

## **Community of Inquiry: Designing for Lifelong Learning Regulation**

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### **Abstract**

The Community of Inquiry framework is used extensively to design and evaluate open and distance learning courses, including MOOCs. In the CoI model, at the intersection of the way we think and make sense of content (cognitive presence) and how we demonstrate, assess, and make our learning and unlearning visible (teaching presence) is the construct overlap called regulating learning. The regulating learning overlap is deeply connected to core CoI concepts of community building, purposeful inquiry, discourse, metacognition, and self and co-regulation (Akyol & Garrison, 2011; Garrison, 2013).

In 2021 a team of research practitioners began the development of a learner self-assessment tool designed for early course use. The CoI learner tool is a 32-item self-reflection advance organizing tool intended as a praxis and scaffolding resource for the Community of Inquiry-based learning design. The tool itself weaves self-reflection and CoI definitions and diagrams to make CoI philosophy explicit by decomposing the complexity and promoting the core concepts of lifelong learning tendencies, including motivation, perseverance, and learning regulation (Coşkun & Demirel, 2010).

We may strive to be monarchs, but the myth of our existence is to be found in our lives along with others. It is in the consciously examined company of others that we will most effectively reflect, learn, survive and transcend. (Newman, 2008, p. 39)

### **Introduction**

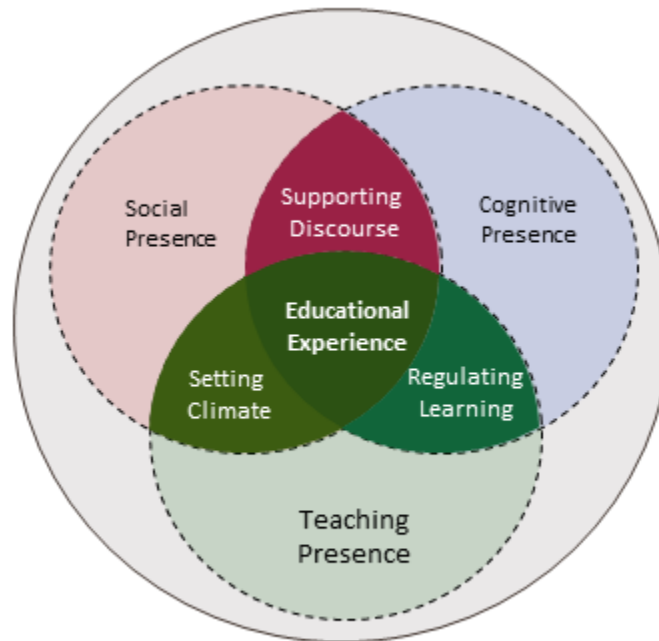
In discussing the intended learning outcomes of online learning pedagogy, Ally (2008) succinctly summarizes the critical intentions of pedagogical structure, advising that “strategies should be selected to motivate learners, facilitate deep processing, build the whole person, cater to individual differences, promote meaningful learning, encourage interaction, provide relevant feedback, facilitate contextual learning, and provide support during the learning process” (Ally, 2008, p.19). The Community of Inquiry Framework has proven to be an important online learning model that can aid the realization of all of these learning related targets.

Garrison (2017) states that the Community of Inquiry (CoI) theoretical framework can provide the “context to conceptually and operationally define and operationalize metacognition in a socially shared environment” (p. 62). The three key elements or dimensions of the CoI framework are – social, cognitive, and teaching presence (Figure 1). At the convergence of these three mutually reinforcing elements, a collaborative constructivist educational experience is realized. Social presence creates an environment for trust, open communication, and group cohesion. Cognitive presence has been defined “as the extent to which learners are able to construct and confirm meaning through sustained reflection and discourse in a critical community of inquiry” (Garrison, Anderson, & Archer, 2001, p. 11). It has been operationalized through the developmental phases of inquiry – triggering events, exploration, integration, and resolution. The third and cohesive element, teaching presence, is associated with the design, facilitation, and direction of a community of inquiry. Teaching presence is the unifying force that brings together the social and cognitive processes directed to personally meaningful and educationally worthwhile outcomes. In the

visual representation regulating learning overlap borders cognitive and teaching presence but because of the combinatorial complexity of the parts of the entire CoI framework, regulation activities remain an essential part of the inner propeller that supports the emergence of all of the presences.

