programs (Joo et al., 2011; Shea & Bidjerano, 2010). Additionally, the CoI model tends to conceptualize presence as instructor-driven, potentially overlooking the ways in which experienced adult learners independently construct meaning and manage engagement. These limitations suggest the value of integrating complementary perspectives, such as self-regulated learning theory, when examining graduate student experiences in asynchronous environments.

Theoretical Framework

This study is guided by the CoI framework, which conceptualizes meaningful online learning as the intersection of teaching presence, social presence, and cognitive presence (Garrison, 2017). Teaching presence encompasses instructional design, facilitation, and direct instruction; social presence reflects the ability of participants to project themselves as real individuals within a learning community; and cognitive presence refers to the process through which learners construct meaning through sustained reflection and discourse (Garrison, 2017). Prior research indicates that both teaching presence and social presence positively influence student engagement, satisfaction, and continued participation in online learning (Li et al., 2023). The CoI framework is well-suited to examining asynchronous online learning because it emphasizes both structural and relational dimensions of learning.

The study is also informed by self-regulated learning theory, which emphasizes learners' ability to plan, monitor, and manage their own learning processes (Panadero et al., 2023). Recent research indicates that learners who develop self-regulated learning strategies, often reflected in patterns of LMS interaction and engagement behaviors, are better able to maintain engagement and achieve learning outcomes in online courses (Unal Cakiroglu et al., 2024), a pattern also reflected in participants' descriptions of planning, task management, and sustained engagement in this study. Asynchronous learning environments place increased responsibility on students to regulate motivation, tasks, and time, a combination of skills central to effective self-regulated learning. Together, the CoI framework and self-regulated learning theory informed the development of survey questions, guided thematic analysis, and shaped the interpretation of findings related to flexibility, engagement, peer interaction, and institutional support.

Methods

This study employed purposive sampling to define eligibility criteria and voluntary self-selection for participant recruitment, targeting students enrolled in fully online, asynchronous graduate education programs who met predefined inclusion criteria. This study was reviewed and approved by the university's Institutional Review Board (IRB) prior to data collection. Participants were recruited through institutional email distribution lists, targeting individuals who were enrolled in graduate-level education programs and had completed at least one asynchronous online course. All procedures complied with ethical standards for research involving human participants, including IRB approval, informed consent, voluntary participation, and the protection of participant anonymity. Participation was voluntary, and informed consent was obtained electronically before participants accessed the survey. No identifying information was collected, and responses were recorded anonymously to protect participant confidentiality.

Recruitment emails were sent to 189 eligible students, inviting them to participate in an anonymous online survey. Students self-selected into the study by accessing the survey and providing electronic consent prior to responding. The final sample consisted of 30 graduate students (62% female, 38% male) aged 26 to 59, yielding a 15.9% response rate. While this response rate is consistent with similar voluntary online survey research, it introduces the potential for non-response bias, as participants who chose to respond may have had stronger or more polarized experiences with online learning than non-respondents. As a result, findings may overrepresent students who were either particularly satisfied or dissatisfied, and should be interpreted as reflecting the perspectives of respondents rather than the full range of student experiences. Despite this limitation, responses demonstrated sufficient depth and variation to support thematic analysis aligned with the study's exploratory purpose.

Data Collection

Data were collected over a three-week period using an open-ended online survey (Appendix A). The survey included questions designed to elicit students' reflections on their experiences in fully asynchronous online courses, including their overall perceptions of learning, factors that supported or hindered their engagement, and their approaches to navigating coursework. This approach allowed participants to describe their experiences in their own words and to emphasize aspects of online learning that were most meaningful to them. The online format facilitated participation at students' convenience while maintaining anonymity.

