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Considerations on Online Discussion Boards in Higher Education Courses

Abstract: Current educational environment reflects an increasing preference for online instruction and related technologies which became routine practices within higher education institutions. The latest studies report that in 2018 online education enrollments increased for the fourteenth straight year, and especially in 2017 and 2018 they have been growing faster than they have for the past several years. In this favorable context for online courses, higher-education institutions are engaging more and more in methods to assure and assess the quality of the education offered. However, there are concerns regarding the nature and extent of the interaction and its effects on student performance. This article aims at referring to the literature available on the topic and at addressing the issues of quality and challenges of online courses, particularly regarding the online communication – discussion boards.

Keywords: higher education, online, courses, communication

Current educational environment reflects an increasing preference for online instruction and related technologies which became routine practices within higher education institutions (Haythornthwaite & Andrews, *E-Learning theory and practice*). The latest studies (Seaman & Allen, *Grade Increase. Tracking Distance Education in The United States*) report that in

2018 online education enrollments increased for the fourteenth straight year, and especially in 2017 and 2018 they have been growing faster than they have for the past several years. From 2002 to 2012 online, as well as face-to-face, course enrollments grew annually, but since 2012 online education has been having a steady increase in an environment that saw overall higher-education enrollments decline for four years in a row.

In this favorable context for online courses, higher-education institutions are engaging more and more in methods to assure and assess the quality of the education offered. Online learning requires adjustments on the part of students and instructors for successful and productive interactions to occur. Many online courses provide students and faculty the opportunity to interact with each other via a discussion board, email, or synchronous chat areas. The success of these courses usually depends on the dynamics of this interaction. Thus, it is common practice for instructors to encourage, or even to require a certain amount of participation in the form of postings per week in online discussions as part of the grade for the course. The research literature on online learning supports this approach. However, there are concerns regarding the nature and extent of the interaction and its effects on student performance.

Terminology

These practices of online course discussions are usually included in the field of Computer Supported Collaborative Learning (CSCL) and have different names, such as: Computer Mediated Conferencing (CMC), Computer Mediated Discussion (CMD), Computer Conferencing (CC), Networked Learning (NL), or Asynchronous Learning Networks (ALN) (De Wever et al., *Content analysis schemes to analyze transcripts of online asynchronous discussion groups*) in accordance to the concept each of them emphasizes on. Although there is so much variety, most environments have in common that students exchange messages through computers with one another (*Ibid.*) and together with the email feature, discussion boards are the most commonly used tools in the online educational context.

Advantages of online discussion boards

From the 1990s, higher education institutions perceived asynchronous online discussions as a way of providing students with further opportunities

to discuss course content, consequently overcoming the perceived barrier of being present in a class at a set location and time. The ability to ask a question, to share an opinion with a fellow student, or to disagree with the point of view in a reading assignment are all fundamental learning activities.

When debating about online courses for teachers, Zhao & Rop (*A critical review of the literature on electronic networks as reflective discourse communities for in service teachers*) identify problems such as teacher isolation and not having time to reflect on personal practice and professional development and then suggest as solution precisely the online asynchronous course and its corresponding discussions. This asynchronous feature enables teachers to participate at times that suit them and collaborate with other professionals outside their own immediate location. Zhao & Rop (*Ibid.*) also argue that the text feature of asynchronous courses is also identified as a beneficial affordance since learners can go back and review posts that are of interest for them.

Research shows that asynchronous text-based discussions come with several advantages in comparison to synchronous discussions: students have more opportunities to interact with each other and they have more time to reflect, think, and search for extra, meaningful information before contributing to the discussion (Pena-Shaff & Nicholls, *Analyzing student interactions and meaning construction in computer bulletin board discussions*). Since every communication element is obvious in the posts to the discussions it "makes the process of collaboration more transparent [for the researcher], because a transcript of these conference messages can be used to judge both the group collaborative process and the contribution of the individual to that process [...]" (Macdonald, *Assessing online collaborative learning* 378). All the online posted discussions between students are stored in the discussion transcripts and they can be later used for reflection and analysis purposes or they can serve as data for research (Meyer, *Evaluating Online Discussions*). The advantages that online learning has such as the ability to overcome the temporal and spatial restrictions of traditional, face-to-face learning, provides learners with flexibility and autonomy in determining when, where and how they learning (Bates, *Technology, e-Learning and Distance Education*).