**Figure 1**

*Adapted Community of Inquiry Framework (Dell, 2021; Garrison, 2017)*



A recent systematic review of cognitive presence in CoI found that articles about the framework do not provide many examples of specific instructional approaches (Moore & Miller, 2022). In this same regard, recent work on the community of Inquiry highlighted that paying closer attention to having students “optimally perceive” teaching presence can lead to improved competence and satisfaction of basic needs (building the whole person) (Turk et al., 2022). This paper describes a newly developed CoI learner self-assessment tool. The tool is put forward as one way to add to the suite of practical tools that support Community of Inquiry design and evaluation. The primary intent of the tool is to scaffold the understanding of CoI; using a graphical advance organizer that promotes reflective self and coregulation is one way that improved Community of Inquiry presence can be realized.

### **Designing and Aligning the Tool**

Garrison (2022) recently reminded CoI practitioners that qualitative data-gathering tools are an important piece of the puzzle in terms of contextualizing the monitoring and managing of collaborative inquiry. This reminder emphasized his decade earlier suggestion that transcript analysis and survey tools be expanded to build more practical tools that aid in the front end or practical implementation of Community of Inquiry design (Garrison, 2010).

In terms of adding to the qualitative data and impacting continuous calls for the development of more practical tools to support the development of CoI, in 2021, a team of research practitioners began the development of a CoI learner self-assessment tool designed for early course use. A primary goal of the tool was to decompose the philosophical complexity of the CoI model and provide for a more practical initiation into Collaborative constructivist ways of

being (Dell & Vaughan, in press). The CoI learner tool is a 32-item self-reflection advance organizing tool designed as a praxis and scaffolding resource for enacting Community of Inquiry-based learning design. The CoI learner self-reflection tool weaves self-reflection space and CoI definitions and diagrams to make CoI philosophy explicit by decomposing complexity and promoting core concepts of shared metacognition as articulated by Garrison (2016;2017;2022) and the lifelong learning composition pillars as articulated by Delors (1995) and a lifelong learning disposition as articulated by Coşkun and Demirel (2010) and Kotter (2016). The core goals of the tool are learning regulation, integrating affective/emotional presence, providing progressively structured advanced organization, and supporting the development of a community-minded lifelong learning disposition. The development of the tool is in its early stages. The tool's early research suggests that bringing intentionality to group learning activities can help students build a deeper understanding of the collaborative constructivist philosophical foundations (Dell & Vaughan, In press). CoI participant learner comments indicate the tool's utility for promoting reflexivity and emotional resonance and provide the basis for reflection at a pre-task, in action, and on action level, leading to greater introspection and knowledge of personal learning disposition (Akyol & Garrison, 2011). The remainder of the paper explains the intended linkages designed into the CoI learner self-assessment tool.

### **Regulating Learning Matters**

In the CoI model, at the intersection of how we think and make sense of content (cognitive presence) and how we contribute to, demonstrate, assess, and make our learning and unlearning visible (teaching presence) is the construct overlap called regulating learning. A recent study confirmed the overlap regulating learning as the intersection of cognitive presence and teaching presence (Villanueva et al., 2022).

CoI researchers articulate that the regulating learning overlap is deeply connected to core CoI concepts of community building, purposeful inquiry, discourse, metacognition, and self and co-regulation (Akyol & Garrison, 2011; Garrison, 2013). Garrison's recent work highlights this overlap as the locus of shared metacognition (2022). Regulation in CoI is an encompassing term that speaks to the regulation of attention, cognition, motivation, engagement and behavioural effort of self and others. These nested constructs share an emotion or affect as a common denominator.

### **Emotional Shift to Community-Based Collaborative Learning**

Many disciplines are beginning to see the importance of emotions and affect. From neurobiology to post-humanist philosophies, scientific fields recognize the disservice the belief in the duality of emotion-cognition has created. Across education, philosophy and neurobiology, there is a stronger recognition that emotions are not entirely the domain of individual psychology but that there is strong sociality, trans individualism and connection to the non-human world, including technology (Celis Bueno & Schettini, 2022). This emerging science provides retrospective support for the philosophical foundations of CoI that defines emotions as a gravitational force. It also lends support for the interdependent structure of CoI and the linkages between technology-driven education and community discourse and reflection as educationally transformative.

