Facilitating Student Engagement in Online Courses:
Framing Discussions from Informal to Scholarly Exchanges

Danilo M. Baylen
University of West Georgia
United States
dbaylen@westga.edu

Abstract: This paper describes an exploratory study focusing on the design and structure of online discussions for stronger engagement between students, and with course content and technology. It discusses a conceptual framework involving Demonstration of Knowledge (D), Engagement with Peers and Course Content (E), Contribution to the Scholarly Exchange (C), and Insights Sharing (I) identified as DECI. Examples of online discussion prompts and scenarios are shared. Assessments of student learning within this framework are addressed. The outcomes and lessons learned would be of interest to those who teach online or use online discussions to supplement face-to-face instruction.

Introduction

Communication technologies could empower students to achieve their academic goals. It provides opportunities for students to engage by sharing information, acquiring content knowledge, and developing better written communication skills. With the increased acceptance of distance education in higher educational contexts, online discussions have become the heart of online courses for facilitating interactivity, critical and creative thinking, and collaboration (Eryilmaz, van der Pol, Ryan, Clark, & Mary, 2013; McLoughlin, & Mynard, 2009). Without online discussions, students might find themselves drifting from one assignment to another and acquiring uneven levels of content knowledge and skills sets. However, with well-designed online discussion structure (Gilbert & Dabbagh, 2005) and prompts (Hung, Seng, & Der-Thanq, 2005), students are presented with opportunities to deepen their understanding, hear different perspectives in solving a problem, and share stories about ideas taught today with those learned from yesterday (Hazari, 2004).

Multiple researchers from diverse disciplines have studied online discussions (Ng, & Murphy, 2005; Sims, 2003). Many of their inquiries center on how online discussions could be designed to promote stronger higher-order thinking skills (Eryilmaz et al, 2013). Others investigated structures of online discussions to identify significant components that support interactivity and collaboration (Mahle, 2011; McCrory, Putnam, & Jansen, 2008). This paper explores and describes how students respond to a framework composed of four components – Demonstration of Knowledge (D), Engagement with Peers and Course Content (E), Contribution to the Scholarly Exchange (C), and Insights Sharing (I) identified as DECI used in designing online discussions in graduate courses delivered fully online at a public university in Southeastern

United States. The framework provides guidance in setting up and facilitating a stronger engagement between students and course content with the support of technology.

The DECI framework was conceptualized by the researcher after years of "tinkering" with online discussions as computer-mediated communication (Sorensen & Baylen, 2004) in delivering distance education courses. Also, the researcher wanted to design an online space where students actively engage with the course content and peers. This scenario was envisioned to facilitate more independent learning for the students and less lecturing from the instructor.

Given this context, the instructor served as the designer of the learning experience where online discussion became one of the learning spaces. In this format, the instructor was not an active participant during the discussion. The prompt and the rubric served as initial guides for the students. Instructor's feedback was based on the rubric and was given immediately after the first online discussion to demonstrate to the students how the instructor uses the assessment tool. The remaining online discussions were reviewed towards the end of the semester and feedback were shared before the end of the course. This made the students more accountable for their postings and participation during the online discussion through the use of the rubric. Also, this simulated a conversation that focuses on scholarly exchanges instead of points by performance.

Methodology

Students enrolled in three graduate courses (Diffusion of Innovations, Leading and Managing Instructional Technology Programs, and Visual and Media Literacy) taught by the author from a public university in Southeastern United Stated were included in this study. The courses were delivered fully online and the students are pursuing graduate degrees (masters and specialists) as part of an online program in instructional technology, school library media, and teaching. Most of the students were practicing K-12 teachers or planning to enter the teaching profession, and primarily females. Teaching experiences ranged from a year to more than twenty years.

The graduate courses were required for completing a graduate (master's and educational specialist) degree program at the public university. A typical graduate course required the completion of 4-5 projects, 5 online discussions, and 10 exercises comprised mostly of online surveys. The online delivery format of the course was supported by a learning management system plus required and optional web conferencing events using webcams and web-based videoconferencing application (GoToMeeting).

