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### ABSTRACT

This article examines how a professor co-creates educational YouTube videos alongside students to form a *community of inquiry* (CoI). The CoI considers the cognitive, social, and teaching presences in the educational experiences of technologies. In this case, students and a professor co-create YouTube videos as a basis for interactivity and collaboration within the CoI in order to resolve teaching and learning challenges. The making, understanding, and implementation of videos is a blended learning approach that fosters competency development and pedagogical praxis. The multimodal nature of YouTube encourages the students to become active producers of their learning through their user-generated videos. This participatory culture is necessary for online, in-person, and blended teaching and learning realities. Practical implications of the co-making process and the video workflow are provided.

### RÉSUMÉ

Cet article examine comment un professeur cocrée des vidéos YouTube éducatives avec des étudiants dans le contexte d'une *communauté de recherche*. Celle-ci prend en compte les présences cognitives, sociales et pédagogiques dans l'expérience éducative des technologies. Dans le cas qui fait l'objet de cet article, un professeur et des étudiants forment une communauté de recherche afin de cocréer des vidéos pour YouTube. Pour ce groupe, il s'agit d'une occasion d'interactivité et de collaboration en vue de résoudre des défis d'enseignement et d'apprentissage. Ainsi, la création, la compréhension et le téléchargement de vidéos constituent une instance d'apprentissage hybride qui favorise le développement de compétences spécifiques et l'application pédagogique de celles-ci. La nature multimodale de YouTube encourage les étudiants à participer activement à leur propre apprentissage au moyen des vidéos qu'ils cocréent. Cette culture participative est utile aux réalités de l'enseignement et de l'apprentissage, qu'elle se passe en ligne, en personne ou sous forme hybride. L'article explore aussi les implications pratiques du processus de cocréation et de la séquence de tâches requises pour créer une vidéo.

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## Introduction

This research is situated within a teacher educational program in Western Canada. A significant part of the program focuses on educational foundations, involving classes about educational philosophy and psychology, and principles of teaching and learning. In these foundational courses, student teachers are introduced to various educational theories. These student teachers encounter these theories in different ways within their studies: through readings, lectures, discussions, podcasts, data visualizations, and videos. Part of the pedagogical aim is to provide student teachers with a variety of course content and task them with developing their unique teacher identities in relation to the assemblage of theories. Because these courses are at the introductory level, a simple presentation of educational theories is required.

In order to address these teaching challenges, an educational professor proposed designing videos with students as active participants (Piredda et al., 2017). Working with two student research assistants, the professor transformed the traditional teacher-student relationship into a *community of inquiry* (CoI) (Garrison, 2017; Castellanos-Reyes, 2020). While CoI is often a framework through which to investigate online learning, it is presented here as a constructive pedagogical model that involves co-making and co-learning alongside students in the creation of educational videos as “production pedagogy” (de Castell & Jenson, 2006; Smythe et al., 2016). In the following sections, CoI is depicted as a generative space for co-creating a variety of videos through the YouTube platform. The CoI framework has proven particularly significant for collaborative relationships in teaching and learning that can be useful for the broader educative community.

## Background

YouTube has over 2 billion monthly logged-in users with 500+ hours of content uploaded every minute (YouTube, n.d.). In Canada, 70 percent of users rank YouTube as the first media space they access to learn things (Berkowitz, Davis, & Smith, 2019). YouTube is perhaps the most popular platform for informally acquiring new knowledge and skills. It is the second-largest search engine where users engage in a “media ecology of tutorials” (Morain & Swarts, 2012, p. 6) to learn about baking sourdough bread, defeating a video game, or fixing a leaky faucet. Among the casual learning and practical DIY channels, there is a growing number of academically inclined videos that provide meaningful content on any given topic. For example, at the time of writing, Khan Academy (n.d.), a video-based tutorial channel on a wide array of educational topics, had amassed over 7.16 million subscribers and 1.9 billion views since it began in 2006. Vsauce (n.d.), an early producer of learning-oriented content, has over 17.6 million subscribers and 2.2 billion views. Eddie Woo (n.d.), a high school math teacher in Australia, has over 1.44 million subscribers and more than 116 million total views. These statistics demonstrate a significant enthusiasm for learning, even among casual viewers of YouTube.