Early transformative education researchers defined transformative learning as a process by which learners change taken for granted (often unconscious) meaning perspectives and make them "more inclusive, open, emotionally capable of change, and reflective so that they may generate beliefs and opinions that will prove truer and more justified guide to action" (Mezirow, 2000, p.8). In this way, Mezirow sees that transformative learning results in people becoming better versions of themselves. In Mezirow's theory, this transformative learning process has four main stages: experience, critical reflection, discourse, and action. In his view, the initial experience is uncomfortable

or disorienting enough to start the course of reflection and raise emotions that compel us to talk about it as we reintegrate the new knowledge gained by our experience into our existing frame of reference or create a new one if the disruption is profound enough.

Early in establishing a CoI, facilitators are faced with the need to aid in the transformation of an important and long-held meaning perspective related to learning and teaching and what it is and how it happens in an online learning environment. Most new online learners have been educationally socialized to work independently, with little to no involvement of other learners. In fact, in some cases, learners are socialized to believe that learning from other learners is cheating. Acculturation to learning in a distributed learning context can be a stressful, disorienting dilemma as it requires levels and types of interaction that are significantly different from transmission-based teaching.

Research consistently shows that specific guidance is indicated when it comes to the internal cognitive shift needed to participate effectively in collaborative, emotionally laden self and coregulation. While the architecture of online discussion boards in CoI learning can strengthen cognitive and social presences, modelling and scaffolding critical inquiry skills are necessary for a true CoI to emerge (Garrison & Cleveland-Innes, 2005). Shifting internal scripts about what learning is and how to achieve it in a collaborative context may be optimally supported by the use of advanced organizing and scaffolding tools.

### **Advanced Organization and its Regulatory Benefits**

Advanced organizing and scaffolding tools refer to various tools that help learners get a glimpse of what is to come. They can be designed to clarify learner expectations in the learning environment. Advance organizers can be planned for and provided in various formats, including paper, digital, and dedicated discussions. As early as 1960, Ausubel believed that advance organizers could increase learning outcomes if used in a pre-learning phased approach. Ausubel's view included the explicit presentation of abstract, general and inclusive concepts (Ausubel, 1960). CoI is considered a concise model for a complex learning design. It includes abstract, explicit, and connected concepts. It is a model that is replete with deep philosophical bearings and many embedded learning adjacent conjectures about emotions and socially situated learning construction.

Advanced organizers have been linked to many CoI learning and regulatory constructs, including collaborative constructivist foundations, metacognition, engagement, problem-solving, and cognitive presence development.

Emerging research supports scaffolding tools as an important element in building collaborative environments (Vogel et al., 2017). This makes logical sense because perceptions influence engagement which influences learning outcomes (Storch & Wigglesworth, 2010). Rolim (2019) specifically discussed the importance of providing scaffolded guidelines concerning Community of Inquiry. Extrinsicly focused scaffolding through student role assignment has been shown to increase cognitive presence (Gašević et al., 2015). Similarly, a recent meta-analysis found that computer-assisted collaborative learning scripts are especially effective when they “prompt transactive activities (i.e., activities in which a learner’s reasoning builds on the contribution of a learning partner) and when they are combined with additional content-specific scaffolding (worked examples, concept maps, etc.)” (Vogel et al., 2017, p. 477). Others have linked the importance of advanced organization tools with metacognition development (Muhid et al., 2020) and improved problem-solving skills when used in conjunction with inquiry-based learning (Guna wan et al., 2020).

### **Lifelong and Life Entangled Learning**

The concept of lifelong learning is gaining considerable traction worldwide, as evidenced by the attention given in the latest *UNESCO Reimagining Futures Report* (UNESCO, 2021). In Canada, according to a comprehensive white

paper developed in Ontario, the movement has compelled higher education institutions to pay attention to flexible and chunked delivery modes, credentialing, and technology-enabled learning methods to contribute to lifelong learning agenda (Cote & White, 2020). At a more micro level, operationally lifelong learning has been described with subcategories related to what it is and its learning-oriented components (Delors, 1996) and how to build a lifelong learning orientation or mindset in an individual learner through dispositional and pedagogical targets (Coşkun & Demirel, 2010; Kotter, 2012). Key features in each of these operational definitions are congruent with community-based and Inquiry-based technology-enabled learning that is the philosophical foundation of CoI. Like CoI each of these stratifications subscribes to the belief that lifelong learning is more than just temporal and time-based. The essence of deep learning is circuitously entangled with life and learning opportunities outside the formal learning environment.

