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Promoting Critical Reading using Google Tools – a Community of Inquiry Approach

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Abstract

Creating a community of learning can enhance critical reading in a classroom environment. Task design plays a critical role in the effectiveness of this process. This paper presents a case study of a face-to-face literature course that used a host of Google tools to create such a community. The Community of Inquiry (CoI) principles of teacher presence, cognitive presence, and social presence have been applied to analyze the task design using Google tools. Data collected from coursework, surveys, and interviews provide evidence that tasks using Google tools can promote community building and critical reading.

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Introduction

Online and blended courses aim to foster learning communities because of limited or no face-to-face interaction. One would assume that a learning community is easier to build in face-to-face courses. However, this is not necessarily the case. The fact that learning communities have to be intentionally fostered in face-to-face courses is sometimes overlooked. (Warner, 2016). This paper applies the Community of Inquiry (CoI) framework (Garrison, Anderson, Archer, 2010) to present a case study of building communities in a face-to-face undergraduate literature course.

The course goal was to promote critical reading. In their book “Critical Reading and Writing for Postgraduates,” Wallace and Wray (2016, p34) describe critical reading as “a dynamic process,” which includes “identifying the author’s underlying aims and agendas” when evaluating a text. As a teaching methodology, they also suggest that promoting critical reading be task-driven and that it conclude with students submitting a product for assessment.

The pedagogical intent in this course was to promote peer discussions over formal instruction. Two important factors involved here were identifying the right digital tools to foster synchronous and asynchronous discussions, and creating a task design to optimally apply the CoI framework.

This paper describes how a variety of Google tools were used to build an online learning space for productive discussions. Applying the CoI framework, it investigates the role of task design and how using cloud-based Google tools shaped the learning experience. The results from the student survey, interviews, and student coursework will be analyzed from the CoI perspective.

What is the CoI framework and why is it relevant to this study?

According to the CoI framework developed by Garrison et.al (2003, 2007, 2010), a student’s learning experience is greatly enriched when three interconnected factors – cognitive presence, social presence, and teaching presence – are given importance within an instructional design process.

This case study has two goals: 1) to examine the task design involved in promoting a learning community using the collaborative features in three Google tools – Google Slides, Google Docs, and Google Plus Communities; 2) to study the effect of this task design on honing critical reading skills. Garrison’s guiding principles for a CoI in online collaborative learning take on great relevance here. Garrison (2006) defined the online collaboration principles for each of the CoI factors as follows:

- Cognitive presence principle – establish critical reflection and discourse that will support systematic inquiry
- Social presence principle – establish a climate that will create a CoI

- Teacher presence principle – sustain community through expression of group cohesion

The challenge when applying this framework in task design is to meaningfully link learning between the (in-class) synchronous experiences and the (outside-the-class) asynchronous discussions using the Google tools. To create a continuum for learning, the task design has to establish a balance between facilitation by the teacher, process mechanisms to foster a suitable environment for collaborative discussions, and providing opportunities for sharing ideas at the individual and group level, thus leading to critical reading and reflection.

Case study

Course description

The undergraduate freshman face-to-face course titled “Experiencing Literature” met twice a week throughout the 16-week semester in fall 2015. The readings and discussions were anchored to the thematic topic of “British Imperialism in India.” There were twenty-nine students in the class, ranging from 18 to 19 years old. All were native speakers of English and came in with prior critical reading and academic writing experience.

The overall course design focused primarily on promoting critical reading through close textual reading, interpretation, and analysis. In keeping with the characteristics of critical reading described by Wallace, and Wray (2016), this course aimed for the following learning outcomes: to have students scrutinize the evidence in the assigned readings, evaluate the author’s reasoning in arriving at conclusions, and demonstrate awareness of the author’s values and assumptions.

In addition, making connections within the text and between texts was also seen as an important critical reading skill.

This course used a modular approach to discuss each assigned reading. Each module was broken down into several tasks, with the following sequence: assigned reading, individualized summary-writing, small group in-class discussions (face-to-face and synchronous online), whole-class asynchronous online discussions, quizzes and/or written response paper. The selected readings by 19th and 20th century British and Indian authors came from different genres. They included an essay by George Orwell (Shooing an Elephant), a poem by Rabindranath Tagore (“When the mind is without fear”), an autobiographical excerpt by M.K. Gandhi (from *The Story of My Experiments with Truth*), and a short story by H.H. Munro (Dusk).

When presenting these texts, several methods were employed to achieve the pedagogical goal of promoting critical reading. For example, a conscious choice was made to juxtapose the autobiographical writings of Orwell and Gandhi. Presenting the British and Indian viewpoints of Orwell and Gandhi was a deliberate attempt to expose students to a complex web of factors for literary and historical analysis, without limiting the discussion to a simplistic “oppressor-versus-oppressed” perspective. Thus, the excerpts chosen for reading focused on

a common genre of memoir writing. All the chosen texts dealt with complex issues such as moral conflict. This provided scope for interpretation and analysis.

The purpose of the task sequence was to build incremental steps for critical analysis. Wallace and Wray (2016, p 37) highlight the importance of having the student's first step be making his/her "own critical choice" about what he/she reads. Students were therefore required to write an individual response in order to generate original ideas before engaging in peer discussions for collaborative analysis. Toward the end of the course, students worked individually on a digital storytelling video project that presented a synthesis of their ideas. Continuity between tasks was provided through instructional scaffolding: for example, discussions and written assignments required students to demonstrate critical reading by making explicit connections between the different texts.

