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Educational Experience and Instructional Design Effectiveness Within the Community of Inquiry Framework

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Article abstract

Within its 20 years of development, the Community of Inquiry (CoI) framework has become the most widely used theoretical framework in e-learning. It is considered in much of the distance education literature to be a robust collaborative-constructivist process model that uses three essential elements to interpret educational experience: cognitive presence, teaching presence, and social presence. Widespread use of the CoI framework has resulted in several criticisms, such as having no guidelines for implementation, no incorporation of assessment and evaluation metrics, and no widespread consensus on the current model's ability to represent all the contributing factors that promote a positive educational experience. However, there is an opportunity to overcome these shortcomings, some of which may exist, and to use the CoI's extraordinary strength in creating a positive education experience, by adding instructional design effectiveness. The purpose of this combination of a literature review and opinion is to present the CoI framework and its major controversies to shine a light on its importance as one approach to designing critical parts of e-learning. Additionally, given the CoI's purpose of creating a positive educational experience, this paper argues to make explicit to instructional designers and instructors the need to address using the CoI framework within an effective overall design.

Educational Experience and Instructional Design Effectiveness Within the Community of Inquiry Framework

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Abstract

Within its 20 years of development, the Community of Inquiry (CoI) framework has become the most widely used theoretical framework in e-learning. It is considered in much of the distance education literature to be a robust collaborative-constructivist process model that uses three essential elements to interpret educational experience: cognitive presence, teaching presence, and social presence. Widespread use of the CoI framework has resulted in several criticisms, such as having no guidelines for implementation, no incorporation of assessment and evaluation metrics, and no widespread consensus on the current model's ability to represent all the contributing factors that promote a positive educational experience. However, there is an opportunity to overcome these shortcomings, some of which may exist, and to use the CoI's extraordinary strength in creating a positive education experience, by adding instructional design effectiveness. The purpose of this combination of a literature review and opinion is to present the CoI framework and its major controversies to shine a light on its importance as one approach to designing critical parts of e-learning. Additionally, given the CoI's purpose of creating a positive educational experience, this paper argues to make explicit to instructional designers and instructors the need to address using the CoI framework within an effective overall design.

Keywords: community of inquiry (CoI) framework, instructional design outcomes, elearning, assessment and evaluation

Introduction

For more than 20 years, the Community of Inquiry (CoI) framework (Garrison et al., 1999) has been considered by many distance education scholars to be a robust collaborative-constructivist process model that includes three essential elements to promote a successful online learning experience (Castellanos-Reyes, 2020; Kozan & Caskurlu, 2018). The three essential elements are cognitive presence, social presence, and teaching presence as depicted in Figure 1.

