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Online educators' recommendations for teaching online: Crowdsourcing in action

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Abstract

Over the years, online educators have learned a great deal about what works and doesn't work when designing and facilitating online courses. During the past few years, we have used crowdsourcing to invite experienced online educators to share their recommendations for teaching online. In this article, we describe our use of crowdsourcing to curate a robust list of online-teaching recommendations, present the recommendations experienced online educators have shared with us, share the themes resulting from our analysis, describe how the themes align with the Community of Inquiry (CoI) model, and discuss how adhering to the crowdsourced recommendations may enhance the design and facilitation of online courses.

Keywords: Online teaching; online education; crowdsourcing; instructional strategies; Community of Inquiry (CoI); presence

Overview

In their seminal *Seven Principles for Good Practice in Undergraduate Education*, Chickering and Gamson (1987) wrote about the following seven principles:

- Encourages contacts between students and faculty.
- Develops reciprocity and cooperation among students.
- Uses active learning techniques.
- Gives prompt feedback
- Emphasizes time on task
- Communicates high expectations.
- Respects diverse talents and ways of learning.

It is likely the best-known set of engagement factors (Kuh, 2009), having been cited almost 7,000 times. The seven principles identified success factors that influence students' engagement, success, and persistence during their undergraduate-education experience. The principles have been used in multiple ways over the years, including as a lens for integrating technology into the classroom (Chickering & Ehrmann, 1996) and evaluating online courses (Graham, Cagiltay, Lim, Craner & Duffy, 2001). They also served to inform the design of the National Survey for Student Engagement (NSSE) (Kuh, 2009). But what is not talked about much is how the principles were created (Chickering & Gamson, 1999). The principles were not solely derived from a systematic review of the literature.

At a conference, Chickering and Gamson invited a group of experienced postsecondary educators to share what they knew about good practice for undergraduate education—although not a term used at the time, Chickering and Gamson essentially used a crowdsourcing approach to help them co-construct the seven principles of good practice in undergraduate education.

Crowdsourcing—a conjunction of "crowd" and "outsourcing" coined by Jeff Howe in a June 2006 Wired magazine article—is "the process by which the power of many can be leveraged to accomplish feats that were once the province of a specialized few" (Howe, 2008). Howe (2010) further defined crowdsourcing as "the act of taking a job traditionally performed by a designated agent (usually an employee) and outsourcing it to an undefined, generally large group of people in the form of an open call." Also referred to as citizen science and citizen social science (e.g., Procter et al., 2013; also see https://scistarter.com/), this participatory process has recently gained in popularity due to the increasing volume of scientific data and limited centralized support to efficiently process the data (Ranard et al., 2014). Although extensively used in the biomedical domain as a way to harness the computational power of many people to process large-scale biomedical data—such as to support genome sequence analysis (Kawrykow, Roumanis, Kam & Kwak, 2012; Rallapalli et al., 2015) and protein structure prediction (Cooper et al., 2010)—it is also now being used as a field-based research methodology in a wide range of disciplines; for example crowdsourcing approaches are used to classify distant galaxies (Lintott et al., 2008; also see https://www.galaxyzoo.org/), create geographic digital maps (Whitmeyer & De Paor, 2014), collect more representative data in forensic psychology research (Baker, Fox & Wingrove, 2016), tackle complex architectural design needs (Newton & Backhouse, 2013), validate assessment of interventions for speech disorders (Byun, Halpin & Szeredi, 2015), and engage in new product development (Schemmann, Hermann, Chappin & Heimeriks, 2016). The growing need for crowdsourcing in research and development has led to social networked spaces such as the Amazon Mechanical Turk (https://www.mturk.com/), CloudFactory (https://www.cloudfactory.com/), CrowdFlower (https://www.crowdflower.com/), and clickworker (https://www.clickworker.com/)—online, distributed sources of available workers. Social network platforms have increasing potential to change the way people connect and engage online; people no longer solely consume online content, but are now empowered to actively participate and contribute. With the advent of online social networked spaces and platforms, crowdsourced content and opportunities for contribution are ubiquitous via YouTube, Twitter, Quora, Pinterest, TripAdvisor, Wikipedia, Kickstarter, and so on.