The tasks emphasized learning strategies for critical reading as described by (Schumm & Post, 1997; Seyler, 2000). These include questioning, open-mindedness, consideration of alternate viewpoints, truth-seeking, creativity in building connections, drawing upon knowledge from other disciplines, reflection, and taking a stance by showing evidence from the text and related resources. Tasks were structured in a way that enabled students to conduct online discussions in a cloud-based asynchronous environment. The pedagogical intent was to have students learn from peer comments and use this learning to strengthen their critical reading.

Rationale for using cloud-based Google tools to build a CoI

Promoting a CoI required building an optimal online learning space to complement in-class discussions. All twenty-nine students in class had to have the opportunity to engage in dialogue in one universally accessible and visible common space. This course used three Google tools – Google Slides, Google Doc, and Google Plus Communities – to build an optimal online learning space.

Recent studies have shown the benefits of Google tools for collaborative learning. (Cheung & Vogel, 2014; Jarvela et.al, 2015). Some online environments present obstacles to collaborative learning: for example, the discussion forums in the Blackboard LMS hide discussions within threads, which obstructs open communication within a large group. By contrast, the use of Google tools supported the task design in this case because it helped to

1. create a digitally networked learning environment where the instructor and students could easily share their work and promote cognitive presence,
2. build visibility for student learning – each and every student could see everyone else's work and participate in a common online space,
3. communicate both synchronously and asynchronously to help build upon the social presence from the classroom interactions,
4. model and refine close reading practices (such as digital annotation features and commenting), so that teacher presence essentially consisted of minimal facilitation and co-participation,
5. provide opportunities for students to demonstrate learning in multimodal ways through writing, digital images, and audio/video.

The Google tools promoted a learning community in which peer learning could be the driving factor for interpretation, analysis, and the synthesis of ideas. The instructor's efforts in designing the tasks using the Google tools played a critical role in building the community.

Three Google-based tasks for CoI building

Although several tasks were performed in the course, this case study will focus on three tasks that are representative of the CoI approach. They highlight three important points in the course, namely the beginning, middle, and end. Each task employed a different Google tool, but the unifying principle was the attempt to develop a systematic inquiry that allowed for self-expression at the individual level and encouraged creativity at the peer level when co-constructing interpretations.

Li and Crichton (2008) define task design as the “thoughtful development of activities that students will engage in to experience the learning process and to demonstrate their growing understanding of core concepts.” The description of each task below outlines the task objective, the pedagogical intent, and the technological affordances. The next section discusses key results related to student learning.

Task 1 – Beginning of the course: Focus on reading motivation. There is a direct correlation between reading motivation and learning performance (Hidi & Harackiewicz, 2000). Literature on critical reading has also suggested that social interaction is an important factor in cultivating reading motivation (Gambrell, 1996). To better understand student motivation and give them an opportunity to discuss collaboratively, a task called “my frustrating reading experience” was designed. This task was intentionally positioned at the beginning of the semester, so that students could express their frustrations related to reading motivation and identify possible barriers to critical reading. Building self-awareness about barriers to critical reading was a first step to develop reading strategies. In this task, a single Google slide was co-created by all the students in the class. Excluding the instructor's slides, which provided an example of a frustrated reading experience, there were 29 slides from a class of 29 students in a single PowerPoint project. Each student posted his/her example of a frustrating reading experience in one slide. The example had to present the following: the title of the book in question, an excerpt from the book showing the source of the frustration, and key ideas describing the reading frustration.

Modeling has proven to be an effective teaching strategy. (Harbour et al, 2015), so the instructor modeled by sharing her own example based on a middle school experience. This modeling set expectations, and the instructor's self-effacement created an atmosphere of trust and safety. The main objective was to help students develop their self-assessment skills and engage in evidence-based writing. Another implicit objective in having students express their frustration was to build a community of shared understanding, and to encourage students to share concrete reading strategies to overcome the frustration. The advantage of the cloud-based Google slide over individual PowerPoint presentations was that it allowed the entire class to co-create and share their reading experience on a common PowerPoint slide. There was a sense of ownership by the entire class that was contingent upon individual contribution.

Task 2 – Middle of the course: Reading analysis using Google Docs. After submitting a brief summary and discussing within small groups in a face-to-face session, students were required to analyze Orwell's essay, "Shooting an Elephant," using the online Google Docs. This task was designed to help students hone several aspects of critical reading: close textual analysis, identification of rhetorical devices, inferential comprehension, making connections with other texts, and discussion with peers to demonstrate and strengthen analysis. First, students had to post their interpretation on the Google Doc for the section of the text assigned to them as a small group. Next, students could add comments on the Google Doc by responding to anyone in the class, not only their group mates. The design intentionally placed the text on the Google Doc not only so that all 29 students could collaborate openly in a common learning space, but also to create opportunities for students to move gradationally from individual to small-group to large-group discussions.

For designers of constructivist learning environments, the appreciation of multiple perspectives is an important pedagogical goal. (Honebein, 1996). The task design applied this pedagogical approach of getting students to recognize multiple perspectives. Because interactive discussions are essential for developing multiple perspectives, students were required to observe the comments and analyses posted by peers. This course used the Blackboard LMS for course communications and announcements. Using Google Docs to analyze texts facilitated sharing and open discussion in ways that are not possible in Blackboard LMS discussion threads. Other studies have also discussed the limitation of LMS discussion threads. (Kent, 2016). It is generally impossible for all students to engage and see the comments of all the other students within a single space. Google Docs made this reading analysis an effective sharing experience. Students could also choose how they wanted to participate: by leading, following, participating actively through multiple comment postings, or being an observer with minimal participation.