Figure 1

Community of Inquiry Framework
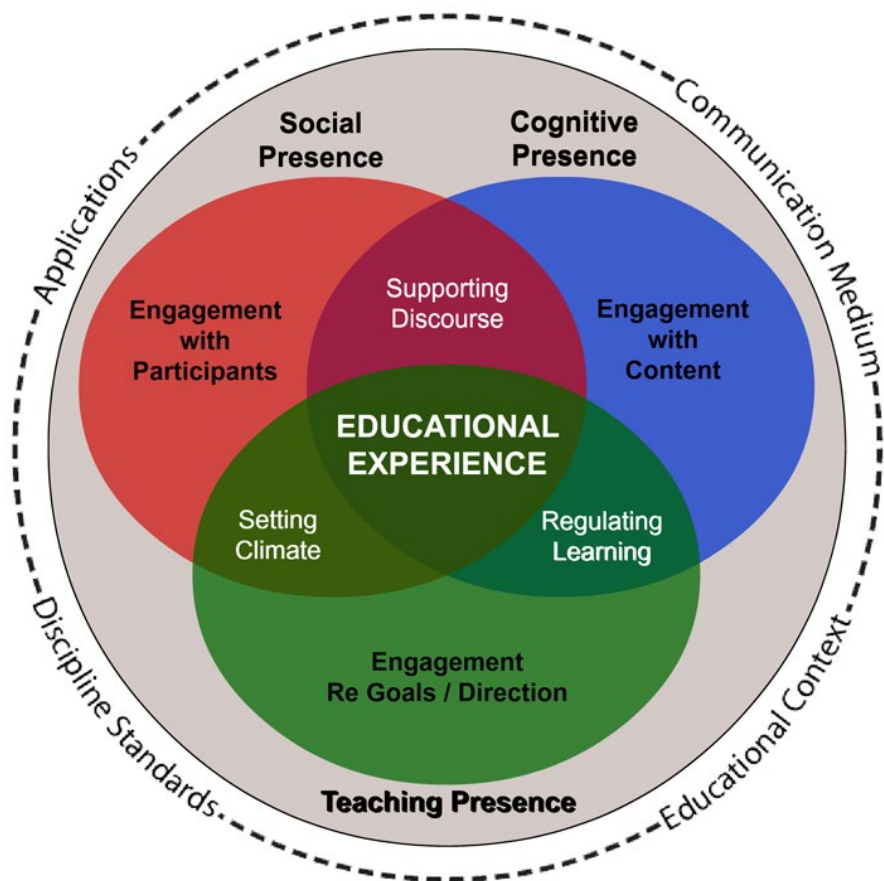
Note. From "About the Framework: Social, Cognitive, and Teaching Presence," by The Community of Inquiry, n.d. (https://www.thecommunityofinquiry.org/framework). CC BY-SA 4.0.

Cognitive presence relates to the ability and extent to which learners may construct knowledge, confirm meaning through discourse or discussion, solve problems, and use critical thinking and/or reflection (Fiock, 2020; Garrison & Arbaugh, 2007; Kozan & Caskurlu, 2018). It focuses on the process of learning, which makes it an important indicator of quality in an online learning experience (Martin et al., 2022; Sadaf et al.,

2021). Meanwhile, social presence relates to open, purposeful communication that serves as the foundation for building a trusting environment such as working towards a common goal (Martin et al., 2020; Garrison & Arbaugh, 2007; Kozan & Caskurlu, 2018). It is the most heavily researched element because a sense of community encourages a collaborative learning environment (Castellanos-Reyes, 2020; Cleveland-Innes, 2019). Teaching presence relates to the distribution of authority and the shared role of participating in directing, designing, and facilitating among the participants in the CoI-related learning experience (Cooper & Scriven, 2017; Dempsey & Zhang, 2019; Fiock et al, 2021; Garrison & Arbaugh, 2007).

Conversely, there is equally widespread criticism about the CoI framework that includes at least the following three problems. First, there are no practical guidelines or implementation processes for instructional designers and practitioners (Fiock, 2020; Garrison & Arbaugh, 2007). This is a problem because it requires individuals to rely on their interpretations of the literature and/or past teaching experiences, and practitioners often have little or no instructional design training. As a research-based framework, the lack of systematic guidelines and expectations fails to provide a method to assess the effectiveness of an online course (Kebritchi et al., 2017). For example, Fiock (2020) pointed out that discussion boards can be an invaluable way to promote an online community of learners but warned they can be ineffective when designed poorly.

The second problem is that the CoI framework does not include assessment and evaluation procedures. This is a problem because one of the four basic elements of instructional systems is assessment and evaluation as depicted in Figure 2. Furthermore, the use of assessment and evaluation procedures is essential for online courses because they provide a way for both instructors and instructional designers to measure learning outcomes and the overall effectiveness of a course (Kebritchi et al., 2017; Martin et al., 2021).