Each online discussion was designed using the DECI framework where each component represented student actions or behaviors to support productive online discussions (see Figure 1 for sample instructions). In this process, students demonstrated their understanding or comprehension of the materials read. By asking them to post their initial thoughts about the readings, they made their thinking processes visible not only to the professor but more so to their peers. Then, by asking them to post their ideas or understanding of the materials, online, they invited their peers to formulate their own comprehension of the material as well as the opportunity to rethink their own positions on the matter being discussed. In this invitation, they engaged their peers by asking them to contribute more and have a dialogue. At the end, they shared insights on things learned from the experience that could be applied to their own context or practice.

Discussion One

Read the overview on Discussions first before completing the activity below.

So this discussion starts with a posting of your thoughts about your readings from your text (Reeves) and the assigned readings (Barriers, Technology Adoption) located in the Courseden folder (under Content). So what do you think of Reeves' ideas? Do you agree with him? In what ways do you think he is or not making sense? Why? How about the selected readings? What past experiences come to mind? You will also review your understanding of SMART goals and will demonstrate this through your participation in this online activity.

What do you need to do during the Week of Initial Postings of Discussion One?

1. For this week, you are required to do your first initial postings. First, you to write about your off-the-cuff reaction to the ideas you read from both the text and the articles. Also, tell us what chapter you liked the best given your understanding, and the reasons for your choices (DEMONSTRATION).

This is your 1st INITIAL posting. It is strongly recommended that you begin your initial posting by using this format -- "After reading _ (insert chapter title or topic), I ...." Please label your subject heading with your last name plus "Ideas" (Baylen+Ideas).

2. Think about Reeves's ideas as well as those identified in the readings further. Do you see these ideas happening around you? Can you give an example (beside the ones provided by Reeves) that you see in your context? How about another example from your experience? How relevant are the articles' contents to what Reeves is saying? Is there an alignment between the text and the articles? If yes, what is it? If not, why do you say so? (DEMONSTRATION) Your response to these questions should be your 2nd INITIAL posting. It is strongly recommended that you begin your initial posting by using this format -- "In thinking about Reeves's ideas on (insert specifics), I observe this happening in my _ (insert life/practice) ...." Please label your subject heading with your last name plus "Example" (i.e., Baylen+Example).

3. Search the Web and identify two resources on writing good SMART Goals. Based on what you read and understand, please compose an initial posting of what will be your SMART Goals for completing your IT degree program? (DEMONSTRATION) Make sure you include your references in accurate APA format as well as file copies of the resources used. Your response to this question should be your 3rd INITIAL posting. Please label your subject heading with your last name plus "SMART" (i.e., Baylen+SMART).

Do not forget to review the rubric for assessing your performance in this activity. Remember that the INITIAL POSTINGS discussion board in CourseDen closes at 11:55 p.m. at the end of the week.

What do you need to do during the Week of Exchange of Discussion One?

1. At the beginning of the second week designated as EXCHANGE for this online discussion, you are expected first to compose your perspective on Reeves's ideas and on SMART Goals including those shared from the initial postings of your peers (used at least three peer initial postings for each topic).

A. What stood out for you that you did not know before?
B. Who said what and why this is important to you?
C. What's applicable to your context?
D. What's helpful or useful to future work in this course?
E. What have you learned from this online activity that enhance your professional development?

You need to craft this composition to engage your peers into a conversation. Once you have completed your composition, please post it in the EXCHANGE discussion board during the first 3 days of the week. (INVITATION)

2. During the week, please read the posting and comment to MORE THAN three initial postings (ENGAGEMENT). You need to do this by posting a reply to their initial postings. Please provide a brief explanation of your own thinking as you respond to your peers' postings. Please make sure that you identify (underline, italics or bold) your added contribution to the threaded conversation (CONTRIBUTION).