Data Analysis

Data were examined using thematic analysis. Survey responses were uploaded into NVivo software to support systematic coding and organization. Initial codes were generated inductively, beginning with open coding to identify meaningful units of text, and refined through multiple rounds of iterative review to identify patterns and shared meanings across participants' responses. Themes were developed by grouping related codes, examining relationships across responses, and attending to both commonalities and variations in participants' experiences. To enhance trustworthiness, multiple strategies were employed, including an audit trail to document analytic decisions throughout the coding process, a reflexive journal to acknowledge researcher assumptions and potential biases, and peer debriefing to review coding decisions and thematic development. These strategies were used to support credibility, dependability, and confirmability, consistent with established qualitative research standards (Lincoln & Guba, 1985).

The final thematic structure consisted of six themes, selected based on their prevalence across responses, conceptual distinctiveness, and interpretive coherence. Because participants often referenced multiple aspects of their experiences within a single response, thematic coding was not mutually exclusive. As a result, frequency counts reflect the number of participants who mentioned a theme or subtheme at least once, and individuals may appear in multiple subcategories within a theme. Therefore, subtheme totals may exceed the number of participants within a parent theme, as categories are intended to represent co-occurring experiences rather than discrete or exclusive groupings. Alternative configurations were considered during analysis; however, combining themes resulted in a loss of conceptual clarity, while further fragmentation reduced coherence. The six-theme structure therefore provided the most analytically meaningful representation of participants' experiences.

Researcher Positionality

I am a faculty member with professional experience in online higher education and have both designed and taught asynchronous courses. This background informed an understanding of instructional design, student engagement, and institutional structures in online learning environments. At the same time, this positionality introduces the potential for bias in interpreting participants' experiences, particularly in relation to instructor engagement and course design. To mitigate this, reflexive journaling was maintained throughout the research process to critically examine assumptions, and analytic decisions were documented to ensure transparency. Emphasis was placed on grounding interpretations in participants' responses rather than prior expectations or professional experience. This reflexive approach was intended to enhance confirmability by ensuring that interpretations were grounded in participant data rather than researcher assumptions.

Results

Analysis of qualitative survey data revealed six overarching themes reflecting graduate students' perceptions of asynchronous online learning: the flexibility and autonomy of online learning; course design; instructor engagement; peer interaction and the sense of community; strategies for self-regulation and time management; and institutional support. Each theme reflects patterns across participant responses and illustrates how course structure, instructional practices, and learner behaviors shaped students' perceptions. The following sections present these themes in detail. Each theme is also interpreted in relation to the CoI framework, highlighting how teaching presence, social presence, and cognitive presence were reflected in participants' experiences.

Flexibility and Autonomy in Online Learning

Flexibility emerged as a dominant theme across participant responses, with the majority of students describing it as a primary benefit of asynchronous learning. Specifically, 23 of the 30 participants highlighted flexibility as central to their experience, noting that the ability to complete coursework around professional and personal responsibilities supported persistence, reduced stress, and increased overall satisfaction with their graduate program. Within this group, participants described multiple overlapping aspects of flexibility, including working at their own pace ($n = 8$), engaging in independent or self-directed learning activities ($n = 4$), and describing the experience as rewarding and personally fulfilling ($n = 7$). These categories are not mutually exclusive, as participants often referenced more than one aspect of flexibility in their responses. The remaining seven participants did not identify flexibility as a primary benefit, reporting initial challenges adjusting to the online format, including feeling overwhelmed during the transition from face-to-face instruction, difficulty managing time, and uncertainty

about course expectations. This theme primarily reflects cognitive presence, while also interacting with teaching presence through course structure, as students' ability to engage meaningfully with course content depended on their capacity to manage learning independently within flexible instructional designs.

Participants frequently described flexibility as essential to persistence. One participant noted, "The flexibility is the only reason I can complete this degree while working full time." Another noted, "Being able to work ahead when my schedule allows has reduced stress and made the program manageable." These responses illustrate how flexibility functioned not only as a matter of convenience but as a structural condition enabling continued enrollment. Despite early adjustment challenges for some students, these negative cases suggest that flexibility alone is insufficient without corresponding self-regulation and clear course structure, even as flexibility remained a central advantage for most participants. These contrasting responses were treated as meaningful negative cases and were retained in the analysis to ensure that the findings reflected variation in participant experiences rather than a single dominant perspective.