While there are many useful channels for learning within YouTube, one concern about the platform is the propensity for misinformation (Lee, 2018; Vraga & Tully, 2019). YouTube itself has identified ways to address these issues. As a social media platform, it acknowledges that it “need[s] to be careful to balance limiting the spread of potentially harmful misinformation, while allowing space for discussion of and education about sensitive and controversial topics” (Mohan, 2022). Despite purported programming and content alterations to address the challenge of misinformation, YouTube remains a corporation with its own financial and programmatic agenda. Similarly, popular YouTube education channels tend to be a “hybrid cultural-commercial space” (Lobato, 2016, p. 357) with business objectives tied to monetization. Even smaller-scale channels managed by education influencers have similar entrepreneurial goals (Carpenter et al., 2022). Perhaps a response that appropriately considers educational goals is for individual academics to share their research through self-created channels. Maynard (2021) proposes that “even talent-limited academics can nevertheless leverage YouTube as a platform for further mobilizing their knowledge for public good” (p. 1). With this ethos in mind, the creation of an academic YouTube channel could be beneficial, especially for student teachers who use the platform as a regular source of communication and self-directed learning (Peters & Romero, 2019).

Considering the usefulness of educational videos on YouTube, the CoI co-created a YouTube channel to disseminate introductory videos that serve as springboards into complex and nuanced discussions. Each video provides a short three-to-five-minute introduction to various educational theories: John Dewey and pragmatism, metacognition, Lev Vygotsky and the sociocultural theory of development, and Bloom’s taxonomy. The videos are used as part of a flipped classroom learning activity. Students watch the videos and complete the accompanying readings in preparation for classroom discussions the following week. The discussions also take on different modalities, enacted either online or in-person due to continued challenges of following university COVID-19 guidelines. The length of the videos does not match the typical conventions for video journals such as the *Video Journal of Education and Pedagogy* (VJEP). Rather, it draws inspiration from the Three Minute Thesis (Canadian Association for Graduate Studies, 2022), or the Social Sciences and Humanities Research Council Storytellers challenge (n.d.), which ask postsecondary students to use video to showcase impactful research in up to three minutes. These videos act as a kind of scholarly work by “ensuring the inclusion of the traditional academic standards of scholarly discourse” (Burpee et al., 2015, p. 8).

### **Literature review: Maker education and community of inquiry**

There are two broad frameworks that inform this research: maker education and inquiry-based learning. Maker education has been commonly associated with STEM (Science, Technology, Engineering and Math) fields. Its primary approach denotes education as “making, through the use of tinkering, play, design processes, and the prioritization of digital technologies” (Hsu et al., 2017; Jin, 2021). This is particularly evident in makerspaces where maker activities are introduced for teaching and learning (Keune & Peppler, 2019). These spaces can be situated in-person, such as in a library, or found online. The purpose is to create a space so that students can become makers who explore their learning via processes of design, prototyping, creating, and reflection.

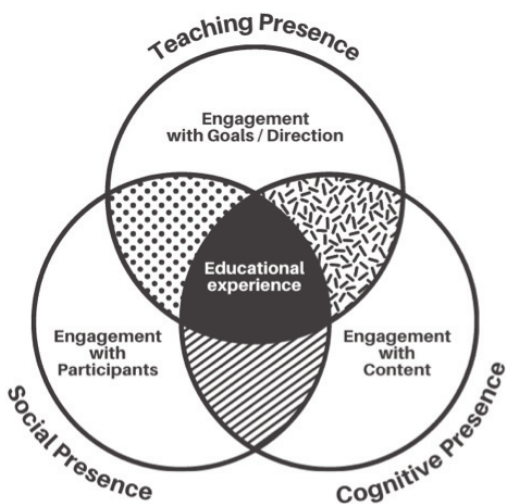
Within this making framework, there is an associated maker pedagogy that conceptualizes both teachers and learners as makers of ideas and things. According to Bullock and Sator (2015):

Maker pedagogy is an approach that utilizes the principles of ethical *hacking* (i.e., deconstructing existing technology for the purpose of creating knowledge), *adapting* (i.e., the freedom to use a technology for new purposes), *designing* (i.e., selecting components and ideas to solve problems), and *creating* (i.e., archiving contextual knowledge obtained through engaging in the process of making, as well as the actual tangible products) as part of an overall way of working with those interested in learning about science and technology. (pp. 76-77)