In replying to a posting, please change the subject heading -- REPLY to [LAST NAME]. This will alert your peer that you posted a comment on what interest you in his/her posting. Further, please use your peer's first name when replying to their posting. In doing this, then your peer knows that it is his/her contribution that you are recognizing and of interest to you. Also, this helps us build a sense of community in our virtual learning environment.

What do you need to do during the Week of Reflection of Discussion One?

For this week designated for reflection, you need to make a final INITIAL posting with a subject heading label -- Last name plus "Reflections" (i.e., Baylen+Reflections). It would be helpful if you begin your initial posting by using this format -- "After this online discussion experience, I learned (or believe) that _ ...." This final posting will capture what you learned from the readings and discussions this past week (INSIGHTS). Remember to use appropriate APA citation(s) to support your submission.

Do not forget to review the rubric for assessing your performance in this activity. Remember that all online discussion board activity in CourseDen closes at 11:55 p.m. at the end of the week.

You are expected to actively participate in this discussion. You are encouraged to do more than what is stated above as minimum expectations for initial postings and replies (ENGAGEMENT).

Figure 1. Sample Instructions from one of the graduate courses' first discussion.

Assessment of student participation and engagement in the online discussions across all components of the DECI framework was evaluated using a rubric (see Figure 2).

Component	Sub-Area
Demonstration (D)	Answered the question or responded to the prompt with accuracy, clarity and substance.
	Used in-text citations based on relevant literature to support points or arguments made in the posting.
	Applied accurate APA formatting in giving credits to citation sources.
	Embedded personal or professional experiences that support the content of his/her initial postings.
	Met expectations of this discussion by following instructions including protocols (file naming, subject heading)
Engagement (E)	Posted more than three responses to peers' postings.
	Replied to a peer's response to his/her own initial posting.
	Identified specific content from the peer's posting that made a connection to him/her in a reply to a post.
	Embedded personal or professional experiences that support the content of his/her replies to peers' postings.
	Met expectations of engagement by posting all required number of replies before the last day of the discussion.
Contribution (C)	Made at least three initial postings including a final reflective post at the end of the discussion.
	Summarized two to three related posts as part of his/her posting or reply.
	Identified at least one key idea from the literature and shared it in the discussion using accurate APA citation format.
	Contributed personal or professional anecdotes to facilitate better understanding of ideas discussed.
	Met expectations of contribution by posting his/her final reflection within the last two days of the discussion.
Insights (D)	Identified content from his/her peer's posting that is helpful or useful to the discussion accompanied by brief explanations.
	Used in-text citations based on relevant literature to support insights gained from the online discussion.
	Applied accurate APA formatting in giving credits to citation sources.
	Contributed personal or professional anecdotes to the summary of the online discussion.
	Met expectations of insights acquired by making a final post on or before the last day of the discussion.

Figure 2. Rubric for assessing participation or engagement in an online discussion based on the DECI Framework.

Points earned after the application of the rubric determined the level of student participation or engagement with their peers and/or specific course content. Table 1 shows an example of a completed rubric for an online discussion using the DECI framework.

Data Collection and Analysis

The researcher was interested in knowing how students respond to each component of the DECI framework (shortened to Demonstration, Engagement, Contribution, and Insight). Which component did the students encounter any difficulties or did not perform well? Data from the completed rubrics that assessed student performance during the first discussion of each graduate course was used for this case study. The collected data facilitated in determining areas where students encountered problems in meeting expectations as outlined in the rubric aligned with the DECI framework.

Table 1 presents information pertaining to the frequency distribution of the number of students who did not meet expectations for each DECI component during the first discussion. The three graduate courses had a total of 59 students who participated and completed the first discussion. Each DECI component listed specific criteria that was observable and measurable (based on a yes/no response to the rubric item).

Table 1. Frequency Distribution of Not Meeting Expectations of a DECI component.