Course Design

Fourteen participants identified course design as a significant factor shaping their perceptions of learning. Within this group, participants identified multiple contributing elements of course design, including clarity of course outlines ($n = 8$), logically sequenced lessons ($n = 7$), and scaffolded assignments ($n = 6$). These elements were not mutually exclusive, as participants often referenced more than one feature of course design in their responses. Preferences for instructional materials were reported across the full sample: 9 participants favored text-based materials, while 21 valued multimedia resources such as recorded lectures, examples, and interactive elements. These findings illustrate teaching presence, as course organization and structure shaped students' ability to engage with content and navigate learning expectations.

Participants consistently linked organization and clarity to engagement. One participant stated, "When the modules are clearly laid out with deadlines and examples, I know exactly what to focus on." Another explained, "It's much easier to stay motivated when the course is organized in a predictable way." In contrast, one participant noted, "Unclear instructions and broken links make it harder to do the assignments." These responses indicate that clarity and consistency were more influential than format alone, and that well-structured design directly shaped students' confidence and sustained participation in asynchronous learning.

Instructor Engagement

Instructor engagement emerged as a central factor shaping student experiences in asynchronous online learning, with most participants emphasizing its importance for clarity, motivation, and perceived support.

Specifically, 23 participants (of 30) identified instructor engagement as influential, particularly through timely communication, detailed feedback, and opportunities for revision. Within this group, 15 participants noted detailed feedback, five prioritized timely communication, and three valued opportunities for revision, noting that actionable guidance and individualized interaction were essential to supporting their progress. The remaining seven participants (of 30) reported limited instructor interaction as a negative aspect of their learning, citing inconsistent feedback, delayed responses, and impersonal communication, which contributed to frustration and reduced engagement. This theme reflects teaching, social, and cognitive presence, as instructor responsiveness, feedback, and interaction shaped students' sense of connection, clarity, and meaning-making.

Participants consistently described detailed feedback as central to their learning. One participant explained, "Detailed feedback helps me understand what I did well and where I need to improve." Another noted, "When instructors respond quickly and give specific suggestions, I feel supported." In contrast, one participant described frustration with minimal interaction, stating, "Sometimes it feels like assignments go into a void with no meaningful response." These contrasting perspectives illustrate that visible, responsive instructor presence significantly shaped students' engagement, motivation, and perceptions of course quality in asynchronous learning environments.

Peer Interaction and Sense of Community

Reflecting social presence within the CoI framework, many participants expressed a desire for increased peer interaction, while responses also revealed meaningful variation in how graduate learners valued social connection in asynchronous courses. Specifically, 24 participants (of 30) expressed a desire for greater peer engagement; within this group, participants often described current discussion activities as superficial or insufficient for fostering a sense of community. Of these, 16 participants reported feeling isolated when discussion activities were limited or perceived as superficial, and eight participants noted missing opportunities for informal discussion and collaboration. The remaining six participants (of 30) did not identify limited peer interaction as a concern; four participants specifically indicated a preference for independent learning, while two either did not comment on peer interaction or felt it was sufficient.

Participants frequently described a lack of authentic connection. One participant shared, "I miss having real conversations with classmates instead of just posting responses." Another noted, "Discussion boards sometimes feel like busy work rather than meaningful." In contrast, a participant who preferred independent learning stated, "I like being able to focus on my own work without relying on group discussions." These responses indicate that while most students desired more intentional opportunities for peer engagement, preferences for social interaction varied among graduate learners. This theme reflects social presence within the CoI framework, as students'

perceptions of connection, interaction, and community illustrate how social presence shaped engagement and satisfaction in asynchronous learning environments.