There are four types of crowdsourcing: collective intelligence, crowd creation, crowd voting, and crowd funding (Howe, 2008). All four types of crowdsourcing go far beyond divide-and-conquer approaches to goal achievement and research; they are true collaborations between and among members of the crowd—leading to much more than individual, isolated contributions. Crowdsourcing has fundamentally changed and enhanced the collection and dissemination of data, content, resources, problem solving, and computing power, and has been proven effective for rapid and efficient data collection, especially where expert-level knowledge of a topic or discipline is not a necessity (Whitmeyer & De Paor, 2014). [To view a wide range of crowdsourcing projects, see https://en.wikipedia.org/wiki/List_of_crowdsourcing_projects].

The Catalyst for Our Curiosity

Online courses are part of the postsecondary teaching and learning landscape. Online education has grown from a fringe activity to something that millions of people take part in (Allen, Seaman, Poulin, & Straut, 2016; Ginder & Stearns, 2014). Despite the popularity of online education, online educators are in many ways still trying to figure out the best ways to design and facilitate online learning experiences (Everson, 2009; Motte, 2013; Tallent-Runnels et al., 2006; Ubell, 2017). Fortunately instructional design

models have emerged to help designers and educators consider critical instructional decisions inherent in designing and teaching online courses. One model in particular has gained a lot of traction, and has significantly influenced our work in online education—the Community of Inquiry (CoI) model. Garrison, Anderson and Archer (2000) developed the Community of Inquiry (CoI) model to describe how the interplay between teaching presence, social presence, and cognitive presence are foundational to the development of deep and meaningful educational experiences in online courses (see Figure 1). The CoI model emphasizes balanced instructional attention to teaching, social, and cognitive presence in order to cultivate an engaged online learning community (Lowenthal & Dunlap, 2014):

- Social presence involves the connections students and faculty establish in a learning space; social presence is influenced by the quality and quantity of interactions between and among students and faculty, helping all involved to feel more involved and engaged in an online space. The goal of social presence is to minimize transactional distance and help students and faculty feel *real* in online courses in service to achieving the learning objectives (Lowenthal & Dunlap, 2014).
- Cognitive presence refers to how students interact with and process the content of a learning experience. Supported by teaching and social presence, students' cognitive presence is engaged through deep and relevant cognitive-processing activities and assessments that lead to enhanced conceptual understanding (Dunlap, Sobel & Sands, 2007).
- Teaching presence refers to the decisions educators make regarding the design, direction, and facilitation of social and cognitive-processing interactions in online courses (Anderson, Rourke, Garrison & Archer, 2001). To establish teaching presence, faculty attend to the design and organization of learning experiences, the design and facilitation of interactions, and the assessment of student learning.
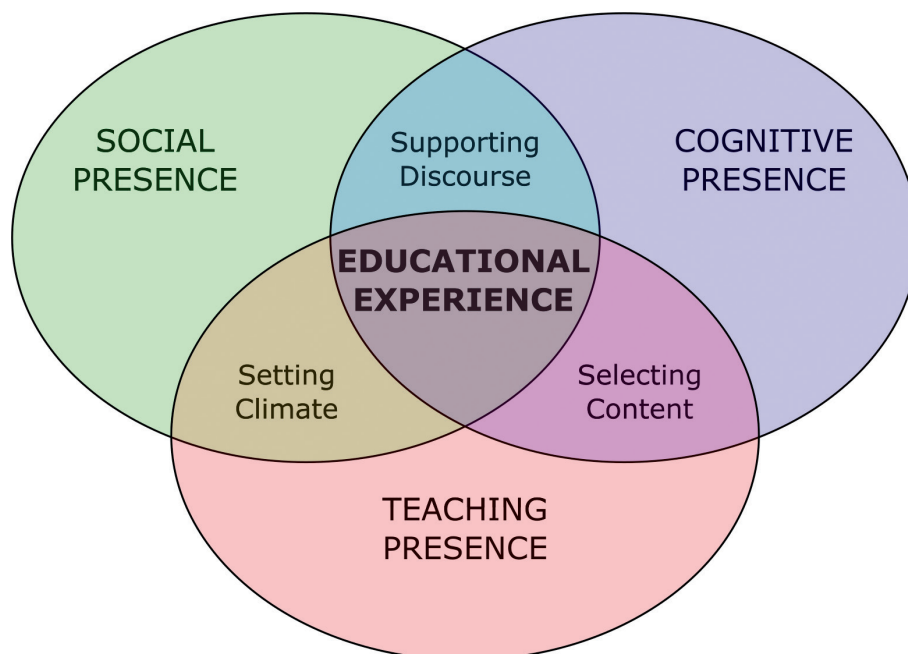