	Criteria	A N = 21		B N = 21		C N = 17		Overall N = 59	
		Y	N	Y	N	Y	N	Y	N
D	Answered the question or responded to the prompt with accuracy, clarity and substance.	21	0	21	0	17	0	59	0
	Used in-text citations based on relevant literature to support points or arguments made in the posting.	8	13	6	15	4	13	18	41
	Applied accurate APA formatting in giving credits to citation sources.	3	18	11	10	4	13	18	41
	Embedded personal or professional experiences that support the content of his/her initial postings.	21	0	21	0	17	0	59	0
	Met expectations of this discussion by following instructions including protocols (file naming, subject heading)	21	0	19	2	17	0	57	2
E	Posted more than three responses to peers' postings.	20	1	19	2	15	2	54	5
	Replied to a peer's response to his/her own initial posting.	10	11	11	10	7	10	28	31
	Identified specific content from the peer's posting that made a connection to him/her	21	0	21	0	17	0	59	0

	in a reply to a post.								
	Embedded personal or professional experiences that support the content of his/her replies to peers' postings.	21	0	21	0	17	0	59	0
	Met expectations of engagement by posting all required number of replies before the last day of the discussion.	21	0	19	2	17	0	59	0
C	Made at least three initial postings including a final reflective post at the end of the discussion.	21	0	20	1	17	0	59	0
	Summarized two to three related posts as part of his/her posting or reply.	21	0	21	0	16	1	58	1
	Identified at least one key idea from the literature and shared it in the discussion using accurate APA citation format.	8	13	6	15	5	12	19	40
	Contributed personal or professional anecdotes to facilitate better understanding of ideas discussed.	21	0	21	0	17	0	59	0
	Met expectations of contribution by posting his/her final reflection within the last two days of the discussion.	21	0	20	1	17	0	58	1
I	Identified content from his/her peer's posting that is helpful or useful to the discussion accompanied by brief explanations.	21	0	20	1	16	1	57	2
	Used in-text citations based on relevant literature to support insights gained from the online discussion.	2	19	4	17	4	13	10	49
	Applied accurate APA formatting in giving credits to citation sources.	1	20	8	13	3	14	12	47
	Contributed personal or professional anecdotes to the summary of the online discussion.	21	0	20	1	16	1	57	2
	Met expectations of insights acquired by making a final post on or before the last day of the discussion.	21	0	20	1	16	1	57	2

In reviewing the results of the assessment of student performance during the first discussion, each component of the framework reported areas where students need to meet expectations.

For DEMONSTRATION of Knowledge (D) component, two sub-areas had been identified where students need to make improvement in order to meet expectations --- "Used in-text citations based on relevant literature to support points or arguments made in the posting" and "Applied accurate APA formatting in giving credits to citation sources." Both received 18 (30.5%) affirmative reviews for meeting expectations and 41 (69.5%) negative.

In ENGAGEMENT with Peers and Course Content (E) component, one sub-area was identified for improvement – "Replied to a peer's response to his/her own initial posting." It received 28 (47.5%) affirmative reviews and 31 (52.5%) negatives.

For CONTRIBUTION to the Scholarly Exchange (C) component, also one sub-area was identified for improvement – "Identified at least one key idea from the literature and shared it in the discussion using accurate APA citation format." It received 19 (32.2%) affirmative reviews and 40 (67.8%) negatives.

Finally, in INSIGHTS sharing (I) component, two sub-areas had been identified where students need to make improvement in order to meet expectations --- "Used in-text citations based on relevant literature to support points or arguments made in the posting" and "Applied accurate APA formatting in giving credits to citation sources." The first sub-area received 10 (30.5%) affirmative reviews for meeting expectations and 49 (69.5%) negative while the second sub-area received 12 (20.3%) and 47 (79.7%) respectively.

Implications

Participants reported that the learning experience was valuable with the use of the discussion structure based on the DECI framework. The data suggest that the vast majority of the participants find the framework successful in providing structure to the discussion.