Self-Regulation and Time Management

Self-regulation emerged as a variable but important aspect of students' learning experiences in asynchronous courses, particularly in relation to time management and motivation. Specifically, 12 participants (of 30) discussed explicit strategies for managing coursework, such as planning ahead, breaking assignments into smaller tasks, and using calendars or structured schedules. Among these, eight described proactive approaches such as advanced planning, task segmentation, and the use of calendars or structured outlines, while four participants reported that using these strategies increased their confidence and reduced stress. In contrast, seven participants (of 30) reported challenges with motivation, procrastination, or balancing coursework with professional and personal responsibilities and did not describe using strategies to address these challenges. The remaining 11 participants (of 30) did not comment on self-regulation.

Participants who demonstrated strong self-regulation described intentional planning behaviors. One participant explained, "I map out all deadlines at the beginning of the term and break assignments into smaller tasks." Another shared, "Using a calendar keeps me accountable." Conversely, one participant acknowledged difficulty sustaining motivation, stating, "It's easy to procrastinate when no one is checking in." These responses highlight variability in students' capacity for self-regulation and demonstrate its importance in shaping perceptions of success in asynchronous courses. Self-regulated learning not only reinforces cognitive presence but also functions as an enabling condition for engagement across teaching, social, and cognitive presences by supporting students' ability to manage time, motivation, and learning processes in asynchronous environments.

Institutional Support

Twenty-seven of the participants (of 30) described institutional support services positively, including advising, library services, tutoring, or online help tools as responsive and accessible. The remaining three participants (of 30) reported difficulty navigating available services or uncertainty about which resources to access and indicated that they had not effectively used institutional support to address challenges. Although not explicitly defined within the CoI framework, institutional support functioned as a structural and contextual enabler of teaching, social, and cognitive presence by supporting access to academic resources, facilitating navigation of institutional systems, and providing scaffolding for students' engagement in asynchronous learning environments.

Participants who accessed support services described these services as helpful and accessible. One participant noted, "The library chat support has been extremely helpful when I need research assistance." Another stated,

“Advising has been responsive whenever I have questions.” In contrast, one participant shared, “I wasn’t always sure where to go for help.” These responses suggest that while institutional resources were widely viewed as beneficial, awareness and ease of navigation influenced how effectively students utilized available supports.

Discussion

The findings indicate that teaching, social, and cognitive presence in asynchronous graduate learning operate interdependently (Garrison, 2017) and are shaped by both learner self-regulation and institutional support (Panadero et al., 2023; Shea & Bidjerano, 2010). The CoI framework guided interpretation, while self-regulated learning functioned as an enabling mechanism and institutional support operated as a contextual condition shaping how students engaged within the asynchronous learning environment. In this study, teaching presence was reflected in course organization and instructor feedback, social presence in the perceived quality of peer interaction, and cognitive presence in the students’ meaning-making processes, which were supported by self-regulated learning strategies. The findings also highlight limitations in the CoI framework when applied to fully asynchronous graduate learning contexts. Graduate learners in fully asynchronous environments enact cognitive presence in ways that extend beyond the explanatory scope of the CoI framework. While CoI positions teaching, social, and cognitive presence as the primary drivers of meaningful learning (Garrison, 2017; Shea & Bidjerano, 2010), the findings suggest that cognitive presence is often initiated and sustained through learners’ self-regulatory processes rather than instructor- or interaction-driven mechanisms alone. In particular, students’ ability to plan, persist, and manage cognitive load appeared to function as an enabling condition for engagement with content, rather than a downstream outcome of instructional design or social interaction. This creates a refinement to the CoI interpretation in fully asynchronous graduate contexts, as the findings suggest that self-regulated learning plays a foundational role in enabling students to engage with and sustain teaching, social, and cognitive presence. A key contribution of this study is that self-regulated learning operates as a contextual enabling condition that shapes whether and how teaching, social, and cognitive presence are enacted in fully asynchronous graduate learning environments, suggesting that CoI processes in these contexts are contingent on learners’ regulatory capacities rather than solely on instructional or interactional design. Specifically, the CoI framework does not explicitly account for the role of learner self-regulation, which emerged as a critical factor shaping cognitive engagement in fully asynchronous graduate learning contexts. In fully asynchronous environments, where instructor interaction is less immediate, students’ ability to independently manage time, motivation, and task completion becomes especially important for sustaining engagement. Additionally, the findings suggest that institutional support structures, while

external to the CoI model, play a role in enabling engagement, highlighting the importance of contextual and infrastructural factors in fully asynchronous graduate learning.