Ten years into developing the CoI framework, the creators envisioned that those who work with the practical application of CoI would continue to strengthen both practical and theoretical alignment—articulating a hope that one day they could look forward “to seeing the framework used as a predictor of learning processes and learning outcomes both from the perspective of individual courses/programs of studies and lifelong learning attitudes and participation” (Garrison et al., 2010, p. 9). This hope stems from the affinity between CoI's foundational philosophy and lifelong learning principles. Therefore, lifelong learning participation (pedagogical learning scaffolds) and lifelong learning attitudes (mindsets/mental habits) are embedded and threaded goals of the CoI self-assessment tool.

### **Pedagogical Practice and Lifelong learning**

Delors (1996) articulated the individual and collective goals of teaching toward lifelong learning as simply developing educational spaces that include attention to four casual conditions; learning to know, learning to be, learning to live together, and learning to do. These four targets give firm direction to developing a pedagogical practice that would support lifelong learning. UNESCO concurs and highlights that *learning to live together* means embracing “pedagogies that generate mutually enriching exchanges of knowledge, practices, and solutions, based on complementarity, reciprocity, and respect” (UNESCO, 2021, p. 53). Cooperative pedagogies require more than just appreciating and committing to sustaining diversity. Like CoI philosophy, they necessitate the unlearning of bias, prejudice, and polarization and recognize that true knowledge is not a transmittable finished product (UNESCO, 2021). CoI, with its core emotional goals of a cohesive community, trust and belonging, and mutual respect, similarly clarifies the need to learn to live together and live together to learn deeply. Table 1 depicts Delor's lifelong learning pillars alongside CoI foundational precepts included in the learner scaffolding tool.

Table 1.  
*Lifelong pillars embedded in CoI Self-Assessment Tool*

Delors (1996) Lifelong Learning pillars	CoI Scaffolding Goal
Learning to know	<ul style="list-style-type: none"> <li>● Understanding what CoI is and its philosophical roots</li> </ul>
Learning to do	<ul style="list-style-type: none"> <li>● Detailed explication of core collaborative constructivist goals of CoI</li> <li>● Direct specific self and coregulation tasks and behaviours</li> <li>● Practicing critical inquiry phases</li> </ul>
Learning to live together	<ul style="list-style-type: none"> <li>● Learning collaborative constructivists design</li> <li>● Generating mutually relevant exchange</li> <li>● Participating in critical discourse</li> <li>● Honoring diversity and multiplicity of perspective</li> <li>● Developing interdependence and shared learning space</li> </ul>
Learning to be	<ul style="list-style-type: none"> <li>● Learning to be active in teaching presence,</li> </ul>