Plourde (2019) proposes a “making together” through cross-disciplinary collaboration, using an architectural project as a site for communication. Brennan (2021) recommends that scientists consider using DIY videos to improve science communication and engagement. These ideals of making together through a DIY ethos contribute to a co-making pedagogical practice. Along with a prioritization of making, this kind of pedagogy promotes inquiry-based learning. Inquiry as an educational framework problematizes traditional notions of education as unhelpful modes of knowledge transmission and suggests a holistic change to inquiry-based engagement. Inquiry as an educational/theoretical framework is conceptualized from constructivist learning theorists, such as Dewey (1938), Vygotsky (1962), and Freire (1984). Inquiry-based learning involves actively engaged teachers and learners in processes of questioning and reflection. It begins with a problem, question, or challenge that is based on one’s own self-inquiry, resulting in a natural pursuit of knowledge. Inquiry-based teaching has led to significant learning gains when contrasted with control groups drawing on traditional learning models (Furtak et al., 2012).

Lipman (1991) expands on inquiry-based learning and theorizes the classroom as a type of community of inquiry (CoI) comprised of “a group of individuals who collaboratively engage in purposeful critical discourse and reflection to construct personal meaning and confirm mutual understanding” (Garrison & Akyol, 2013, p. 106). Members of a CoI participate in collective processes that involve collaboration, connection, reflection, and problem-solving. This CoI framework has been expanded and adopted for considerations in educational technologies (Garrison, 2010), with educational experiences characterized as the intersection of three presences: cognitive, teaching, and social presence. Presence, in this framework, is a “sense of identity created through purposeful and open communication” (Garrison, 2016, p. 70). All teaching and learning activities can be situated into one of these presences in order to support inquiry-based learning. In particular, CoI conceptualizes inquiry-based teaching and learning through the model on the left (see Figure 1).

Figure 1: Community of Inquiry framework



In Figure 1, the three presences are positioned as conceptual domains in relation to one another. Each presence focuses on a particular engagement: goals and direction, participants, or content. Through these different engagements, multiple categories are identi-

fied with resulting measurement indicators and applications. Accurate measurement and evaluation of the presences provide educators with a method to identify levels of presence activity (Arbaugh et al., 2008; Yang & Su, 2021).

Cognitive presence is the extent to which any given community of inquiry is able to create meaning through sustained communication. Garrison et al. (2000) established cognitive presence using a practical inquiry model that included a *triggering event*, *exploration*, *integration*, and *resolution*. The aim was to create meaningful learning tasks that appropriately engaged students in each step of the inquiry model. Students encounter the initial triggering event that evokes a sense of cognitive dissonance. The students then explore different ideas and sources of information to discern and understand their initial experience. Synthesizing their understanding is accomplished through integration which potentially leads to ideation of new concepts. A final resolution denotes the application of new concepts to the original learning challenge.

Social presence is the capacity of each individual person in the community of inquiry to present their real selves to one another (Rourke et al., 2001). This capacity is established in collaboration between instructors and students through the *expression of emotion*, using *open communication* and *group cohesion*. These social and emotional characteristics express respect and mutual awareness of the other person, potentially developing a sense of group identity within an open communicative framework. Because social cues such as body language are removed or muted through an online or hybrid medium, the social presence prioritizes other shared dynamics, such as group cohesion via collaborative group inquiry.

Teaching presence is the pedagogical direction of cognitive and social processes for the purpose of realizing meaningful educational learning outcomes (Anderson et al., 2001). This presence promotes *design and organization*, *facilitation*, and *direct instruction* within the learning environment. *Design and organization* considers the instructional management by setting the curriculum, assessment, and other planned educational outcomes. *Facilitation* focuses on the educational experience, discerning how the students are learning via active participation and construction of their knowledge. *Direct instruction* addresses the content and student understanding of the educational knowledge. These three presences within the CoI framework are appropriate for gauging the pedagogical aims in co-creating the YouTube videos. In this context, CoI allows the discernment of educational experience for the participating student research assistants.

