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Marie-France Héту

Fostering Cognitive Presence in Text-based, Asynchronous Forums

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Instructor: Diane Janes

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More and more students enroll in fully online courses, as online education is gaining popularity within various higher education institutions. (Shea & Bidjerano, 2009) Even though online forums have been designed with the intent to foster communities of inquiry, it can be challenging for both designers and instructors to provide a learning environment where learners can communicate their learning clearly, logically and profoundly. (Garrison, Anderson, & Archer, 2000) This paper examines the communication challenges experienced in text-based, asynchronous forums, and considers what fosters a community of inquiry. This essay also investigates how cognitive presence fits into the higher-order thinking process; exploring how learners acquire critical thinking skills, and how they engage in critical discourse and reflection.

From an educational perspective it is important to examine theoretical frameworks that describe, explain, and provide solutions to improve online learning processes. The epistemic engagement approach fosters the idea that learners are collaborative knowledge builders within a community of inquiry. This paper attempts to demonstrate that the equilibrium of social, teaching, and cognitive presence within online forums, supported by an adequate discourse, content and environment, will likely allow the student to achieve higher learning. (Lipman, 1991)

Cognitive Presence as a Model of Critical Thinking

It is important to understand the concept of cognitive presence in order to define a community of inquiry. Understanding how cognitive presence influences and supports critical discourse and reflection is primordial in a text-based online environment. (Griffiths & Graham, 2008). Garrison et al. (2001) contend that a community of inquiry is an essential element for higher-order learning to take place, since a learner needs to collaborate and be reflective in order to fully live out an educational, learning experience. Assessing the degree of cognitive presence

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or critical inquiry in an online environment is however a challenge. This paper bases its findings in part on Garrison et al.'s (2000) conceptual framework for a community of inquiry, which assesses cognitive presence as a model of critical thinking.

Community of Inquiry Model

The practical inquiry model introduced by Garrison et al. (2000) proposes four phases; the first is the triggering of an event. Here the instructor provides a catalyst, and then guides learners toward outcomes. The second phase is the exploration, where learners explore ideas; moving between reflection, discourse, and exchange within a community of inquiry. The third phase, is one of integration of information based on exploration, where learners work to connect learning and construct meaning within a community of inquiry. The fourth and final phase should lead to the resolution of an issue; or finding answers to a question; or proposing a solution. This stage offers the learner the opportunity to apply or relate the newly acquired knowledge to one's experience. Learners are able to achieve this through sustained reflection and discourse within a dynamic community of inquiry. (Garrison et al. 2000)

Social Presence

According to Griffiths and Graham (2008) "Social presence is defined by three main constructs: affective expression, open communication, and group cohesion."(p.19) These constructs describe the conditions that allow a learner to identify with the learning community. It is necessary to develop interpersonal relationships for deep, meaningful exchanges and learning to occur. (Griffiths & Graham, 2008) Emotions are a defining characteristic of developing a social presence, yet it is difficult for peers to express these in an online environment when compared to face-to-face interaction. (Garrison, Anderson & Archer, 1999) Implementing a social presence within online forums is a challenge, as interactions in online

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learning platforms need to go through numerous transformations to become communities of inquiry. (Garrison, 2003).

Teaching Presence

According to the study by Shea and Bidjerano (2009), the social aspect of online communication is particularly important, as this is how the learner creates epistemic engagement and demonstrates their cognitive presence. Shea and Bidjerano's (2009) study showed that when instructors provided a welcoming and comforting environment, as well as played an active role in online discussion, this coincided with higher levels of cognitive presence. Participants in this study also felt that getting to know their peers gave them a sense of belonging and promoted collaborative knowledge construction; thus instructors should explore strategies and activities that can help establish connections between learners. (Shea & Bidjerano, 2009) Garrison et al. (2000) suggest that instructors should provide comments and further questioning to model critical thinking and guide cognitive development.

Limitations

Assessing and finding evidence of cognitive presence based on text-based communication is difficult, because only part of the learning is shown within the communication. The thought processes, personal reflection, and other ways of making meaning of learning are not always transmitted to peers using this communication medium. (Griffiths & Graham, 2008) Unlike face-to-face communication, there is no body language to evaluate, and much of the learning takes place outside of 'online' class time. (Griffiths & Graham, 2008) Therefore, it is difficult to evaluate with accuracy what may be inhibiting or facilitating participation within the community of inquiry.

Following their study, Garrison et al. (2001) found that more learners participated actively in the exploration stage, but very few participated in the problem-solving stage. Garrison

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et al., (2001) suggest that learners find this step in their learning challenging, and they need time to reflect and synthesize the knowledge before communicating their learning. Poor instructional design and an instructor's limited role during this phase may also affect learner participation. (Griffiths & Graham, 2008)

Discussion

The study of two thousand online students carried out by Shea and Bidjerano, (2009) investigates how the instructors' design choices, facilitation method, and degree of instruction affects students' online experiences. It also evaluates the learner's ability to construct meaningful knowledge, as well as the degree with which they experience or demonstrate their cognitive presence. The study attempts to determine how a student feels toward learning, as well as the level of participation within the online community, and the quality of the learning experience.