Figure 2

Secret of Instructional Design
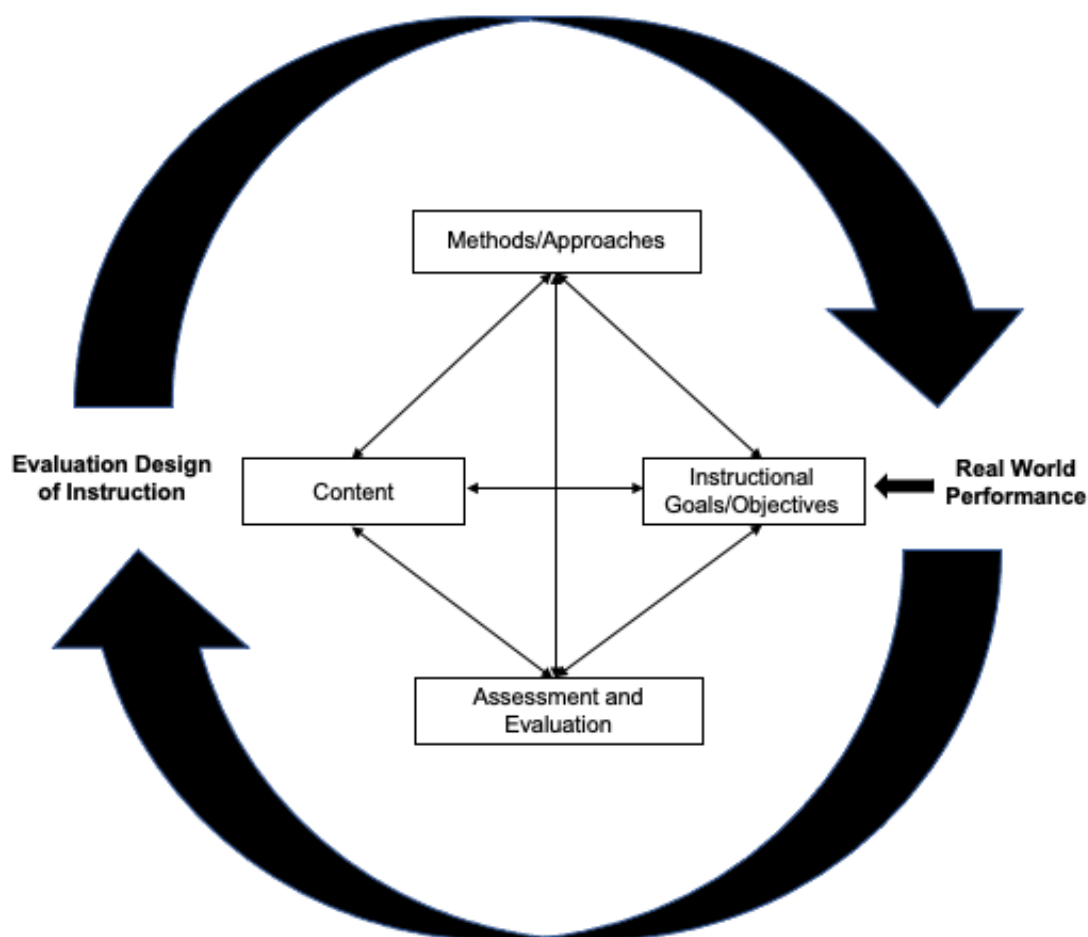
Note. From "Secret of Instructional Design Revisited," by Z. L. Berge, 2021, *Frontiers in Education Technology*, *4*(4), p. 27 (https://doi.org/10.22158/fet.v4n4p26). CC BY 4.0.

The third problem is that there is no widespread consensus about the composition of the framework (Castellanos-Reyes, 2020). There are ongoing debates about revising the model to include more presences (e.g., Cleveland-Innes, 2019; Kozan & Caskurlu, 2018; Wertz, 2022) and verifying the validity of the current framework (e.g., Dempsey & Zhang; 2019; Heilporn & Lakhal, 2020; Stenbom, 2018). However, there seems to be a workable solution to address all three problems through assessment and evaluation procedures (see e.g., Stinnette & Luxbacher, 2021).