### **Co-making YouTube videos with students**

In the effort to create YouTube tutorial videos, the professor worked with two students who served as research assistants (one is a student teacher, and the other is a media student with an interest in education). There was a previous professorial relationship with the student teacher, and no prior relationship with the media student. Both were recruited via typical employment processes at the university. Although experience in creating videos was preferred, it was not required for this project. Instead, the significance was found in establishing a CoI through the co-designing of videos and discerning the pedagogical relationship therein. The priority was to establish a collaborative



workflow (see Table 1), so that the collective design decisions could inform the creation of these videos.

**Table 1: CoI co-making video workflow**

Phase	Action	Specifics
Discussion	Identify significant educational theory and discern a particular focus.	This includes broader discussions between the professor and students about the importance and impact of the theory to pedagogical practice.
Script	Develop a 3- to 5-minute script that clearly explains the theory, is research-informed, and is engaging.	This is primarily written by the professor in consultation with students for clarity and interest of the content.
Voiceover	Record the audio voiceover based on the edited script.	The professor provides a high-quality voiceover using audio equipment and a shared-in-common drive.
Filming	Film each scene based on the details in the script and voiceover.	Students have the freedom to film or use any royalty-free image or video to create scenes for the video.
Editing	Assemble video and audio, add effects.	Students use their own personal video-editing software to create a version of the video.
Iteration	Discern changes needed in the latest version of the video. This phase may include additional iterations through phases 2 to 5.	The professor discusses particular moments in the video with students and whether edits are necessary. The students make potential changes using editing software.
Publication	Upload to YouTube.	Final discussions with students about the video title, description, and keywords. The professor uploads the final version of the video onto YouTube.

The initial meetings set the parameters for the group as a community of inquiry. Collectively, the group brainstormed and discussed possible video content as well as the respective roles in the CoI. In the end, the group agreed that the professor would serve as the lead researcher and would initiate the content for each video with feedback given by the students. The professor provided the academic research concerning potential educational theories, video workflow processes, and the CoI framework. The students, in turn, commented on design considerations, as well as the potential interest and appropriateness of each theory. While the students may not have had a working knowledge of any particular theory, they readily posed questions about how best to portray the theory.

Based on the group members' personal experience, longer videos were viewed as less effective for student learning (see also Costley, Hughes, & Lange, 2017). The CoI decided that succinct tutorial-style videos less than five minutes long were the ideal format. In this initial phase, the group discussed the importance of each particular theory and how it affects the educational discourse. For example, one video on John Dewey emphasized his role in the development of pragmatism and in the progressive movement in education. The CoI examined and debated Dewey's impact on the local educational system. This initial discussion served as a generative space where ideas were collectively formulated for the video.

Following this initial discussion, the crux of the video co-creation process began as a loose script with narration. The professor wrote out a three-to-five-minute script that provided a broad overview of the theory, highlighting specific research and quotations that were significant for teaching and learning. Another necessary feature of the video was the emphasis on theory in connection to practice—an illustration of educational praxis. This script was narrated using an Audio-Technica ATR2100x-USB microphone and recorded onto a computer. The audio narration was edited using Adobe Audition and required additional modifications by the students as needed. Once the audio was recorded, it was shared with the students in an online file along with a set of prompts. Often, this is a negotiated process where the professor writes out brief instructions about each segment of the video and the students craft possible videos or images alongside the narration. Most of the design and video segments were either filmed by the CoI, made in software, or found using royalty-free and open-license images and videos shared by other content creators. The students ultimately had creative liberty in the design of the videos with an understanding that they were involved in an iterative cycle with continued discussions at each point of the co-making process.

After the students created a first iteration of the video, the content and design were discussed. The video was viewed together or separately and changes were proposed, resulting in alterations of either images or videoclips. For example, after watching a first draft of a video about metacognition, the professor noted that the text at the beginning was too small and disappeared too quickly. These issues were collectively flagged and fixed for the second version of the video. Often, there is more consideration taken about whether the educational praxis of the video is compelling for student teachers. Collectively, the CoI discussed whether the application of the educational theory could engage potential viewers in a meaningful way. If needed, the script or narration was edited to better convey the value of the educational theory. In the end, the CoI completed the iterative co-making processes nearly three times per video (Derry et al., 2010). By version three or four, the CoI was typically satisfied with the quality, and the professor uploaded the final video onto YouTube.