According to Shea and Bidjerano's (2009) study, the learners who felt the most comfortable in participating in course discussions and who experienced the highest teaching presence also achieved the highest cognitive presence. This demonstrates that learners who communicate actively and benefit from a balanced instructor involvement appear to have a better learning experience. It appears that students who do not relate well to asynchronous forums with minimal instructor direction, also have a lower cognitive presence. It would seem as well that a high cognitive presence score is related to the instructor's ability to first establish teaching presence, and also to foster social presence within the community of inquiry. (Shea & Bidjerano, 2009)

Online learning platforms need a dynamic, technology-mediated environment designed with clear explanations, and mediated by an informed and capable instructor. According to Kanuka, (2002) since learners have a better chance of assimilating information that is relevant to their world, it seems reasonable to offer learners many options through the use of discursive

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media, where they can be encouraged to articulate their opinion and develop arguments. Shea and Bidjerano, (2009) suggest that critical inquiry occurs when learning peers question each other and their own beliefs, and that type of communication can happen only if the right balance of social, cognitive and teaching presence is present.

Course designs need to encourage knowledge construction through social interaction within web forums. (Shea & Bidjerano, 2009) Fostering a cognitive presence should provide the necessary environment and encouragement for learners to construct and confirm their learning within a community of inquiry. (Garrison et al., 2000). Online communication forums should be able to offer the learner a way to reflect on higher-order knowledge related to critical thinking. (Garrison et al., 2000).

Achieving Higher Learning

Online learning environments, when designed with a careful balance of cognitive, teaching and social presence, can offer an excellent instructional medium and can support higher levels of learning. However, it is difficult for computer-based communication to offer higher-order learning if critical discourse does not take place; for then unreflective discourse between peers leads to a simple exchange of opinions.

Garrison et al. (2001) relate that skilled facilitation is necessary within an asynchronous text-based environment for the critical-thinking process to work. Garrison et al. (2001) relay that: “Interaction must be coordinated and synergistic.” (p.21), if higher-order learning outcomes are to be achieved. Kanuka (2002) maintains that making meaning of issues is vital to understanding and building knowledge; as such, learners need to have the opportunity to compare, analyze and evaluate material presented. Consequently, learners should be provided with activities that will help them transform and reinterpret their learning, which can result in new understanding. Learners require opportunities that will allow them to reflect and share their learning through

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critical dialogue with their peers. (Kanuka, 2002) Higher-order learning within online forums can be achieved when learners are encouraged to express their views and share their learning through creativity, problem solving and insight. (Garrison et al., 2000).

Higher learning also requires learners to go beyond their own worldview, and to do so they need to first understand their world to explore others. (Kanuka, 2002) Learners have to be able to reconstruct and negotiate their understanding, transforming both new and existing knowledge, and as such, online forums can become a way to negotiate meaning with their peers. (Garrison, 2003) When sharing their learning through such forums, learners can gain a wider perspective of the subject at hand and they can gain knowledge from other's experiences.

Further Research and Call to Action

Since Shea & Bidjerano's (2009) study examined two thousand online students from various levels of higher learning institutions, the design is experimental and thus flawed with research design limitation. However, the study does reveal patterns in regards to the importance of teaching presence, social aspect, and environment as important factors in the degree of cognitive presence. This would indicate that future research in this domain could concentrate on one level of higher learning institution, focusing more precisely on defining the instructor's role within online discussion forums. Further research could also investigate why there are lower levels of participation and provide solutions for improving online pedagogy.

An online community needs to place an emphasis on the process of collaborative communication that leads to epistemic engagement. (Shea & Bidjerano, 2009) Thus, I believe that it is important to continue to develop tools that effectively evaluate and confirm the nature of online discourse in relation to the desired learning outcomes. Both learner transcripts evaluated through analysis frameworks, as well as voluntary, student surveys could offer insights on how

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to continue to improve the cognitive nature of online learning and teaching. (Garrison et al., 2001)

It would also be important to carry out studies that serve as a guide in creating a theoretical model that supports an engaging community of inquiry. (Shea & Bidjerano, 2009) Hopefully, further studies will explore the relationship between teaching, social, and cognitive presence, and find viable solutions to the challenges and constraints of present and future online environments. (Garrison et al., 2000; Rourke, Anderson, Garrison, & Archer, 1999; Swan & Shea, 2005)

Conclusion

This paper demonstrates that higher-order learning can take place in text-based, asynchronous environments, provided educators continue to support the necessary elements that foster teaching, cognitive and social presence. It is important to continue to study how social, technological and pedagogical processes within online discussion forums support collaborative knowledge construction. According to Shea and Bidjerano (2009), the quality of online education relies on dialogue that reflects collective argumentation. For the learner to be able to construct knowledge within an online environment, it appears both learners and teachers need to establish a form of 'presence'. As such, learners need to participate actively and engage in reflection and dialogue to make meaning of their learning and go beyond their current understandings. (Shea & Bidjerano, 2009)

Teaching, social and cognitive presences need to be embedded in the course design. Consequently, the design and organization of online discussion forums need to facilitate productive communication among peers. In order for a learning community to be created, learners need to be able to demonstrate they are real, to counteract the lack of face-to-face interaction and facilitate communication flow. Instructional designers, instructors and learners

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can benefit from using a model that can outline, explore and improve online education. Faculty and students alike can benefit from integrating a model that fosters cognitive presence within a variety of online, higher education courses.

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