The unprecedented demand for high-quality, online learning experiences has caused an equal demand for research-based pedagogy to support the effective use of technology in education (Kebritchi et al., 2017; Olpak, 2022; Park & Shea, 2020). Kebritchi et al. (2017) considered any dynamic online learning environment as consisting of three major components that continuously affect one another: content,

instructors, and learners. Both novice and seasoned instructors need effective models and strategies to encourage exploration with a focus on improving the quality of online education (Kebritchi et al., 2017; Martin et al., 2019). Research conducted by Martin et al. (2019) found using a conceptual framework was a helpful tool for explaining effective online teaching and learning practices to both faculty and support staff.

A systematic literature review conducted by Valverde-Berrocoso et al. (2020) between 2009–2018 revealed that there were only two educational theories about e-learning used in international high-impact scientific journals: the CoI framework and the technology acceptance model (TAM). However, the authors pointed out that the CoI framework was found to be the most relevant in their selected investigation (Valverde-Berrocoso et al., 2020). In a second review conducted by Park and Shea (2020) between 2008–2017, the authors determined that the CoI framework was being continuously researched over the past decade, with two books and four peer-reviewed articles that related to the CoI framework being included in the top 20 most frequently cited publications. In a third systematic review between 2000–2020, conducted by Olpak (2022), the author discovered that the study conducted by Garrison et al. in 1999 was the most referenced study. Furthermore, the same review revealed the CoI framework and its basic elements as being the subject of the top 10 most frequently referenced studies (Olpak, 2022).

Based on the educational research trends noted in the literature for over 10 years, we believe this to be a strong indication that the CoI framework is a robust, research-based e-learning theory that can be easily incorporated by both novice and seasoned educators interested in creating both meaningful and high-quality educational experiences online. Therefore, the purpose of this combination literature review and opinion is to discuss the complexities, controversies, and a possible more meaningful future for the CoI framework when combined with explicit attention to effective instructional design.

About the CoI Framework

In 1999, the CoI framework was developed and presented by Garrison et al. as an original framework to support the thoughtful design of online education while providing opportunities for students to learn with active and shared learning strategies (Fiock, 2020; The Community of Inquiry, n.d.). Nine years later, a 34-item survey instrument was developed to validate the framework by measuring the perception of a learner's educational experience with multiple items to detect each presence (Castellanos-Reyes, 2020; Sadaf et al., 2021; The Community of Inquiry, n.d.). Recently, Stenbom (2018) conducted a systematic review of the CoI survey on 103 studies from 2008–2017. The author discovered the following:

> The CoI survey provide[s] a reliable and valid measure of cognitive, social, and teaching presence as outlined in the CoI framework. The structural relationship between the elements indicates that teaching presence predicts student perceptions of cognitive presence with social presence as a partial mediator. (p. 27)

Each element in the CoI framework has an independent identity that requires interdependence to function, like vital organs in the human body. No human can function without their brain (cognitive presence), their heart (social presence), and their lungs (teaching presence). Thus, it is essential for all three presences in

the CoI framework to be present and work together to create authentic and effective learning environments (Cooper & Scriven, 2017; Dempsey & Zhang, 2019; Garrison & Arbaugh, 2007).

Criticism of the CoI Framework

The CoI framework has become one of the most widely used theoretical frameworks. It describes e-learning as an open, collaborative, and flexible learning process (Cleveland-Innes, 2019; Fiock, 2020; Valverde-Berrocoso et al., 2020). Conversely, it has received a fair amount of criticism such as confusion about implementation (no guidelines), not being meaningful enough (no assessment and/or evaluation[i]), and various suggestions to revise the framework (the framework is incomplete; Castellanos-Reyes, 2020). Also, there are limitations to the two methodologies used in researching the CoI framework: content analyses of online discussion posts and student self-reported data from structured questionnaires (Castellanos-Reyes, 2020; Cooper & Scriven, 2017). Both rely on the perception of learning which is subjective. Castellanos-Reyes (2020, p. 559) advocated for researchers "to move from making sense of what an efficient online experience is to designing such an experience." In other words, it is time to use the CoI framework as a method of designing effective, researched-based online learning environments.