### Communication and collaboration in the co-making process

This section provides an example of the collaborative and creative communication process (Eriksson & Eriksson, 2019; Maynard, 2021; Piredda et al., 2017) centered around the development of a video on Bloom's taxonomies. Below, a script is included, divided into sections, and paired with matching screenshots designed by the students. Additionally, the instructions are distilled from the CoI group discussion which resulted in action steps for the students to edit specific moments in each video.

#### SECTION 1 OF VIDEO

*Script:* Benjamin Bloom was an educational psychological best known for his taxonomy, a popular framework for categorizing educational goals. He was interested in this research because he witnessed a widespread use of rote learning—learning that was just attainment of knowledge, and only retained in order to pass tests. Instead, Bloom advocated for mastery learning: “Education must be increasingly concerned about the fullest development of all children

Figure 2: Introductory thumbnail



and youth, and it will be the responsibility of the schools to seek learning conditions which will enable each individual to reach the highest level of learning possible” (Bloom et al., 1971, p. 6).

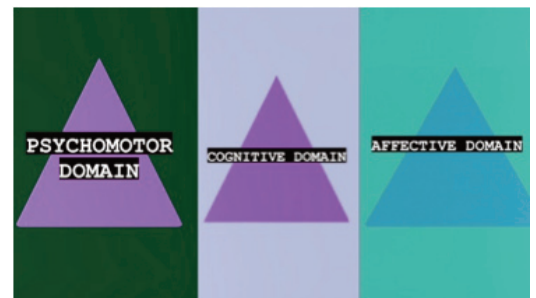
### Instructions to video co-creators

- Please use the citation from: Bloom, Benjamin S., Madaus, George F., & Hastings, J. Thomas (1971), *Handbook on Formative and Summative Evaluation of Student Learning*.
- Include an image of Bloom’s three taxonomies (see images in shared drive for inspiration).
- Use the image of Benjamin Bloom and credit the University of Chicago Photographic Archive [apf1-09293], Hannah Holborn Gray Special Collections Research Centre, University of Chicago Library.

### SECTION 2 OF VIDEO

*Script:* Bloom is best known for his cognitive domain taxonomy, yet there are three different and interrelated taxonomies: the cognitive domain taxonomy, the affective domain taxonomy, and the psychomotor domain taxonomy. Bloom was interested in developing educational goals that could be organized and ordered according to their complexity, beginning with simpler objectives, and building towards more complex ones.

Figure 3: The three taxonomies



### Instructions to video co-creators

- Please include the title “Cognitive Domain Taxonomy.”
- Can you show the three taxonomies, and label them on the same image? See the image for “Bloom’s three taxonomies” in our shared drive as an example.
- There are three separate images in our shared drive that you can edit: cognitive domain taxonomy, affective domain taxonomy, and psychomotor domain taxonomy.

### SECTION 3 OF VIDEO

*Script:* For the cognitive domain, the simplest level is “remembering,” involving facts, recalling basic concepts. Second, there is the level of “understanding or comprehension,” discerning how one can explain ideas or concepts. Third is “application,” applying knowledge to new or different situations. Fourth, there is “analysis,” drawing connections between different ideas. Fifth is “evaluation,” reflecting on knowledge and making judgments. Last is “creation,” producing new or original work.

Figure 4: Cognitive taxonomy example





*Instructions to video co-creators*

- For this section, can you reveal each level of the cognitive taxonomy one by one and put it in the appropriate part of the narration? For example, show the first level, “remember,” followed by the second level, “understand,” etc.
- While showing this taxonomy on one side of the screen, can you include various videoclips of these different acts on the other side? We want to promote cognitive acts such as remembering and thinking.

**SECTION 4 OF VIDEO**

*Script:* The cognitive domain is followed by the affective domain that has to do with emotions, which is especially important for working well with others. Again, this taxonomy begins with the simplest level at “receiving,” which involves learning to pay attention and remaining open to the experience. Second, “responding” entails willingly participating and replying. Third, “valuing” is the recognition that something is worth doing. Fourth, “organizing” prioritizes values and resolves conflicts between them based on a set of values. Fifth, “characterizing” is bringing together ideas, beliefs, and attitudes in a coherent value system.