While several findings of this study align with prior research on online learning, several notable divergences emerge. Existing literature, particularly studies focused on undergraduate populations, positions social interaction and instructor presence as primary drivers of engagement (Hilton et al., 2020; Toma & Berge, 2024). In contrast, for graduate learners in fully asynchronous environments, engagement is often initiated and sustained through self-regulatory processes rather than interaction alone. Additionally, whereas prior research often treats instructional design as a supporting feature of online learning, course design may function as a compensatory mechanism in contexts where real-time interaction is limited. Finally, while existing studies often assume that increased peer interaction is uniformly beneficial, some participants' preference for independent learning highlights variability in how graduate students value social engagement. These divergences suggest that models derived primarily from undergraduate or synchronous contexts may not fully account for the dynamics of asynchronous graduate learning environments.

Course design functioned as a key component of teaching presence, consistent with prior research demonstrating that structured design supports student engagement (Hu et al., 2024; Martin et al., 2020). Clear organization, scaffolded assignments, and logically sequenced lessons reduced cognitive load and supported sustained engagement, reinforcing instructional design as an active component of teaching presence rather than a passive feature of course delivery (Hu et al., 2024; Martin et al., 2020). When design elements were unclear or inconsistent, they disrupted teaching presence and increased cognitive load, limiting sustained engagement in asynchronous learning environments. Teaching presence is enacted through instructional design (e.g., clear organization, scaffolded assignments) as well as facilitation and interaction, aligning with the CoI framework's definition of teaching presence (Garrison, 2017). These findings extend prior research by highlighting the extent to which instructional design shapes engagement in asynchronous graduate learning environments (Toma & Berge, 2024). Participants' frustration with unclear or inconsistent design highlights a divergence from studies that assume baseline design quality, suggesting that variability in instructional design may play a more significant role in shaping graduate student perceptions than previously emphasized.

Instructor engagement further reinforced teaching presence and contributed to both social and cognitive presence, consistent with findings that timely feedback and instructor responsiveness are central to student satisfaction in online learning (Bolliger & Halupa, 2018; Hartline et al., 2022). These results demonstrate that instructor engagement operates as both instructional facilitation and relational support, where timely communication, detailed feedback, and individualized guidance enhance

students' interpretive clarity and perceived academic connection, consistent with prior research on responsiveness in online learning environments (Bolliger & Halupa, 2018; Hartline et al., 2022). Conversely, limited or impersonal interaction reduced students' motivation, aligning with prior research emphasizing that weak instructor presence is associated with lower engagement and reduced satisfaction in online learning environments (Bolliger & Halupa, 2018; Hartline et al., 2022). This pattern is consistent with prior studies emphasizing instructor responsiveness as central to online satisfaction (Bolliger & Halupa, 2018; Hartline et al., 2022), but diverges in that graduate students in this study described instructor engagement not only as supportive, but as essential for maintaining academic direction in fully asynchronous settings. These results emphasize that visible and responsive instructor involvement strengthens teaching presence and indirectly supports cognitive presence by clarifying expectations and enabling meaning-making in asynchronous environments, consistent with the definitions of these constructs within the CoI framework (Garrison, 2017).