Figure 1: The Community of Inquiry (CoI) Model

Because the CoI model is a descriptive model that does not provide much prescriptive guidance on how to intentionally design for and facilitate student learning and engagement in online courses (Garrison & Arbaugh, 2007), online educators continue to experiment with different ways of

establishing a Community of Inquiry in their online courses (Dunlap & Lowenthal, 2014; Lowenthal & Dunlap, 2014). Online educators can make some inferences from the indicators of teaching presence developed by Anderson et al. (2001), but even these indicators lack sufficient detail (Dunlap, Verma & Johnson, 2016). There is also literature suggesting strategies for establishing social presence (Dunlap & Lowenthal, 2014; Lowenthal & Dunlap, 2014) and cognitive presence (Dunlap, Furtak & Tucker, 2009; Dunlap, Sobel & Sands, 2007; Sobel, Sands & Dunlap, 2009) in online courses, however these strategies represent recommendations from a few as opposed to the many. Therefore, in much the same way Chickering and Gamson used a crowdsourcing approach to illuminate success factors for undergraduate education, we broadened the online-teaching conversation by crowdsourcing specific recommendations online educators have for teaching online. Through this process we curated prescriptive strategies for actualizing the CoI model in the design and teaching of online courses.

Approach to Inquiry

We were interested in co-constructing a list of recommendations for online educators, using a crowdsourcing approach similar to the one used by Chickering and Gamson's to derive the seven principles for good practice in undergraduate education. Because crowdsourcing is a participative activity in which "an individual, an institution, a non-profit organization, or company proposes to a group of individuals of varying knowledge, heterogeneity, and number, via a flexible open call, the voluntary undertaking of a task" (Estellés & González, 2012, p. 197), we invited online educators from a variety of disciplines and with a range of experiences to share recommendations for online teaching, knowing that experienced online educators—regardless of discipline and experience level—would be able to contribute relevant recommendations. We defined "experienced online educators" as educators who had taught at least one online course in the last three years, whether or not they designed the course themselves or inherited from another educator. Similarly, we invited contributions from educators representing a variety of disciplines. Although there are situational factors—such as discipline differences, course size, length of course, preparation and disposition of students and faculty— that make every online course unique (Dunlap, Furtak & Tucker, 2009; Dunlap, Verma & Johnson, 2016; Sobel, Sands & Dunlap, 2009), we believed many recommendations for online teaching would transcend situational factors in the same way Chickering and Gamson's seven principles transcend situational factors. Our inquiry was shaped by the belief that there is value in exploring the day-to-day practice of online educators who have amassed recommendations for teaching online.