**Figure 5: Affective taxonomy example***Instructions to video co-creators*

- Like the previous taxonomy, can you reveal each level of the affective taxonomy and sync it to the appropriate part of the narration? For example, show the first level, “receiving,” the second level, “responding,” etc.
- I would suggest following a similar style with the taxonomy on one side and a video of these emotional/communicative acts on the other. It can perhaps be a few videos spliced together, or one video of someone reflecting on their emotion. (This may take a few drafts; we can discuss it at our next meeting.)

**SECTION 5 OF VIDEO**

*Script:* The final domain, psychomotor, is related to the acquisition of physical or practical skills. Again, we begin with the simplest level, “reflex movements,” where one responds to stimuli. Second, “fundamental movements” entails building on reflexes. Third, “perceptual abilities” addresses skills related to bodily movements, senses, or coordination abilities. Fourth is the development of “physical abilities.” Fifth is “skilled movements,” which involves practice, especially for games, sports, or the arts. Last, “non-discursive communication” has to do with expressive movements and gestures for creative and artistic endeavours such as ballet.

**Figure 6: Psychomotor taxonomy example***Instructions to video co-creators*

- For the psychomotor taxonomy, let us follow the same format as in previous taxonomies.
- For the video part of this section, can you find a few centered around learning ballet? If that option doesn't work, another physical activity or sport would be ideal.

- If there are no high-quality videos that can be filmed or found, we can discuss it at our next meeting, and I may have to change the script and narration.

## SECTION 6 OF VIDEO

*Script:* For educators, Bloom teaches us that learning is holistic and multidimensional,

Figure 7: Teaching exemplar



and there can be plans for intentional growth in specific domain areas. For example, for any lesson, teachers can begin by discerning the cognitive entry level of students. After establishing the student level as, say, understanding or comprehension, a differentiated pedagogy can be used to help the student at the appropriate cognitive level. Second, considering the affective entry behaviour of the student—say, responding versus organizing—would allow teachers to cultivate social and emotional learning by using appropriate motivating interventions and feedback. The final consideration with the psychomotor taxonomy has to do with allowing teachers to think about how to adapt teaching and learning resources to the individual needs and interests of the student.

### *Instructions to video co-creators*

- This is the application and connection to our educational praxis. Can you find a video showing a teacher in the middle of teaching?
- Please insert the word “cognitive” and we will pair it with a videoclip of a teacher helping a student with their homework.
- Similarly, for the affective example, perhaps find a moment where a teacher can help a frustrated student. Finding a conflict and resolution leading to a smile is helpful.
- For psychomotor, I am open to any suggestions in this category.

## SECTION 7 OF VIDEO

*Script:* These taxonomies provide an excellent basis for a developmental learning frame-

Figure 8: Ending classroom example



work and setting of objectives to be used in planning, teaching, and assessment activities. I hope you enjoyed this short summary of Benjamin Bloom’s taxonomies. Thanks for watching.

### *Instructions to video co-creators*

- Can we end with an uplifting videoclip of a teacher and students happily learning in the classroom?
- We will need to discuss thumbnails, keywords, and the title of the video once we have finalized the video.

## Discussion

The previous section showcased one iteration of the workflow for a single video about Bloom’s taxonomies. For all videos, the workflow follows the same cycle of production as seen in Figure 9. Adapted from Nolan-Grant (2019), this figure illustrates the iterative cycle of production for each co-made video. This cycle superimposes the co-making workflow of production, discussion, and video content onto the three CoI presences. The video production is at the intersection of teaching and cognitive presences, discussion is at the crossing of social and cognitive presences, and video edits are

in between social and teaching presences. While most of the video ideation begins with discussion, a new video may begin at any point in this iterative cycle.

As the cycle continues for each video iteration, the CoI presences further hybridize and the types of presences amalgamate into an integrated whole. For example, while discussion is situated at the intersection of social and cognitive presences, the iterative video work involves active discussion through email and in-person conversation about the necessary edits for production. Regarding teaching presence, there are pedagogical concerns about constructive supervision, building an understanding of educational theories, and troubleshooting the students' use of technologies. Caskurlu et al. (2020) observe that teaching presence promotes "students' perceived learning and satisfaction in fully online courses" (p. 9), and these students have articulated similar sentiments in the co-making of videos. In many ways, the students have technical skills beyond the capacity of the professor.