Lack of Assessment and Evaluation Procedures

According to Berge (2021), all instructional systems should consist of the following four elements: objectives, methods, content, and evaluation. Specifically, assessment and evaluation were identified as essential elements in online courses for their ability to measure students' achievement of learning outcomes and determine the overall effectiveness of a course (Martin et al., 2021). Mekonen and Fitiavna (2021) defined assessment as a two-fold process of collecting information to compare to the intended objectives for grading purposes while providing opportunities for students to improve their learning with feedback. On the other hand, an evaluation measures all aspects of academic endeavors to determine the validity and usefulness of outcomes (Bin Mubayrik, 2020). The lack of evaluation in the CoI framework has resulted in it being criticized for not being meaningful enough for learners to achieve the intended learning outcomes (Castellanos-Reyes, 2020). Therefore, it is important to review the literature for insights into how successful online course design relates to effectiveness by incorporating assessment and evaluation.

Lack of Guidelines and Implementation Procedures

A second long-standing criticism of the CoI framework relates to its implementation. About 15 years ago, Garrison and Arbaugh (2007) discussed the need for practical strategies and guidelines such as how to create social presence, especially when learners are more academically focused, with a preference for more instructor engagement. Recently, Fiock (2020) highlighted the persistent lack of guidelines for instructors and instructional designers on how to foster the three essential elements of the framework. The lack of clear guidelines and expectations for faculty members often results in no way to evaluate the effectiveness of online courses (Kebritchi et al., 2017).

If we consider teaching presence in the CoI framework (see Figure 1), it should have the strongest influence on communicating high expectations for learning because it is present in the overlapping areas of "setting climate" and "regulating learning." Thus, the instructor plays a significant role "in cultivating cognitive

presence and high-level learning ... to structur[e] course content, implemen[t] instructional strategies and facilitat[e] collaborative learning" (Sadaf et al., 2021, p. 10). Furthermore, this relates to Kozan and Caskurlu's (2018) perspective that teaching presence functions as a bridge between course design (cognitive presence) and course facilitation (social presence). Each presence influences the others since the CoI framework is comprehensive (Garrison & Arbaugh, 2007). Lastly, it is important to note that the CoI framework may not be appropriate for all online learning environments. For example, Cooper and Scriven (2017) acknowledged that not all learners want to participate socially. In other words, it is important to consider the content, instructors, and learners when selecting instructional strategies as well as the framework. Additionally, there is a need to make more explicit the context and target population for Fiock's recommendations (Kebritchi et al., 2017; Stenbom, 2018). Taken together, the literature reviewed indicates that there still is a need for guidelines and implementation procedures.

Uncertainty About Completion and Validity

A third criticism relates to the CoI framework being incomplete, which has sparked debates about revising the framework (Castellanos-Reyes, 2020; Cooper & Scriven, 2017). Kozan and Caskurlu (2018) reviewed suggestions from other researchers and identified four new presences as well as opportunities to expand the existing presences. The four new proposed presences were autonomy, emotional, instructor, and learning. Autonomy presence is defined as being different from cognitive presence because it relates to intrinsic motivation (Kozan & Caskurlu, 2018). Emotional presence has been identified in previous studies (e.g., Cleveland-Innes, 2019) as being different from social presence. It relates to the outward expression of emotion, affect, and feelings when learners interact with course content, learning technologies, other learners, and the instructor. Kozan and Caskurlu (2018) did not provide an explicit definition for instructor presence but insisted that it was related to an instructor's social behavior such as communication strategies and level of personability. Lastly, Kozan and Caskurlu (2018) defined learning presence as relating to the online learner's self-efficacy and self-regulation. In addition, Wertz (2022) had a similar presence named "learner presence" that relates to self-regulation and the psychological perspective of the learner. It should be noted that these criticisms are not definitive. Garrison has written extensively in response to them, contending that many of these suggestions violate the core premise of the shared role in each of the three CoI presences (e.g., Garrison, 2017; 2022).