Task 3 – End of the course: Summative reflection through digital storytelling and sharing on Google Plus Communities. This task was designed for students to self-assess the development of their reading strategies through a digital storytelling video. Each student had to individually create a digital storytelling video entitled, "Observations of my critical reading experience." This short digital story (4-5 minute video) had to fulfill five criteria: 1) show how you applied the reader response theory; 2) provide an example of at least one concrete reading strategy; 3) identify a digital tool that you used and describe your experience; 4) present a connection that you made between the text from this course and an outside source; 5) describe an 'aha!' moment that showed self-awareness about your reading habits.

To explain the task clearly and set expectations, the instructor modeled the digital storytelling by sharing her experience through a video. Modeling also involved helping students arrive at the final draft of the video by taking them through stages and guiding them through the process. Students had to first create PowerPoint slides of their story using images and keywords. They then had to add a voiceover narrative and record this as a video. Most students in the class used a regular PowerPoint format and then used the Screencast-O-Matic digital screencasting tool to create the video. Later, all the students had to post their individual videos on Google Plus Communities to share their digital story videos and post feedback.

The main pedagogical goal was to have students detach and observe themselves as readers. Having students self-assess their learning is a crucial step in building learner autonomy. (Benson, 2013; Sierra & Frodden, 2017). Also, since this was an end-of-semester task, it was a way to have students proactively provide a summative assessment through the narrative of digital storytelling.

One important aspect of the task was to demonstrate learning through evidence-based examples. For example, for the criterion “identify a digital tool that you used and describe your experience,” students had to name the digital tool, show evidence through screenshots, and describe how the use of the tool improved or hindered their critical reading. The student work for the criterion “present a connection that you made between the text from this course and an outside source” demonstrated higher-order thinking and analysis, since it went beyond the scope of the class discussions and required original, creative ways to describe their learning. This ability to make connections is a vital part of developing critical analysis. In their work on a critical thinking framework for the 21st century, Dwyer, Hogan, and Stewart (2014) reference the work of Sweller (1999) to state that making required connections between new information and/or schemas is integral to critical thinking. Creating a common digital learning space where all students could post their videos and generate discussions was a challenge. Regular learning management systems do allow for video posts, which are instead hidden in discussion threads. Learning management systems do not allow all the student videos to be visible in one large space. The instructor used Google Plus Communities to solve this problem and create an optimal learning space for discussions. Using Google Plus Communities as a discussion forum had several advantages: easy access, capability to share large video and other digital media files, and opportunities to participate in large class discussions.

Google Plus Communities is a social network platform that allows special interest groups to have discussions on specific subjects. Google Plus Communities allows posts in synchronous and asynchronous contexts. Scholarly literature has shown positive relations between engagement in synchronous and asynchronous communication. (Giesbers, Rienties, Tempelaar, & Gijsselaers, 2014; Rockinson-Szapkiw et al, 2016). The Google Plus Communities based task fostered continuous dialogue, an important factor in forming a learning community.

Methodology

The benefits of a case study approach for qualitative studies are well established by Feagin et al. (1991). The primary rationale for using a case study is to perform an in-depth investigation of how to promote CoI and to explore the complex issues of integrating tools such as the Google apps in real-life classroom settings. A secondary reason for the case study approach is to address a gap in the literature (Dudovskiy, 2016) on the impact of digital tools for community building in a face-to-face course. Asynchronous online tools are usually seen as more valuable for online contexts than face-to-face contexts, and this case study shows the importance of online discussions for the face-to-face course.

Quantitative and qualitative data were collected for this study using three methods: 1) observations about student learning from the coursework, 2) an end-of-course online anonymous survey about student perceptions of their learning experience, and 3) one-on-one interviews with seven students who volunteered to participate.

It is generally believed that the use of multiple methods or data triangulation enhance the validity of qualitative research. (Denscombe, 2014 ; Richards, 2014). This case study therefore combined surveys, interviews, and analysis of coursework in order to gain additional insights, obtain comprehensive data, and show validity. This method of combining data sources was expected to lead to a deep understanding of the factors that contribute to promoting a Community of Inquiry. The data collection process received formal approval from the University's Institutional Review Board (IRB).

The course instructor also served as the researcher. This might be seen as a limitation to the study. To avoid researcher bias, the instructor-researcher carried out the following actions: 1) the interviews were conducted after the course ended and grades had been handed out; 2) student participation in these interviews was voluntary; and 3) the online survey, which was optional, was administered after the course ended. Other studies (Chavez, 2008) have also reported that having the instructor perform the roles of both task designer and observer of student learning can strengthen the study's investigative approach.

A summary of key results from all three data collection methods is presented below. This triangulation of data will be further discussed in the next section through the lens of the three presences (teaching, cognitive, and social) in the CoI model.

Key Results Related to Critical Reading

Results from student course work – Examples of critical reading

For task 1 – Results for critical reading

Every student was able to identify an example of reading frustration with evidence, such as an excerpt from the text, showing difficulty in comprehending linguistic or stylistic devices. Fifty percent of the class went beyond the first post and engaged in peer discussion by responding to a classmate. Seven of the twenty-nine students chose a text from Shakespeare as a “frustrating reading experience.” The posts in response to these examples showed a sense of empathy, since they shared a common frustrating experience. The community that developed across the whole class was characterized by inquiry-based discussions using the “comment feature” in Google Slides. For example, one student shared a solution with the rest of the classmates who had identified Shakespeare as a difficult reading experience by providing a link to a database that provided translations to modern English. Every student posted at least one peer comment. The peer discussion was enabled by the ease of use in adding text, and images to provide a rationale and participate in a discussion using the simple comment feature.

The development of critical reading was evident in the examples from students: identification of a reading struggle, description of the barriers to comprehension, highlighting sections of the text using close reading. Student comments mentioned comparable experiences with reading challenges.