The recommendations were crowdsourced from online educators who attended our presentation sessions for special interest groups focused on online education at seven professional education conferences over a two-year period:

- Association for Educational Communications and Technology (AECT), international conference
- ED-MEDIA, international conference
- American Educational Research Association (AERA), national conference
- Educational Learning Initiative (ELI), national conference
- CiTE/Pearson, national conference
- Colorado Learning and Teaching with Technology (COLTT), regional conference
- CU Online Symposium, regional conference

During each of our presentations audiences collaborated on a shared Google Doc, with each participant anonymously contributing one to two recommendations about teaching online. We displayed the list of recommendations on a screen as the audience added them. As part of the sessions, we then opened up the conversation so the audience could discuss similarities, surprises,

and future actions. In this way we used crowdsourcing to create an increasingly robust list of recommendations from online educators in the trenches; crowdsourcing audiences at professional conferences allowed us to tap into the collective intelligence of educators with online teaching experience.

Results

Individually, we examined the curated recommendations for common themes. Although our own work as online educators is significantly influenced by the Community of Inquiry (CoI) model, we intentional set aside the model as we analyzed and sorted the recommendations; we wanted any themes to organically emerge from the data. After we each sorted recommendations into general categories (e.g., learning, teaching, design, support), we worked together to define and describe specific themes. Through our collaborative analysis we found that the recommendations consistently fell into four themes: (a) supporting student success, (b) providing clarity and relevance through content structure and presentation, (c) establishing presence to encourage a supportive learning community, and (d) being better prepared and more agile as an educator. Below is a sampling of recommendations to illustrate each theme.

Supporting Student Success

Experienced online educators shared strategies for supporting students in online courses so that students have the potential to be successful. For example, some of the recommendations referred to the need to:

- Provide relevant individual and group feedback in a timely manner. Feedback is essential, and be specific in your feedback.
- Grade frequently. Every week or more often. If you don't grade, they don't do.
- Make sure feedback is clear, explicit and includes opportunities to ask questions for clarity.
- Champion the student voice.
- Design learning experiences that address all learning preferences/styles.
- Remember that an online course needs to be an interactive experience.
- Let students have fun. Let them create and post materials, search out and post resources, do video responses, use apps like screencasting, Pinterest, etc.
- Students want choice; give them a choice of which activity to select.
- Create opportunities for students to solve their own problems.
- Incorporate choices for student assignments and assessments.
- It is more important what the students do then what you do.
- Remember that it's about the student and not the teacher.
- Involve those students who are afraid to participate. Give students specific roles, use discussion protocols that help make space for all students to contribute.
- Use collaborative, group projects to have students work on topics of their own choosing that still meet the learning objectives of the course.
- Students are so tired of respond/post 3 times, so get them working together to create something. Such as using Google Docs to collaborate on a list like this one.
- Provide opportunities for higher order learning, experiential learning to engage students.
- Have effective assessment tools/rubrics so students know how they are being assessed.
- Model what you want from students (e.g., model how to share and interact in a discussion forum, provide exemplars of projects and other assignments, and engage in think-alouds that illustrate how to read and take notes from primary sources).

- Model the kind of writing, critical analysis, digital literacy, and digital composition activities you want students to engage in.
- Model the behaviors you expect from students.
- Account for cultural differences. For example, not all people/cultures feel comfortable doing an ice-breaker that gets too personal.
- Be concrete and explicit with instructions for all activities, assignments, and projects. You get what you ask for.
- Make students accountable for their learning. Contracts are great. So are rubrics as long as your students are interpreting them the same way you are--provide examples.
- Map out all course requirements in advance so you and your students can plan out the work-load at the start of the semester.
- Make sure your students can't get lost - make sure they know your expectations, what they should be doing, when it needs to be done, and your expectations for the course.
- Set the same expectations for your students that you set for yourself.
- Provide a just-in-time tech support option for students, where they can ask "how do I?" questions, and the instructor provides visual examples (e.g., screen capture) to provide answers.
- Have a format for discussion that rotates roles on a weekly or biweekly basis.
- Be interesting--use different ways to keep the course spontaneous.
- Don't assume all the students are tech savvy, nor that they have the same level of technology.
- Clarify how course content applies to the profession and world beyond the academy.
- For large online courses (100+) record an introductory podcast.
- Know your institution's FERPA and ADA considerations, and student learning services.