The CoI Framework: Exploring Beyond the Diagram

Although these researchers may believe strongly that there are more presences, there is a growing amount of research that suggests the CoI framework is more complicated than illustrated by the widely accepted diagram (see Figure 1). The CoI framework has been displayed as a simple three-set Venn diagram with each circle representing a presence. The convergence of the three presences represents the educational experience in the center (Cleveland-Innes, 2019; Fiock, 2020; Stenbom, 2018). Then there are three overlapping areas in between each presence. The overlap of cognitive and teaching presences relates to regulating learning; the overlap of social and teaching presences relates to setting the climate for learning; and the overlap of cognitive and social presences relates to supporting discourse (Fiock, 2020: The Community of Inquiry, n.d.).

Dempsey and Zhang (2019) used survey results from graduate students to reevaluate the CoI framework and instrument and obtained an important insight that the CoI model is more complex than typically displayed. Each of the essential elements is multidimensional and hierarchical. In addition, Heliporn and Lakhal (2020) used the French-translated version of the CoI instrument to confirm the existence of 10 categories within the three essential elements as depicted in Table 1.

Table 1

Summary of Categories Within the CoI Framework

Presence	Category	Definition
Cognitive	Triggering event	"Some issue or problem has been identified for further inquiry" (Garrison & Arbaugh, 2007, p. 161).
	Exploration	"Students explore an issue, both individually and corporately through critical reflection and discourse" (Garrison & Arbaugh, 2007, p. 161).
	Integration	"Learners construct meaning from the ideas developed during exploration" (Garrison & Arbaugh, 2007, p. 161).
	Resolution	"Learners apply the newly gained knowledge to educational contexts or workplace settings" (Garrison & Arbaugh, 2007, p. 161).
Social	Affective communication	Learners develop social connections by sharing personal experiences (Garrison & Arbaugh, 2007).
	Open communication	Learners feel secure enough to interact and accomplish a common goal or purpose (Garrison & Arbaugh, 2007).
	Group cohesion	Learners have achieved a sense of camaraderie while being intellectually focused (Garrison & Arbaugh, 2007).

Teaching	Instructional design and organization	This role relates to making decisions about course planning and design; adjustments while the course is in progress; and interaction and evaluations procedures (Garrison & Arbaugh, 2007).
	Facilitating discourse	"This role is associated with sharing meaning, identifying areas of agreement and disagreement, and seeking to reach consensus and understanding" (Garrison & Arbaugh, 2007, p. 164).
	Direct instruction	"Responsibilities of the instructor … are to facilitate reflection and discourse by presenting content, using various means of assessment and feedback" (Garrison & Arbaugh, 2007, p. 164).

Cognitive presence contains four categories that occur in a cyclic, hierarchical order: a triggering event, exploration, integration, and resolution (Cleveland-Innes, 2019; Cooper & Scriven, 2017; Dempsey & Zhang, 2019; Garrison & Arbaugh, 2007; Kozan & Caskurlu, 2018; Martin et al., 2022; Sadaf et al., 2021). Social presence contains three categories: affective communication, open communication, and group cohesion (Cooper & Scriven, 2017; Dempsey & Zhang, 2019; Garrison & Arbaugh, 2007). Lastly, teaching presence contains three categories: instructional design and organization, facilitating discourse, and direct instruction (Dempsey & Zhang, 2019; Fiock et al., 2021; Garrison & Arbaugh, 2007).

If we compare the definitions of the four suggested emerging presences, we notice a familiar equivalent within the CoI framework. First, Kozan and Caskurlu's (2018) learning presence and Wertz's (2022) learner presence both relate to instructional design and organization. Learners can only self-regulate based on the design and organization of the course along with the actions of the instructor. For example, individual learning activities such as self-assessments have been identified as being intertwined with self-regulated learning and enhancing engagement (Yan, 2020; Yang et al., 2022).

Second, emotional presence depends on the learner, course, and content. Thus, we would place emotional presence within all three presences. Socially, learners can express emotions and develop relationships with other students as well as their instructors (Kozan & Caskurlu, 2018). Also, emotions can be incited from engagement with content and course design. Thus, it is important to keep in mind that learning often incites an emotional response as a learner participates in the learning process. Furthermore, this supports insights from Dempsey and Zhang (2019) who stated that future studies on the CoI framework need to consider how

factors such as age, ethnicity, and online experience can impact survey results. Lastly, instructor presence most likely relates to the facilitation of discourse. Martin et al. (2020) classified social facilitation as a strategy used to encourage meaningful human relationships while modeling behaviors to help build community.