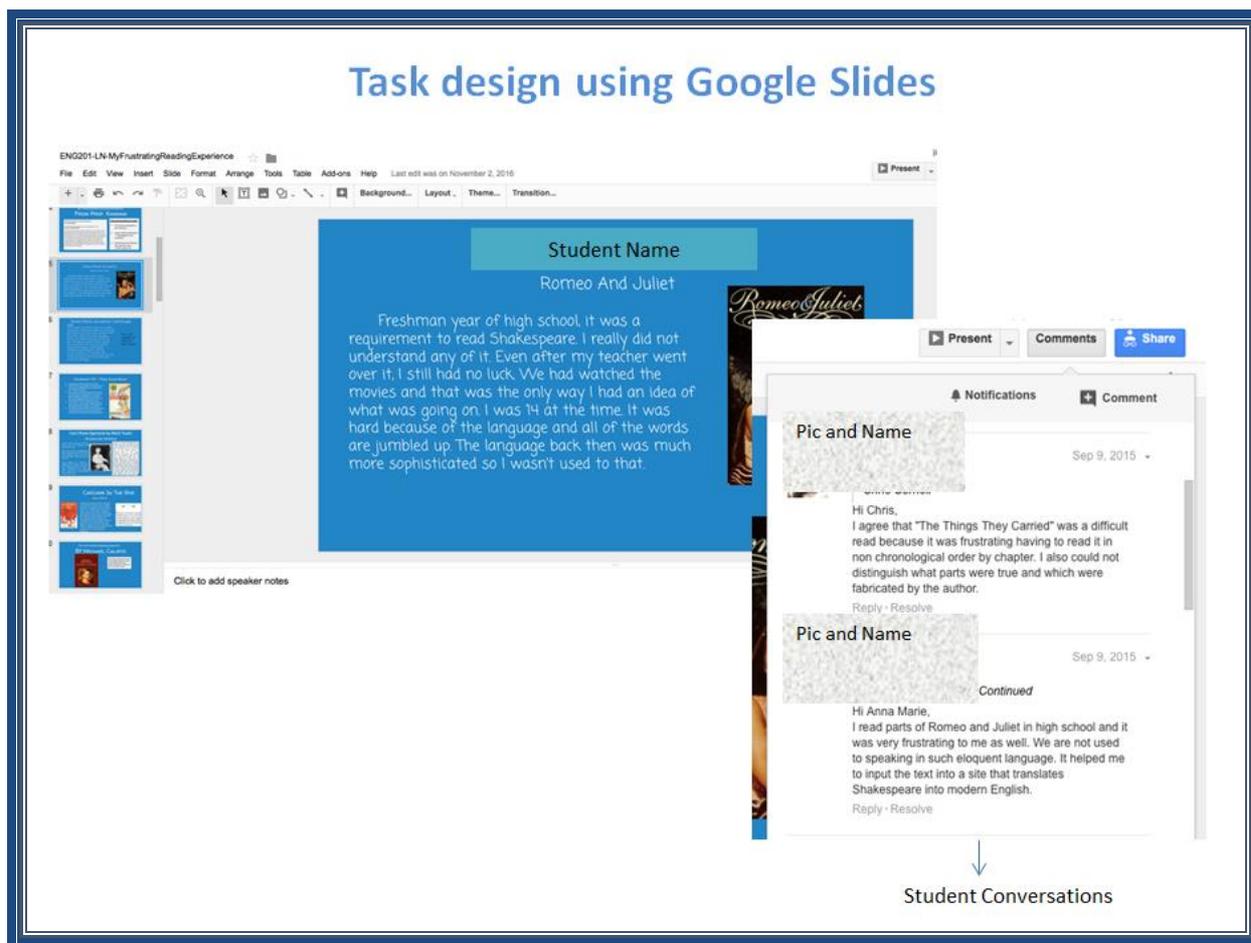


Fig 1 – Task design using Google Slides

For task 2 – Results for critical reading

The task design organized the text and responses within a table format that allowed for small and large group discussions. (see fig 2). The online discussions on Google Docs consisted of two tiers of conversation – small group discussions written out within the assigned section of the table, and whole-class discussions on sections other than those assigned, posted using the comment feature. Both of these were visible to the entire class on a single Google Doc. Two of the five groups chose to document the multiple perspectives within the group, with no prompting from the instructor. Three other groups posted a joint response summarizing their discussions. In certain instances, students chose to go outside their group and respond to a classmate in a different group.

There were a total of 44 comments from the 29 students in the class, all of them more extensive than a simple expression of agreement. Each comment was either a question seeking clarification or a statement showing connections within the text or between two texts. For example, one student presented a link between Orwell's thinking and the moral conflict experienced by Gandhi in an earlier reading..

The critical reading learning outcome was demonstrated in many ways – by raising questions, providing interpretation of the reading, annotating the text using highlighting, engaging a peer in a discussion from a different perspective, and identification of rhetorical devices such as symbolism.

Comments in the form of peer responses showed higher order thinking . The instructor posted only four of the 44 comments. This indicated a very high level of student engagement and minimal intervention from the instructor.

Task design using Google Docs

Screenshot of Annotations and Online Discussions
Page 2 – collaborative discussion by students

Screenshot of Annotations and Online Discussions
Page 3 - collaborative discussion by students

Fig2 – Task design using Google Docs

For task 3 – Results for critical reading

For the end-of-course reflection, each student created a digital story video and posted this work on Google Plus Communities. Every student covered all the required elements for critical reading analysis in this digital story video. In particular, every student video was able to provide answers to all the five criteria, including showing connections by linking with reading outside the classroom discussions. For example, one student linked Orwell’s “Shooting an Elephant” with Steinbeck’s “Of Mice and Men,” and provided a rationale for the connection. One student linked Orwell’s essay with later works by Orwell, thereby building meaningful connections across the body of the author’s work. A third student linked her reading experience in this course with the logical concepts of induction and deduction that she was learning in her freshman Logic 101 course. All of these examples were original, and no two students presented the same connection. By making new connections that were not discussed in class, students showed creativity and synthesis, two characteristics of higher-order thinking according to Bloom’s taxonomy of educational objectives. (Bloom et al. 1956).