Researchers agree that online collaboration can lead to learning (Lazonder & Ootes, *Using sentence openers to foster student interaction in computer-mediated learning environments*) and provide a variety of

theoretical frameworks to ground their assumptions (Schellens et al., *Learning in asynchronous discussion groups*). For instance, cognitive constructivists state that the input in the CSCL-environment fosters learning due to the retrieval from memory of the knowledge elements and properly framing them so as others could follow the flow of thinking within the online postings. On the other hand, social constructivists claim that CSCL promotes the collaborative process in which meaning is negotiated and knowledge is co-constructed during the online interaction (Lazonder, *op. cit.*). Both views "acknowledge the importance of interaction in collaborative learning" (*Ibid.* 292) and precisely this interaction, contained in the transcripts of the discussion, is the object of a large body of recent educational research.

The online discussion-board

The discussion-board is one of the most important components of the online courses. Teachers/instructors/facilitators and students at the same time rely on these asynchronous boards to reciprocally engage in order to potentially promote, as research has proved, critical thinking, meaningful problem solving, and knowledge construction.

No doubt there are many instructional benefits of online discussion, but an equally important advantage results from establishing rapport and collaboration among course members. While this happens naturally in a face-to-face course, skills that support the development of rapport must be purposefully integrated into an online course. Discussion can support both social and instructional aims if properly planned. Gilbert & Moore (*Building Interactivity into Web Courses*: *Tools for Social and Instructional Interaction*) agreed with this duality of purpose, noting that social rapport and increased collaboration can lead to greater levels of interaction addressing instructional goals.

Garrison et al. (*Critical inquiry in a text-based environment*) emphasized on the importance for online learning to create a "virtual community of inquiry" that allows students to develop experiences and knowledge by analyzing, questioning, and challenging assumptions about the subject in debate. While in a face-to-face environment, this kind of reflection is carried on through interactive discussions and problem-solving sessions with observable immediate outcomes, the online courses do not have this

feature and tend to rely on online discussion boards to get to the expected outcome.

McCreary (*Three behavioral models for computer-mediated communication*) claimed that the value of written communication produced during online discussions results from the need of the learner to be precise, to organize his/her thoughts, and express himself/herself clearly. Moreover, Condon & Cech (*Discourse management strategies in face-to-face*) found that in CMC, students who were trying to increase communication efficiency and decrease time spent typing managed to reduce redundancy and unnecessary elaborative statements. Garrison et al.'s (*op. cit.*) research confirmed that written communication in online discussions as being "leaner" since many face-to-face nonverbal signals present in oral communication were missing in writing productions. To continue, Jonassen & Kwon (*Communication patterns in computer mediated versus face-to-face group problem solving*) found that during group problem-solving activities, the students in online discussions produced fewer messages, but more task-related, than a group involved in face-to-face discussions.

Participation and interaction in online discussions

Participation and interaction represent two common concepts to online discussion research. Participation is considered having an important role for an online course, but interaction is seen as vital. Interactivity has been described by Harasim (*Online education as a new domain*), almost thirty years ago, as the most striking characteristic of CMC and the component with the highest potential to have an impact on learning. Researchers claim that without interaction the online discussions would become a series of one-way conversations having no educational value (De Wever, *op. cit.*). However, both participation and interaction are talked about in a self-evidentiary manner.

On the one hand, participation is usually defined in numerical terms, and can refer both to the total number of members of the online discussion group, as well as to the members who actually contribute to the discussions (Henri, *Computer conferencing and content analysis*).

Interactivity, on the other hand, is defined more loosely and seems to be interchangeable with other terms such as communication or engagement. Anderson (*Theoretical perspectives on learning in an informal setting*) claims that interaction employs a two-way contact between learners or

with the course content and that in formal educational contexts, it is used intentionally to achieve the learning objectives. Anderson goes on to state that there are different types of interaction such as student to student, student to teacher and student to content, but that "deep and meaningful formal learning is supported as long as one of the three forms of interaction ... is at a high level".