Opportunities Within the CoI Framework

Over the last two years, the COVID-19 pandemic has compelled more institutions of higher education to provide adult learners with greater access to online education. This shift has compelled Child et al. (2021) to believe that online education will eventually become the dominant delivery format in higher education. Kebritchi et al. (2017) considered online education to be critical to the future of higher education but noted there were major challenges and issues related to teaching online courses. Thus, three literature reviews were used to gain insights into how to incorporate assessment and evaluation strategies within the CoI framework so researchers could combine capturing educational experiences with measuring the effectiveness of reaching learning outcomes.

Between 1990 and 2015, a literature review was conducted on 104 peer-reviewed journals to identify issues and challenges with teaching online courses in higher education (Kebritchi et al., 2017). The results were grouped into three major categories: content, learners, and instructors. According to Kebritchi et al. (2017), content-related issues tend to correspond to content development such as adjusting course materials to an online environment, integration of multimedia in content, and the role of instructional strategies. Learner-related issues tend to relate to expectations, identity, mindset, and participation (Kebritchi et al., 2017). Lastly, instructor-related issues tend to focus on changing roles, time management, and teaching styles.

If we compare the results of this study with the CoI framework, the three major categorized challenges align with it. Challenges with content resemble cognitive presence, challenges with learners relate to components within social presence, and challenges to the shared role of instructing are connected to teaching presence. It is important to note that Kebritchi et al. (2017) discussed how institutional support of instructors, learners, and content developers had a critical role to play in enhancing the quality of online education.

Three years later, Caskurlu et al. (2021) conducted a thematic synthesis using literature published between January 2007 and August 2019 to explore the online learning experience of students by integrating primary findings to go beyond each individual study. The results revealed three overarching categories with 10 descriptive themes that relate to the CoI framework (Caskurlu et al., 2021). The overarching categories were course design that resembles aspects of cognitive presence, instructor actions that relate to categories in teaching presence, and student actions that correspond with social presence.

Lastly, Child et al. (2021) surveyed more than 30 academic research institutions and reported their practices and conducted ethnographic market research on 29 students in the United States and Brazil. The results revealed three overarching principles and eight key dimensions of an online learning experience. The three overarching principles were: (a) create a seamless journey (build an education road map and enable seamless connections); (b) adopt an engaging approach to teaching (offer a range of learning formats,

ensure captivating experiences, use adaptive learning tools, and include real-world applications); and (c) create a caring network (provide academic and non-academic support and foster a strong community; Child et al., 2021). If we compare these three overarching principles to the CoI framework, the first principle relates to cognitive presence, the second to teaching presence, then the third to social presence.

Based on an analysis of the three literature reviews, each study was able to simplify its results into three categories that correspond with the essential elements in the CoI framework. Also, they align with previous research findings that show all three presences in the CoI framework need to be present and work together to create authentic and effective learning environments (Cooper & Scriven, 2017; Dempsey & Zhang, 2019). Therefore, using assessment and evaluation strategies that incorporate each of the major elements should provide insights into the effectiveness of a course.

Incorporating Assessment and Evaluation in the CoI Framework

Martin et al. (2019) conducted interviews involving eight award-winning faculty to construct a conceptual framework for online course design, assessment and evaluation, and facilitation. The results of this study indicated the use of a variety of online course assessments for students, with the faculty using student feedback surveys for evaluation. Also, Bin Mubayrik (2020) conducted a literature review of 22 peer-reviewed studies to discover new trends in adult education. The results indicated a new trend toward increased assessments while encouraging instructors of adults to use a wide variety of pre- and post-assessment tools to meet the needs of learners. Peer assessments were found to be most beneficial when feedback was presented as a learning opportunity (Day et al., 2017). Also, Stinnette and Luxbacher (2021) found implementing quizzes after each module to be effective for competency and knowledge retention.