If connection-making with concrete examples is considered deep learning, all of the students showed deep learning in this task. That said, five of the 29 students suggested a connection but could not provide a clear rationale for it.

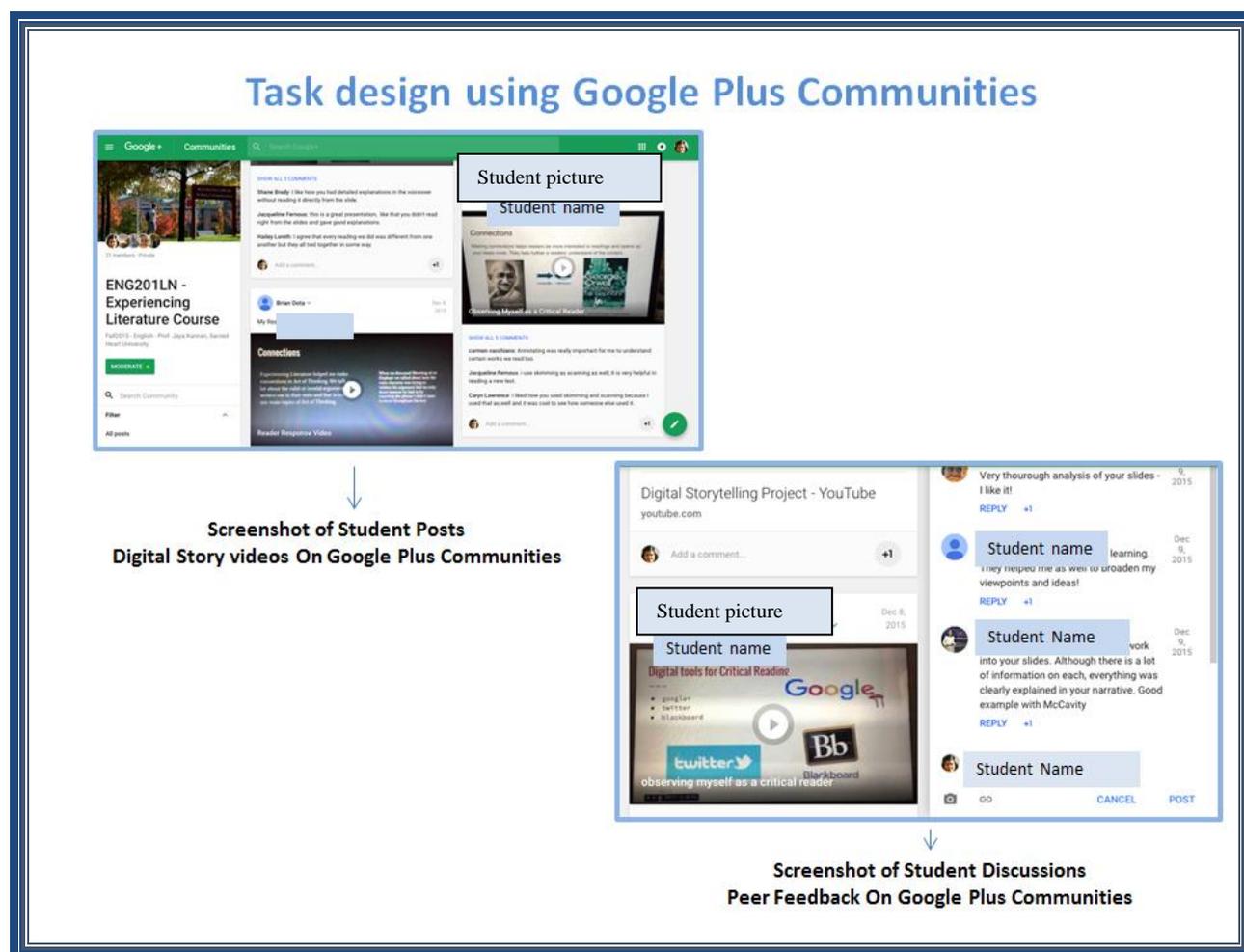


Fig 3 – Task-design using Google Plus Communities

Results from student surveys for critical reading

The anonymous survey administered after the completion of the course included 10 questions on topics related to collaborative learning, the learning experience for each of the three tasks, and requested information about the level of comfort in using the Google tools, from both a technological and an emotional perspective. The survey had a 75% response rate.

When questioned about whether the Google-based task promoted collaborative learning, helped in understanding the course materials, helped in learning critical reading, and helped literary analysis, the response for all three tasks was overwhelmingly positive, with 90% of the respondents either agreeing or strongly agreeing.

Several of the qualitative responses stated that critical reading was achieved by “learning from multiple perspectives” or by bringing “unique ideas together to build an understanding of the topic.” One student stated that “getting constant updates on what others were thinking (via notification from the Google tools) helped me to expand my thought process.”

Comments on the role of peer learning included the following: “My classmates would say things that never crossed my mind,” “I was able to voice my opinion and then get feedback from my fellow students.”

One respondent highlighted the reciprocity factor in collaboration by stating, “I learned new ideas in addition to sharing my own discoveries.” Some of the student comments also mentioned the drawbacks of these online discussion tasks. Two students stated that “ideas tended to stagnate” when several students presented similar viewpoints and this could not be synthesized by the group to construct a new perspective. One student stated that “some of the class would put in less effort” and wait for others to post their comments first.