APA formatting challenges. More than 65% of the participants did not follow instructions on accurate formatting of discussion postings. This was due to incorrect APA formatting of in-text citations and references. Even with the availability of Online Writing Lab hosted by Purdue University, participants still experienced difficulty in adhering to correct APA formatting. These inaccuracies seem to indicate the need for more awareness on the value of APA formatting in scholarly writing.

Missing replies in relation to one's initial posting. Data from the discussion assessment (rubric) seems to indicate the lack of attention by participants to the responses made on their own initial postings. This behavior could be attributed to lack of time and limited perception of importance by the participants. It important that those involved in creating discussion prompts or instructions must rethink the value attached to this type of behavior. The specific sub-area in the engagement component needs to be revisited.

Sharing literature nuggets. One of the sub-areas under the contribution component indicated that less than half of the participated met this expectation, i.e., identifying a key idea from the literature and sharing it in the discussion using accurate APA citation format. In reviewing closer the discussion postings, the problem could have resulted in two parts: no literature identified and sharing one with inaccurate APA formatting. Again, this could be remedied by further training for both issues.

Conclusion

The outcomes of this exploratory study supported the idea that one could have a scholarly exchange in an online environment. However, the spontaneity and quality of the online conversation could be achieved with the use of guidelines. The first lesson learned from this experience is that the DECI framework could provide the needed structure for participants to engage with the readings as well as having a dialogue with their peers.

Another lesson learned was the importance of having a process that everyone follows – initial posting, response and reply, and finally, reflections. The initial postings allowed for the instructor to see how much of the reading materials were understood by the students. Are they able to make connections between the readings and the realities of their contexts? Responses and replies provided opportunities to comment or ask questions on what were shared by others. Finally, the reflections provided insights to students' thinking at the end of the online discussion. What stood out from the experience? What would be applicable or relevant to their own practice?

Given the exploratory nature of this study, the author provided a snapshot on the potential of DECI as a framework for integrating discussions in online courses. The author believed that it is user-friendly framework for those thinking of using it. However, the author warned future users to be aware that writing a good prompt requires some practice. Also, the author suggested that the increased familiarity with the rubric would definitely be helpful to those interested in implementing the framework. Finally, the author recommended that more inquiries involving collection and analysis of data from the use of the DECI framework need to be carried out in order to better understand its power in promoting active learning and developing higher-order thinking skills among diverse learners -- by gender, age, background among others.

References

Eryilmaz, E., van der Pol, J., Ryan, T., Clark, P., & Mary, J. (2013). Enhancing student knowledge acquisition from online learning conversations. International Journal of Computer-Supported Collaborative Learning. 8(1), 113-144.

Gilbert, P. K., & Dabbagh, N. (2005). How to structure online discussions for meaningful discourse: A case study. British Journal of Educational Technology, 36(1), 5-18.

Hazari, S. (2004). Strategy for assessment of online course discussions. Journal of Information Systems Education. 15(4), 349-355.

Hung, D., Seng, C. T., & Der-Thanq, C. (2005). How the Internet facilitates learning as dialog: Design considerations for online discussions. International Journal of Instructional Media, 32(1), 37-46.

Mahle, M. (2011). Effects of interactivity on student achievement and motivation in distance education. Quarterly Review of Distance Education. 12(3), 207-215.

McCrory, R., Putnam, R., & Jansen, A. (2008). Interaction in online courses for teacher education: Subject matter and pedagogy. Journal of Technology and Teacher Education. 16(2), 155-180.

McLoughlin, D., & Mynard, J. (2009). An analysis of higher order thinking in online discussions. Innovations in Education and Teaching International. 46(2), 147-160.

Ng, K., & Murphy, D. (2005). Evaluating interactivity and learning in computer conferencing using content analysis techniques. Distance Education. 26(1), 89-109.

Sims, R. (2003). Promises of interactivity: Aligning learner perceptions and expectations with strategies for flexible and online learning. Distance Education. 24(1), 87-103.

Sorensen, C. K., & Baylen, D. M. (2004). Patterns of communicative and interactive behavior online: Case studies in higher education. Quarterly Review of Distance Education, 5(2), 117-126.