Martin et al. (2022) reported cognitive presence as the least researched element in the CoI framework, but it is considered an important indicator of the quality of the online learning experience. Surprisingly, the literature revealed that the approach to online assessments differs from face-to-face course assessments. For example, there is a growing amount of research to support that online students are more willing to complete coursework if they are given a grade for it (Agnew et al., 2021). Day et al. (2017) reported that learners tend to exert more effort if they have something to gain such as bonus points or grades. Also, Bin Mubayrik (2020) encouraged faculty to break formative assessments into three cycles that allow students opportunities to receive immediate feedback and critical evaluations. Sadaf et al. (2021) advocated for the use of various instructional strategies to support high-level online learning such as article critique, collaborative learning, debate, reflection, and project-based learning. Other recommendations included online tutorials, small group discussions, and supportive learning communities (Kebritchi et al., 2017).

Conclusions

Although the CoI framework is a widely accepted theoretical framework in higher education, it is much more complex than the simplistic, traditional diagram would indicate on first examination. There is ongoing criticism about the validity of the three presences. However, several research studies have also shown three

contributing factors that align with the CoI framework. Thus, we do not see the need to focus on the validity of the framework, because it has been examined quite extensively over the past two decades.

Additionally, many researchers might be unaware of or neglect to mention the categories within each of the three major elements. Ignoring the existence of the 10 categories (see Table 1) may lead to inaccurate results (Dempsey & Zhang, 2019). Within cognitive presences, there are four categories: a triggering event, exploration, integration, and resolution. Kozan and Caskurlu (2018) considered these categories as one of the best models of knowledge construction, being connected to both perceived and actual learning outcomes. Social presence consists of three categories: affective communication, open communication, and group cohesion. Within teaching presence, there are also three categories: facilitation of discourse, direct instruction, and instructional design and organization.

In conclusion, we do not believe anything should be added to the CoI framework. However, we believe future research should focus on using instructional strategies as well as assessment and evaluation methods that support each of the 10 categories. Stinnette and Luxbacher (2021) demonstrated that it is possible to measure course effectiveness by incorporating assessment and evaluation procedures. Therefore, a better understanding of how the categories function from an assessment and evaluation perspective may encourage researchers to focus on the effectiveness of courses while maintaining high-quality educational experiences.

At the center of the CoI framework is developing a positive, educational experience. *Education* means there is an institution or sponsor of the endeavor that has a significant stake in successful learning and teaching. The institution plays a critical role in enhancing quality (Kebritchi et al., 2017). This brings with it certain needs such as accreditation, financial obligations, and reputation. What we are saying is that using the CoI framework is not a goal itself but is one approach that is often used to engage participants in a larger educational system. Educational enterprises need to have learning outcomes that are effective, efficient, and appealing to the learner. Therefore, regardless of the teaching methods or approach taken, it is important to be mindful that they are part of a system where learning goals must integrate or align with real-world performance, and the teaching method(s) must be consistent with the goals, content, and evaluation of learning.

Limitations

The Community of Inquiry framework was chosen because of its longevity and robustness over the past two decades. There have been many dozens, or more, of published papers concerning the CoI. These include reports on research, literature reviews, and practitioner-oriented articles. We could not read all of them, let alone include them all in this paper. Our selection of literature to include was no doubt biased by our opinions and the point we tried to make herein. A separate set of papers may have led to a different opinion or conclusion.

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[i] Assessment is feedback from the student to the instructor about the student's learning. Evaluation uses methods and measures to judge student learning and understanding of the material for the purpose of grading and reporting. Evaluation is feedback from the instructor to the student about the student's learning. The basic difference between assessment and evaluation lies in the orientation. While assessment is process oriented, evaluation is product oriented (Alsaedi, 2021, p. 1104). Therefore, assessment and evaluation should not be used interchangeably because assessment is process-oriented, and evaluation is product-oriented.