Providing Clarity and Relevance through Course Structure and Content Presentation

Experienced online educators also shared lessons learned regarding the structure of online courses and the presentation of content within an online course. Some of the recommendations they shared include:

- Present content in digestible chunks to make it easier for students to process.
- Structure online learning resources so materials are one click away.
- Don't underestimate the power of integrating relevant visual components in course materials.
- Make sure content is accessible.
- Address universal design for learning (UDL) principles in all created materials.
- Be intentional with every aspect your course design.
- Make everything explicit; say more than you think you need to say.
- Use guest lectures where appropriate in order to expose students to a range of expertise, multiple perspectives, and practitioners/scholars in the field.
- Assign meaningful work: do not ask students to participate in an online discussion, for example, unless the discussion clearly supports students' learning and progression.
- Use technology intentionally, not just because it is novel and "cool".
- If sharing recorded lectures, create "chapters"/mini-lectures that are in more manageable, accessible chunks.

Establishing Presence to Encourage a Supportive Learning Community

Interestingly, the highest number of recommendations shared by experienced online educators fell into the "presence" theme. Online educators commented on the importance of connecting with students, helping students connect with each other, and helping students feel they are members of a supportive learning community. Recommendations include:

- Know your audience.
- Create a sense of community.
- Make many human connections, early in the course, to ensure all students feel comfortable communicating with you and each other.
- Put faces with names.
- Get to know people on a personal level in the online world (make connections).
- Use students' names.
- Be accessible.
- Be kind.
- Show your character. Personality is a good thing.
- Online students typically won't take advantage of having your personal cellphone number. Really!
- Use stories to liberate and articulate your experience in ways that have potential value to students; ask students to share stories as well.
- Have a sense of humor, and share it if and when appropriate.
- When building the course, think like a film director: everything in the frame is there for a reason. Control the environment--keep it focused. When running the course, think like a good hostess--keep everyone involved, keep things moving, but don't be the focus of attention.
- Use scaffolded, structured group work to build relationship through relevant collaboration.
- Instead of asynchronous discussions in a forum, use synchronous (online) sessions.
- Incorporate the use of synchronous communication and collaboration technologies in order to connect with students in real-time; use video and audio functionality so students can see and hear you and each other.
- Use video to introduce yourself to the class as the instructor. Ask students to do the same.
- Create social presence using audio and video (e.g., weekly audio/video introductions).
- Step outside of the LMS to connect with students more informally. Use social networking to stay in causal contact with students, and for students to be connected with each other.
- Make collaboration tools and technologies available for students to work together.
- Create opportunities for students to build community.
- Connect visually with your students, using video, Skype, etc. Do this immediately at the beginning of the term as it actually changes the quality of your interactions from and with students from that point on.
- Instead of a text-based announcement, use a video walk-through. It can do wonders for immediate relationship building (personalizing the instructor).
- Allow yourself to use the telephone (or web conferencing space such as Skype or Zoom) to connect with students, especially if you want to be more efficient in responses to misunderstandings or the need for further clarity.
- Construct online discussion questions to encourage conversation and sharing.
- You can (probably) never do too much to get students to engage. Silence is most likely a bad sign.

Being Better Prepared and More Agile as an Educator

Experienced online educators also pointed to being better prepared and more agility as useful lessons they had learned, sharing recommendations such as:

- Sometimes you have to leave the LMS and find other technologies that help you better achieve your instructional goals.
- Online teaching isn't about taking your face-to-face course materials and uploading them to a course!
- It is okay if things don't go perfectly the first time- they probably won't. You'll learn and keep improving along the way.