	<p>simultaneously a learner and a teacher as the content is explored</p> <ul style="list-style-type: none"> <li>● Learning to Listen in discussion boards, seeking opinions, risk-taking, openness to new ideas, humble self-reflection</li> </ul>
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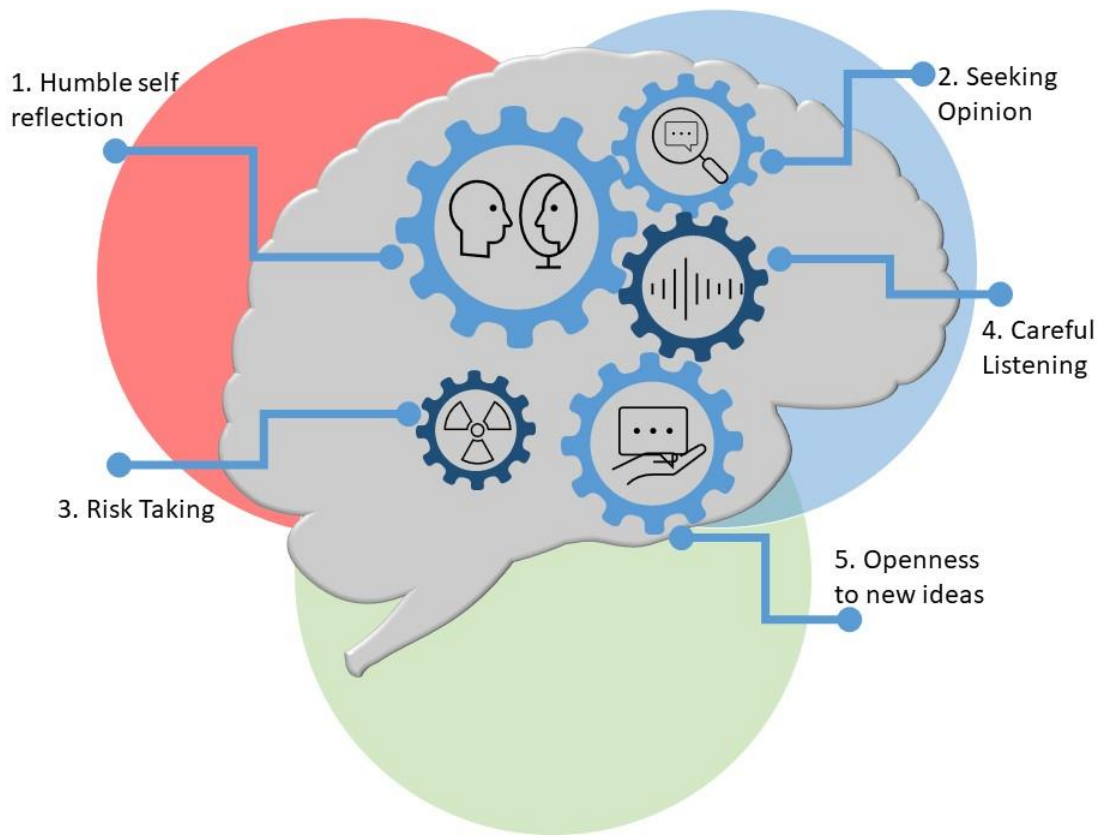
*Learning to do* in a COI involves a detailed explication of the core goals of each of the three CoI presences. It has been previously suggested that providing clear participation guidelines can help learners demonstrate higher cognitive presence (Gasevic, 2015). This kind of intentionality in pedagogical scaffolding has been additionally highlighted in research by Vaughan and Wah (2020) when they concluded that there is an imperative to intentionally design, facilitate and direct a collaborative constructivist learning environment in order for students to learn how to coregulate their learning” (p.1).

### **Mental Habits that Support Lifelong Learning**

As outlined earlier, *learning to be* in a Community can be disruptive to long-held beliefs about learning. *Learning to be* in CoI is an emotional shift; it *means* developing the behaviours and mental habits necessary to support holistic learner growth. The mental habits that support the development of a lifelong learning disposition are parallel to the ideas that are foundational in CoI philosophy. The learner in CoI has an active and distributed role across each of the presences as they support the discourse, contribute to climate and self and coregulate the shared learning space. Similarly, Kotter (2016) identified five critical habits of mind that help develop a lifelong learning disposition: Listening, seeking opinions, risk-taking, openness to new ideas, and humble self-reflection (Figure 1).

### **Figure 1**

*The Parallels Between CoI Learner Role and Mental Habits of a Lifelong Learning Disposition*



In CoI, three of the dispositions are directly implicated in shared social space. Each of the five is similarly embraced in the CoI philosophical foundations about learner roles and clarified in the self-assessment tool. *Humble self-reflection* comes from using the tool at various times throughout the development of the learning community. Humility is a value that has been ingrained in inquiry-based philosophical foundations as far back as Plato and writings about the spirit of the Socratic method and shared space social learning. *Seeking opinion* comes from integrating social and teaching presence goals and sharing the inquiry space in meaningful deliberative dialogue. *Listening carefully* to those opinions comes from both asynchronous space and time to develop considered, reasoned and respectful responses. In *synchronous* text-based discussions, “listening” takes on a multisensory dimension as we listen with more than our ears. The impossibility of “interrupting” in the structural threading of individual responses actually modulates another form of listening. Participating in the collaborative construction of learning requires a disposition of *openness to new ideas* that have been artfully articulated by Garrison's (2013) writings as open communication and the spirit of the dialogue as having an impetus towards reasoning and reflection. *Risk-taking in CoI* is manifested in the way learners pivot their understanding of what learning is as they boldly enter the shared teaching space by sharing their own gifts and knowledge as it is manifested in the spirit of teaching presence.

### Conclusion

Much of the research into life-long learning pedagogy aims to support the development of a lifelong learning disposition in individual learners. Community of Inquiry is a twenty-year framework for distance learning with a

strong affinity with the core beliefs of key lifelong learning models and operationalizations. This paper discusses the early development of a CoI learner scaffolding tool designed for early course use. The key goals of learner self and coregulation and emotional presence development align with the development of Lifelong learning pedagogical pillars and support the development of a learner's Lifelong learning mindset.

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