Both participation and interaction typically are revealed by an analysis of the transcript of the online discussion. To be counted as a participant one needs to leave a physical record while those who choose to observe or simply not participate are not counted (Jordan, *Do beginning teachers know how to participate and interact in online discussion?*). Often these non-participants are considered *lurkers*, which Carr & Chambers (*Teacher professional learning in an online community* 146) state that are a part of online culture, though adding that "having a high proportion of lurkers may undermine the development of the community – there needs to be sufficient public interaction to act as a stimulus for discussion, debate or learning". Anderson (*op. cit.*) has a similar opinion about the importance of active interaction in online discussion when he states that "high levels of interaction generally require actors to be personally active and engaged in the interaction".

Measuring participation using different standards, whether they count participation rates, or patterns in participation, categorizing individuals by gender, interests, education level or over time involvement has been a matter of counting.

Measuring interactivity is more complex since what can be counted as such is more open to interpretation, biases and different classification schemes measure it in different ways. Since online discussion technologies have enabled interaction to occur between a multitude of participants, measuring interactivity has become more laborious, especially when it involves many participants over an extended period of time. However, interactivity is widely perceived as important to the success of online discussion, based on the idea that without it, online discussion "would comprise a series of statements linked only by the theme or subject under discussion – we would be faced with a collection of monologues and one-way statements" (Henri, *op. cit.* 128).

Despite the initial importance placed on being able to interact, once the technological difficulties have been overcome, supplementary efforts to ensure participants know how to interact are forgotten, considered

redundant or not necessary (Jordan, *op. cit.*). In Romano's (*Online discussion as a potential professional development tool for first year teachers*) study, learners received technology professional learning, though what this involved is not specified. Likewise, in his study, Anderson (*op. cit.*) mentions that participants were provided with an introduction to the online tool usage but exactly how they were meant to use it is not reported. Often, training seems to relate to knowing how to use or operate the technology, and considerations such as how to use them (in what situations and under what conditions) and for what purposes (such as to engage with other participants) are overlooked. When they are not reporting on training, researchers create the impression that online discussion is relatively simple, that it does not require specific training or skills, and that putting the technology into place is all that is needed. Thus, both participation and interactivity are essentially seen as technical issues of connectivity, rather than pedagogical issues, situated within particular contexts.

Moreover, in Jordan's (*op. cit.*) study, findings suggest that novice teachers do not necessarily have the knowledge to interact effectively in an online professional learning environment. The overall level of interaction was quite low in each of the discussions. As a matter of fact, instead of interactions, teachers tended to post independent statements unconnected with their peers' ideas in other posts. They preferred to use statements and closed questions to provide advice or solutions and made little effort to directly interact with other posts. Beginner teachers ignored prompts at end of scenarios, instead posting their own view on what they thought were the issues at hand. This study suggests that beginning teacher networks may not achieve their intention of providing a supportive environment. Furthermore, it suggests that new teachers have a limited view of what an online discussion involves and lack in depth pedagogical/content knowledge with which to interact online. Although that is not necessary to a successful discussion, it is needed to sustain it.

More recently, the use of online courses and, implicitly, discussions for teachers are promoted on the grounds that beginning teachers are 'digital natives', skilled users of technologies and, thus equipped to take advantage of them in the best way possible (Gao et al., *Online discussion as a potential professional development tool for first year teachers*). Marc Prensky (*Digital natives, digital immigrants*) was the first to coin the term of 'digital natives' which refers to the 'new' generation of students who, having grown up with technologies, have been influenced in the way they think, study and learn,

including having a liking for multi-tasking and thinking in multimodal ways (Jordan, *op. cit.*). Although Prensky's view has been challenged on a number of grounds (Bennett et al., *The 'digital natives' debate*; Kennedy et al., *First year students' experiences with technology*), the idea of the digital native still is significantly popular.

Conclusion

Research reports (Seaman et al., *op. cit.*) that online courses play a central role in higher-education in the United States, as they provide greater access and, in some respects, an affordable option to traditional education. Innovation and progress in communication technology have led to the rise of online education which is the fastest growing form of distance education and is highly valued at both traditional and non-traditional colleges and universities (*Ibid.*).

Promoting interaction in online discussions is a valuable instructional approach that allows students to interact in a variety of ways. Online discussions display multiple facets, from their structure to timely feedback and assessment. Productive discussions do not happen automatically, they must be practiced first and then carefully planned. Instructors can increase learning outcomes by integrating both instructional and social interaction and creating an accessible learning environment.

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