As for comfort level with technology, 100% of the students stated that their comfort level was very high with the Google tools. The responses were 40% “strongly agree” and 60% “agree,” with no negative responses. The comfort level with communicating thoughts on the Google tools was also very high: responses ranged from “comfortable” to “very comfortable,” with only one “unsure.”

More than 50% of the students had prior experience with Google Docs and Google Slides, although only one student in the entire class had previously used Google Plus Communities. When asked to name a Google tool feature that contributed to collaborative learning, comments included: “we didn’t have to search through threads,” “it was easier to see what my classmates were commenting,” “combine our ideas and come up with the best answer,” “state your thoughts freely and safely.” One response stated that the “ability to collaborate virtually” was an advantage when coordinating meeting times. Another student pointed out ease of access: “I missed some of the ideas the first time I read it, but I could go back to the posts from my classmates.”

When asked what they liked least about working on the Google-based tasks, there were very few responses. Only one response mentioned a technological glitch: “didn’t work in certain browsers and was inconvenient.” Other responses were as follows: “caused some classmates to be lazy with their responses,” “when anonymous option was given students waited for others to post.” Only one response alluded to emotional discomfort with participation: “would my classmates judge my responses?”

Google Docs has a feature that allows one to view previous iterations of the document posts. For the instructor, the evidence of contributions was easy to track using the Google track feature. Previous iterations were visible and transparent to all the students in the class.

Results from the interviews related to critical reading

Seven out of the 29 students participated in the interviews. These students volunteered to participate in a one-to-one discussion approximately one month after the course ended and grades were received. Since participation in the interviews was voluntary, the data might have been considered skewed if only engaged course participants had volunteered for the interviews. The interviewees represented almost the entire range of performance levels in the course, however, with seven students who had received grades ranging from low (C), to high (A or A minus).

The interviews provided insights into the student learning experience that are not easy to capture through surveys or coursework. These interviews therefore added to the compilation of data on critical reading. Following is an analysis of the student viewpoints presented in the interviews. When reviewing the transcripts from the interviews, it became clear that the viewpoints documented aspects of collaborative learning. The ideas shared by students in the interviews were entered into a master list and then categorized into three critical reading themes: collaborative learning, multiple perspectives, and technological affordances.

Collaborative learning: All of the students stated that working on the Google-based tasks contributed to collaborative learning. Student BD described the collaborative learning in the three tasks as a “tower of understanding,” with all of the students working together to reach the top and achieve the same critical reading goal. The characteristics of collaboration were identified as “expanding my ideas,” “condensing down to one major point from the discussions,” “understanding what other people think,” “gaining from different perspectives,” “forming a new idea from the different pieces,” “working together to solve a problem,” “bounce ideas off others as opposed to relying on one,” and “motivation to re-read the text was triggered by classmate’s comment.” One student identified creating a situation “where everyone is on equal ground and has the same goal” as crucial to community building in the Google discussions. Students presented concrete examples of how the learning community formed by the Google tasks led to critical reading. Student BD explained how the 29 students brought different ideas to the table, and this led to a new idea when discussing the essay titled “canker of untruth” by Gandhi. “It was a turning point... a connection that I made only after I had heard that student in class bring up the fact that the canker was sort of like a burden. And that just changed my entire viewpoint.” Student interviews also revealed aspects of collaboration that did not work. For example: “I couldn’t take all the comments from my classmates as accurate, and had to use my own judgment,” “sometimes the ideas were repetitive and didn’t move forward within the group,” “some students were consistently relying on other students to post first.”

Multiple perspectives: Without exception, all of the interviewees highlighted the ways in which the Google-based tasks helped them learn from multiple perspectives. According to Student AH, she could see her classmates’ thinking and compare it to her own when analyzing the text or discussing rhetorical devices. This modified her initial understanding and interpretation, and the discussions “opened my horizons [to ideas that I] didn’t think of initially.” Student SS, however, noted that she weighed her classmates’ viewpoints but knew when to modify her thinking and when to stick to her own viewpoint. This revealed the application of judicious thinking rather than falling into groupthink, and the importance of an individual voice within the community. Student AP brought attention to the “creative freedom” that she experienced when presenting her interpretations: “if we saw something differently but backed it up, it was okay.” Student SS said she observed other students struggling with understanding certain literary symbols or rhetorical devices in the readings and moving toward clarity after the in-class and Google Doc discussions. When asked to connect the readings and arrive at a thematic analysis for a written response, Student SS stated that she linked the works of Orwell and Gandhi by combining “my idea of fear and my classmate’s idea of perseverance” to present a better analysis. Comments about the nature of interactions were also insightful: all of the interviewees stated that they felt safe expressing their opinion to the entire class in the Google-based tasks. One interviewee attributed this to the fact that the class discussions focused on literary analysis rather than anything controversial, such as politics. In highlighting the impact of peer learning, one interviewee

provided evidence of a student who was shy during the face-to-face in-class sessions posting thought-provoking comments on the Google Slides task.

In terms of **technological affordances**, the interviewees touched upon two important factors related to critical reading: easy access and sharing using Google tools. When asked about the experience of using online Google tools for synchronous discussion in a face-to-face course, student AP said, “although it was a face-to-face class, you would sometimes get to work with a classmate next to you or behind you or in front of you. But then, with Google Docs – when we were all online simultaneously, I got to see ideas from people on the other side of the room that I wasn’t even talking to.” Student AP stated that the use of the Google tools not only made it possible to connect ideas, but also made them explicitly visible to other students, and it was easy to observe “how your own idea connects to how someone else is thinking, you never would have known. It really opened my eyes to different perspectives.” The emotional comfort level was unanimously high when engaging with the Google-based tasks.