- Assume nothing.
- Nothing beats preparation.
- Be well prepared. Quality comes from advanced thoughtfulness.
- Technology fails. Have a backup plan.
- Have a Plan B--a REALLY GOOD Plan B.
- Have plans A, B, C... for all modalities.
- Expect that technology will fail -- have a Plan B and a Plan C. Consider this part of course preparation.
- Don't over plan to the point you can't or are unwilling to adjust if need be.
- Be flexible.
- Be prepared up front to be flexible.
- Expect the unexpected, no matter how prepared you think you are.
- Don't be afraid to drop things when you go online - you only have so much time.
- Don't underestimate the time commitment to teach online. Make room in your schedule to work on your online course and with your students.
- Technologies are always changing. Be open to trying new things.
- Take advantage of faculty development workshops and conferences on online teaching.
- Use midterm and end-of-semester feedback from students to make necessary modifications.
- Ask colleagues to check out your course and make recommendations for revision.
- Remember that good teaching is good teaching. You may need to translate for the online environment, but what you know about student learning is still relevant.

Discussion

The four themes that emerged from our analysis of the recommendations resonated well with the Community of Inquiry (CoI) model:

- The "Supporting student success," "Providing clarity and relevance through course structure and content presentation," and "Becoming a better prepared and more agile as an educator" themes align well with teaching presence because the associated recommendations address the intentional instructional design decisions online educators make to create effective, supportive learning experiences for students.
- The "Establishing presence to encourage a supportive learning community" theme strongly aligns with the goals of social presence in online courses, with the theme's associated recommendations addressing the quality and quantity of formal and informal social interactions.
- Recommendations shared in the "Supporting student success" and "Providing clarity and relevance through course structure and content presentation" themes are directly related to the interactions students have with course content in support of conceptual understanding and the achievement of course learning objectives.

This alignment with the CoI model—arguably the most popular framework for the research and practice of online learning—has reinforced for us that using crowdsourcing to curate recommendations for teaching online from experienced online educators is a sound approach to broadening the conversation and taking advantage of online educators' collective intelligence. It has also reinforced for us the soundness of the recommendations online educators shared, and the appropriateness of heeding their advice; the themes and associated recommendations have potential to help faculty new to teaching online courses start out on solid footing, and to help continuing online educators consider alternatives and enhancements to their course design and facilitation.

We found that crowdsourcing online educators during live professional conference sessions was fruitful, leading to many insightful recommendations. Although crowdsourcing as a research methodology has limitations (see Khare, Good, Leaman, Su & Lu, 2016), our experience in this project well illustrated the central principle of crowdsourcing—that the collective intelligence of a group generally leads to more valuable results than the limited contributions of a few (Howe, 2008). The benefit of this approach for us is that the results are authentic and credible because the source of the results is experienced online educators. Online educators' recommendations ring true to people learning how to be effective online educators because the recommendations are derived from people who are just like them: educators who care about the quality of the online-learning experiences they design and facilitate and who face similar professional pressures, opportunities, and constraints.

Conclusion

Through our analysis of experienced online educators' recommendations, we identified four themes related to effective online course design and facilitation: (a) supporting student success, (b) providing clarity and relevance through content structure and presentation, (c) establishing presence to encourage a supportive learning community, and (d) becoming better prepared and more agile as an educator. These themes and associated recommendations are relevant for faculty new to online teaching, as well as for those already in the trenches. The work is significant because it captures the lessons experienced online educators have learned about designing and facilitating online courses—based on their experimentation, assessment, revision, and reflection. In addition, the work is an example of how professional conferences can be opportunities for crowdsourcing; this participatory approach recognizes the expertise of our colleagues and our valuing of that expertise. Finally, the work offers an additional data point in the larger scholarly quest for prescriptive guidance to online educators on how best to design and facilitate online courses. Through this work—which we continue to add to, especially in light of the increasing use of synchronous communication and collaboration tools and spaces in online courses—we hope to inspire our colleagues and students to (a) consider their own unique lessons learned, (b) explore different ways to attend to those lessons learned in their online courses, and (c) consider crowdsourcing as a research methodology.

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