Peer interaction was closely tied to social presence, defined as learners' ability to project themselves as real and connected participants within the learning environment (Garrison, 2017). Most participants desired more meaningful opportunities for authentic connection, indicating that social presence does not emerge automatically in asynchronous courses. This partially contrasts with earlier online learning studies that tend to frame peer interaction as a consistently positive predictor of engagement (Hilton et al., 2020; Toma & Berge, 2024), whereas findings here suggest variability in its perceived value among graduate learners balancing professional responsibilities. Structured collaboration and purposeful discussion design are therefore necessary not simply to increase interaction frequency, but to intentionally cultivate social presence by creating conditions in which students perceive peer interaction as authentic, meaningful, and academically relevant. Although a minority preferred independent learning, the dominant pattern suggests that graduate learners benefit from and desire intentional opportunities for peer engagement. However, unlike studies that position peer interaction as uniformly beneficial (Hilton et al., 2020; Toma & Berge, 2024), the presence of participants who preferred independent learning in this study suggests that the value of social presence may vary among graduate learners, particularly those balancing substantial external responsibilities.

Self-regulation emerged as a critical individual factor influencing cognitive presence. Students who reported proactively planning and segmenting tasks also described greater confidence and reduced stress, whereas those who reported struggling with motivation described more difficulty sustaining engagement. The analysis reinforces the importance of integrating supports for self-regulated learning into course structures to better sustain engagement in asynchronous learning environments (Lee & Choi, 2011; Panadero et al., 2023; Unal Cakiroglu et al., 2024). These findings reinforce prior research

linking self-regulated learning to persistence and success in asynchronous environments that require high levels of learner autonomy (Lee & Choi, 2011; Panadero et al., 2023; Unal Cakiroglu et al., 2024).

Institutional support provided a contextual foundation enabling teaching, social, and cognitive presence to function effectively. Accessible advising, technical assistance, and research resources enhanced students' ability to navigate asynchronous learning, while difficulty locating support limited engagement. The results suggest that institutional infrastructure is integral to the online learning ecosystem rather than peripheral to it (Kahu et al., 2020; Martin et al., 2020).

Overall, the findings suggest that the CoI framework explains the instructional structure of asynchronous graduate learning, while self-regulated learning operates as a key enabling condition that shapes how students engage within that structure. Institutional support functions as a contextual condition that supports both instruction and learner self-regulation. These elements operate in a layered relationship in which the CoI framework explains the learning environment, self-regulated learning helps explain learner behavior within that environment, and institutional support enables both to function effectively. This integrative interpretation is consistent with recent scholarship emphasizing the need to extend CoI applications in asynchronous higher education by incorporating learner self-regulation and institutional context as complementary explanatory dimensions (Martin et al., 2020; Panadero et al., 2023; Shea & Bidjerano, 2010).

Theoretical Implications

This study extends the CoI framework by proposing that self-regulated learning functions as an enabling condition for the enactment of teaching, social, and cognitive presence in fully asynchronous graduate environments. While CoI conceptualizes teaching, social, and cognitive presence as interacting elements that support meaningful learning (Garrison, 2017), the findings indicate that students' ability to regulate time, motivation, and task completion is closely related to the extent to which these presences are experienced in practice. In fully asynchronous environments, where instructor interaction and peer engagement are not continuously available, self-regulated learning becomes particularly important in shaping how learners engage with course content and sustain participation over time. Rather than functioning as an external or separate construct, self-regulated learning appears embedded within the learning process itself, influencing how students access, interpret, and persist in online learning experiences. These findings suggest that applications of the CoI framework in asynchronous graduate contexts should more explicitly incorporate learner self-regulation as a foundational condition that supports the enactment of teaching, social, and cognitive presence.

Practical Implications

Intentional scaffolding, clear organization, and timely, personalized feedback can enhance teaching presence and support learner self-regulation. Structured opportunities for peer engagement, including collaborative activities and discussion prompts, cultivate social presence and a sense of community. Institutions can facilitate engagement by providing accessible advising, research resources, and technology support. Integrating these elements enables educators and institutions to design asynchronous programs that balance flexibility with structured support through clear course organization, consistent instructor communication, and accessible student support services. These findings also suggest that faculty development initiatives should prioritize strategies for enhancing instructor presence in asynchronous environments, including training on effective feedback practices, communication strategies, and discussion facilitation. Additionally, institutions may consider integrating structured supports for self-regulated learning, such as orientation modules, embedded planning tools, and time management resources, to better prepare graduate students for the demands of asynchronous coursework.