Discussion with CoI focus

This section discusses the implications of task design for creating a CoI to strengthen critical reading. The impact of task design on each presence will be analyzed using the CoI instrument designed by Arbaugh et al. the validity of which has already been established in other research studies. (Arbaugh, 2008). The headings or subscales from the CoI framework survey instrument devised by Arbaugh et al. provide an appropriate and useful scaffold for the discussion. It is important to note, however, that the survey instrument itself has not been applied in this case, and instead, the key areas of the instrument have been used to structure the discussion.

According to this CoI survey instrument, each presence has the following subscales:

- a. *Teaching presence* has three subscales: design and organization, facilitation, and direct instruction.
- b. *Social presence* has three subscales: affective expression, open communication, and group cohesion.
- c. *Cognitive presence* has four subscales: triggering event, exploration, integration, and resolution.

Impact of the task design on teaching presence when promoting critical reading

Design and organization: By combining individual, small-group, and large-group interactions, the task design effectively created opportunities for critical reading. When analyzing the reading, students had to start with an individual-response writing assignment. In his paper titled, “How to build a culture of originality,” Grant (2016) has highlighted the need to give the individual voice an opportunity to generate new ideas and reflection before it is influenced by peer perspectives in group discussions. With this in mind, the task design consistently began with an individual post for all three tasks. After this, the task design called for students to engage in in-depth conversations in small groups (synchronous and in-class). Next, the level of interaction moved incrementally to the whole class (asynchronous and online). This conscious sequencing – from individual to small group to large group – brought

a balance between individual responsibility and group discourse. Sequencing emphasized cognitive presence in different ways:

- individual reflection in written posts before being influenced by peers for task 1 and task 2,
- collaborative constructivism in small and large group online discussions in task 1 and task 2, and
- synthesis, creativity, and higher order thinking in the digital story assignment in task 3

Facilitation: The instructor's overall facilitation method was intended to promote learner autonomy. Holec (1981: 3, cited in Benson & Voller, 1997: 1) describes learner autonomy as "the ability to take charge of one's learning." The instructor's facilitation mechanisms included protocol prompts, questioning techniques, and feedback through explanation, all with the goal of putting the onus on the student to take charge of their learning. The Google Slides and Google Doc tasks encouraged the students to reflect for themselves, without giving away answers. The survey results and interview results showed that peer discussions facilitated key aspects of critical reading, namely interpretations, identification of literary devices, and building connections within and beyond the text. The task design, which was heavily reliant on collaborative discussions, created an environment for active learning. The use of Google tools in the task design was critical to implementing the pedagogical vision. In task 1, the use of Google Slides although a collaborative effort allowed for the expression of individual thoughts. Each student came up with a unique, evidence-based example to show critical analysis. In task 2, using the Google Doc, students showed 100% participation in small group and 50% participation in the large group, and a learning community emerged.

Direct Instruction: Direct instruction was minimal and strategic in all three tasks. It was characterized by providing guidelines for the task, observing student participation and verifying learning, raising questions to move students toward understanding, and providing explanations that helped students arrive at their own interpretations. The pedagogical vision was to use direct instruction as a scaffolding resource to support the primary goal of creating an optimal environment for active learning. In tasks 1 and 2, peer-to-peer interaction in the online context was 90% and interaction between student and instructor was only 10%. Direct instruction in the in-class sessions was limited to providing guidelines and explanation. Most of the students effectively demonstrated new connections in their interpretations as part of their work in task 3 (digital story posted on Google Plus Communities). Based on this result, it may be deduced that the learning community created by the peer interactions, rather than didactic teaching from the instructor, became the mode of instruction.

Impact of the task design on social presence when promoting critical reading

One important aspect of social presence was the creation of a learning environment built on trust. Even with synchronous communication during in-class discussions, students were able to interact only in small groups, and not with all the students in the class. Sequencing the online Google-based task after the in-class discussion helped to create a learning methodology for continued interaction and sustaining the high comfort level for participation within the community.

Affective expression in the three online tasks: The work of Cleveland-Innes & Campbell (2012) which studies emotional presence within the CoI framework, suggests that emotional

presence may exist as a fundamental element in an online community of inquiry. The challenge for instructional design is to use the student's fundamental emotional presence as an advantageous contributing factor for achieving the desired learning outcome. The results show that all three tasks provided ample opportunity to display and document encouragement, empathy, and frustration in the online discussions. One example is the Google Slide task to document a frustrating reading experience, where six out of 29 students chose a Shakespeare text. Not only was there a display of empathy, but solutions for navigating the Shakespeare text were also shared by other students. When discussing the moral conflict faced by Orwell in the Google Docs task, comments from two groups showed a clear emotional stance against Orwell, calling his action selfish. The final digital story assignment required expressions of learning preference in the use of digital tools for critical reading.

Open communication: Given that every student got to input his or her idea, even if ideas occasionally overlapped with others, the online posts showed openness in expressing viewpoints. One student stated that she used the idea posted by a peer on the Google Doc in task 2 to bring it up for discussion in a subsequent face-to-face session. In task 2, students showed autonomy by choosing how they wanted to participate. Even when students were positioned in small groups, the voices of individual students were clear and showed originality. In some small groups, each student chose to post an individual comment to document the disagreement in the discussion, while one small group stated that they were unanimous in their interpretation of George Orwell's struggle with moral conflict, and posted it as a joint comment. One student stated that the Google Docs task in the face-to-face class provided opportunities for discussion with students who were not in her group. When combined with the comment features of Google tools, the task design created opportunities for communication across groups and facilitated greater interaction.