Therefore, prioritizing teaching presence and social presence is accomplished through fostering affective expression, which is the "participants' abilities to express their personalities in virtual environments" (Day et al., 2013, p. 397). The students had freedom to express themselves in the design of the video which evoked a sense of affective expression, which in turn nurtured social presence. As students share initial drafts of the video, teaching and social presence prioritize the expression of their work through care and support.

The co-creation allows further engagement with the video content due to the students' "responsibilities as part of a community of inquiry" (Costley, Hughes, & Lange, 2017, p. 201). This collegiality is effective for learning, as several studies (e.g., Guo et al., 2021, and Galikyan & Admiraal, 2019) suggest that student cognitive presence has a positive influence on learning tasks. For the CoI, the co-making process through the video workflow cycle produces engagement with all aspects of cognitive presence. Perhaps this connection to cognitive presence is due, in part, to the sense of group cohesion around the shared purpose of designing videos. The CoI is collegial and generous with each member and works toward the learning objective of video co-creation. Even minor concerns such as the font size of a heading or color of an object can contribute to a collaborative discourse with the common purpose of promoting social presence. All the pedagogical and technical concerns connect to the CoI framework in Table 2, which includes signifiers and details of the project dynamics along with accompanying readings for reference.

Figure 9: Video cycle of production and CoI

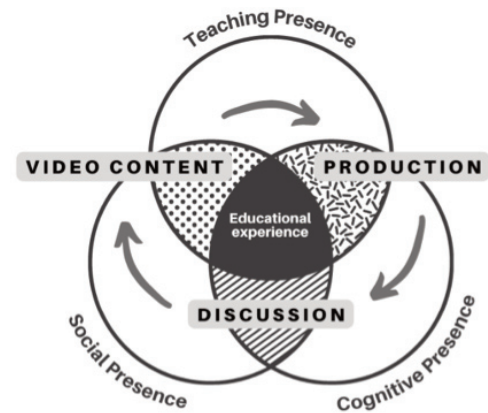


Table 2

Presence	Signifiers	Details
Cognitive	Triggering event	The CoI recognizes the problem of co-making tutorial videos on YouTube (Piredda et al., 2017).
	Exploration	Brainstorm and discuss possibilities for video content, design, and production (Maynard, 2021).
	Integration	Video workflow addresses problems and synthesizes solutions to a variety of issues (Eriksson & Eriksson, 2019).
	Resolution	Video cycle of production tests iterations until final video is uploaded onto YouTube (Derry et al., 2010).

Table 2 (continued)

Presence	Signifiers	Details
Social	Expression of emotion	A range of emotions, including boredom, satisfaction, and frustration, is freely expressed (Rothman & Magee, 2016).
	Open communication	CoI members feel comfortable interacting with one another (Maier et al., 2021).
	Group cohesion	CoI members feel comfortable disagreeing while maintaining a sense of collaboration (Jin, 2021).
Teaching	Design and organization	The professor clearly communicates topics, goals, and other important details for learning activities (Parrish et al., 2021).
	Facilitation	The professor encourages students to participate, explore new concepts, and develop a sense of community (Garrison, 2016).
	Direct instruction	The professor graciously leads discussion, and provide useful feedback (Liu, 2019).

### Conclusion

This study presented a detailed exemplar of the co-making video processes based on a CoI framework. It described how the CoI framework helps shape the video workflow cycle, with considerations for the cognitive, social, and teaching presences. Co-making learning tasks were enacted as an educational experience for designing with technologies. Within the CoI, the students demonstrated critical thinking, felt like they rightly belonged in the group, and addressed design challenges in a collaborative way. The group learned meaningfully from the educational theories, working through CoI methodologies towards the design of videos. The CoI framework provided “the security and guidance for thinking collaboratively—a place where personal meaning is put into the public arena for critical consideration” (Garrison, 2016, p. 54). Creating YouTube videos for communicating educational theories allowed this particular CoI to collaborate through tasks of making and tinkering in an iterative cycle. CoI as a model reflects the dynamics of the group and posting the video onto YouTube results in a public work that is useful for students as well as the broader educative community.

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