Research Limitations and Future Directions

Limitations

Several limitations should be considered when interpreting the findings of this study. First, participants were drawn from a single university and were enrolled exclusively in graduate education programs. As a result, the findings reflect a specific population and may not generalize to students in other disciplines, institutions, or instructional contexts. Although the sample size is modest, responses demonstrated sufficient depth and repetition to support thematic development.

Second, the study relied on self-reported data collected through open-ended survey questions. While this approach enabled participants to articulate their experiences in their own words, self-report data are subject to response biases, including selective recall and socially desirable responses. Participants' perceptions may also have been influenced by recent course experiences rather than reflecting their broader engagement with online learning over time.

Third, the cross-sectional design provides a snapshot of student perceptions at a single point in time. Without longitudinal data, it is not possible to examine how students' experiences, strategies, and attitudes toward asynchronous online learning evolve over the course of their programs. Finally, the study focused exclusively on student perspectives. The absence of instructor and institutional viewpoints limits insight into instructional and adult learning factors that shape online learning experiences. These limitations suggest several directions for future research that could further clarify and expand our understanding of graduate students' perceptions of asynchronous online learning.

Future Directions

Future research could extend these findings in several ways. Longitudinal studies following students across multiple academic terms or throughout their entire graduate programs may clarify how perceptions of online learning change as students adapt. Expanding research to include multiple institutions and a broader range of academic disciplines would enhance the transferability of findings and help identify patterns that extend beyond a single institutional context.

Given participants' desire for greater peer interaction, future studies could explore instructional strategies and technological tools to foster community and collaboration in asynchronous courses. Research examining structured peer engagement activities, collaborative projects, or emerging communication platforms may provide practical guidance for online course design. Incorporating perspectives from instructors, academic advisors, and instructional designers could yield a more comprehensive understanding of challenges and opportunities in online education. Mixed-methods studies that combine qualitative insights with quantitative measures may further identify relationships among course design, instructor practices, student engagement, and learning outcomes. Finally, because time management and self-regulation were identified as persistent challenges, future research could investigate targeted interventions to support these skills. Evaluating the impact of orientation modules, embedded learning supports, or technology-assisted planning tools may inform institutional efforts to improve student success and satisfaction in asynchronous online programs.

Conclusion

This study extends the CoI framework in fully asynchronous graduate education, where teaching presence, social presence, and cognitive presence function as an interdependent system sustained through learner self-regulation and institutional support, rather than operating as isolated dimensions of the online environment. Although flexibility helped students balance responsibilities, meaningful learning also depended on responsive instructors, peer collaboration, and accessible institutional resources. These findings suggest that graduate student success in asynchronous learning is shaped by a layered system in which the CoI framework structures instructional and interactional design, self-regulated learning functions as a foundational enabling condition for engagement, and institutional support provides the contextual infrastructure that enables these components to function.

Submitted: January 22, 2026 EDT. Accepted: May 01, 2026 EDT. Published: June 03, 2026 EDT.

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Appendix A. Participant Survey Questions

1. How would you describe your overall experience in your online courses?
2. What do you enjoy least about your online courses?
3. What do you enjoy most about your online courses?
4. What, if any, aspects of your online courses have enhanced your learning?
5. How do you feel about the communication and interaction between students and instructors in your courses?
6. What are your thoughts on the structure and organization of your online coursework?
7. How do you perceive the support provided by your institution for online learning?
8. What strategies have you developed to manage your time and assignments in online courses?
9. How do you feel about the feedback you receive from instructors in the online format?
10. If you could change one thing about your online learning experience, what would it be?