Group cohesion was well achieved in all three tasks. Students presented their ideas of what they saw as group cohesion: "You could see what everyone was thinking and you were not the only one talking. In a way, you felt that you were talking to everyone in the class." This is exactly what the task set out to do.

Peer feedback was instrumental in moving the discussion forward. In task 1, task 2, and task 3, there were no simplistic "I agree" comments from the students. For task 2, there were 42 responses among the 29 participants. Each response was a question or comment, a connection-making idea, or expression of disagreement that focused on the analysis of the reading.

The data from the survey responses and interviews revealed that four students highlighted the need for discernment and decision-making in using the information posted by their peers. One comment stated, "it was difficult to know the accurate info...It is very helpful if it is all correct and you can use it. But I think it can also be hurtful if it is not, then you are studying the wrong information."

Feedback from the students about "stagnant ideas" and "lazy participation" also revealed areas of the task design that did not work.

Impact of the task design on cognitive presence when promoting critical reading

Triggering: In all three tasks, the trigger consisted of prompts from the instructor. However, these were structured so that students could show autonomy in selecting their responses. For example, in task 1, each student chose any desired example to describe their frustrating reading experience. This resulted in examples that motivated the students to be evidence-based. No student merely gave the title of a text without also providing an excerpt from the text and a rationale for why it was barrier to their reading experience.

Exploration: Every single student was able to explore an original idea and submit evidence for it in their summative digital story video assignment. Every student provided a unique and original response to the question, “How did you make connections between readings or find links with ideas derived from another course?” This showed synthesis in critical reading, a higher-order thinking skill. At the beginning of the course, ideas in the online discussions were occasionally perceived by students as being repetitive or stagnant. By the end of the course, in the final digital story video assignment, every student showed creativity in selecting ideas that they linked together to demonstrate critical analysis. Research literature suggests that online discussions often do not show levels of cognitive presence beyond the exploration phase. (Celentin, 2007; Darabi et al. 2011). The overall course design can address this challenge by building purposeful links between the different tasks within the course, and encouraging students to see their learning on a continuum. The results from this case study show that explorations in critical reading which began in task 1 and task 2 led to the synthesis of ideas in task 3.

Integration and resolution: To take the students through a developmental process, task 1 with Google Slides helped to establish a learning methodology for a shared inquiry process. The idea of sharing a frustrating rather than a successful learning experience unified the students and promoted a systematic inquiry built on providing evidence. Every student provided an effective example of a reading challenge. In the instructional design process, it is important to see the links between the tasks throughout the course. The results from student course work and the examples provided by students in the digital story assignment show that the community building and inquiry strategies were developmental in nature. According to Wallace and Wray (2016, p13), “the capacity to develop a convincing argument is heavily dependent on the quality of your preparatory critical reading.” Results from the student course work show that the critical reading strategies developed in task 1 and task 2 helped the students to arrive at an original argument for making connections in the digital story in task 3.

Conclusions

The results from all three tasks reveal that the peer discussions played a vital role in strengthening critical reading by providing opportunities to contribute to and gain from multiple perspectives. Students identified this as a key factor when making connections, taking a critical stance, and evaluating the readings. The community formed by the online Google-based discussions, rather than by the instructor, therefore became the primary agent for enhancing critical reading.

1. The combination of synchronous and asynchronous communications strengthened critical reading

The combination of synchronous and asynchronous communications was key to the development of higher-order thinking skills. A face-to-face course presents more

opportunities for building interactions during class time. One cannot assume, however, that the face-to-face context alone will foster quality discussions or engagement between all of the students in the class, especially in a larger class. In this case study, alternating between the in-class and online discussions in iterative cycles greatly strengthened the discourse mechanisms for critical reading. Students perceived online communication as democratic when the instructor participated in the online discussions and in-class discussions not as an authoritarian, but as a co-participant.

2. Google tools provide the potential for fostering collaboration, but cannot ensure it

This equal participation dynamic is promoted more effectively by Google tools than by discussion threads. A tool's technical features therefore also play a role in establishing a community. The cloud-based Google tools enhanced accessibility and sharing across different devices, both inside and outside the classroom. The technical features of Google tools positively enabled task design. Easy sharing, access, and ease of both synchronous and asynchronous communication helped to create strong learning opportunities for social presence because of group cohesion. The Google tools features created a learning space where dialogue was achievable. Nevertheless, the systematic inquiry necessary for cognitive presence depended to a great extent on the instructor's task design and the level of student participation, and cannot be ensured through the use of Google tools alone.

3. Task design was key to community building, but was not a causal factor

All three factors – teaching, cognitive, and social presence – must intersect purposefully in order for students to construct new meaning as a collaborative effort. If only some of the 29 students had contributed, or if there had been poor participation from a majority of the class beyond the first post, this would have limited the critical reading experience. Excessive intervention from the instructor after providing the prompt and setting the direction of discussions would also be detrimental to the CoI. Ultimately, the pedagogical design of the tasks brought all the students together into a common and shared learning space, and played a key role in building a CoI.

Results from the student coursework, survey, and interviews provide evidence that the online community created by the Google-based tasks had a greater influence on critical reading than did the direct instruction. Teacher presence by way of task design could be seen as playing a causal role in establishing the learner community. An earlier study by Anderson, Garrison, and Archer (2001) aimed to assess the causal influence of teaching presence. This case study found that although teacher presence by way of task design was a driving factor, critical reading – as demonstrated by cognitive presence – would not have been enhanced in the absence of open communication by students and the organic development of group cohesion.

Cognitive presence was also evident in student learning when teacher presence was effectively manifested through *task design and organization*, but minimal in didactic instruction. This complex relationship between task design, the implementation of the CoI model, and the fostering of critical reading requires further exploration.

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