



Enhancing Student Collaboration in Visual Packaging Subject through Online Collaborative Learning

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Abstract. The conditions for online learning that could have been more optimal during the pandemic forced lecturers to seek innovative learning approaches. In the Visual Packaging course at Telkom University, instructors have implemented an Online Collaborative Learning (OCL) approach developed by Linda Harasim to address the challenges encountered in online learning. This research utilized qualitative methods, specifically semi-structured interviews with six participants selected through purposive sampling criteria. The participants involved were students of Visual Packaging, enrolled in the Designpreneur concentration at Telkom University from 2020 to 2022. Additionally, a literature review was conducted to complement the interview data. The findings of this study indicate that a collaborative learning approach is essential in online education to tackle challenges and facilitate the exchange of ideas among students through interaction and collaboration within the knowledge community. However, it is crucial to acknowledge the technical and non-technical barriers that emerged. Issues related to internet network speed were identified as infrastructure readiness problems. Moreover, the inability of all students to enable their cameras hindered optimal interaction, which is considered an aspect of digital proficiency. Furthermore, the varying readiness levels among practitioners to engage in interactive communication posed a challenge to sustaining effective exchanges during class sessions.

Keywords: online collaborative learning, collaborativism, knowledge community

1 Introduction

Since the COVID-19 pandemic hit the world, including Indonesia, in March 2020, the world of education has also been affected by the implementation of distance learning [1]. Distance learning proves teaching methods can be more efficient and accessible, but on the other hand, it has limitations, especially regarding the subject matter that requires direct experience or contact with real cases [2]

The design education world experiences two sides of the influence of distance learning. Design students get complete access to receiving design materials in one

aspect, but in another, they find applying it in real life challenging. This problem has been happening since before the pandemic. The world of design education that focuses on formal classes is often considered insufficient to be a simulation for practice in the field [3].

The design education world in Indonesia, especially Visual Communication Design, has experienced a significant increase in interest in the last three decades. In research conducted by Wibowo [4], before 1990, the average number of interested students in Visual Communication Design was only 180 throughout Indonesia. However, the data collected between 2008 and 2009 showed a very significant increase, with more than 25,000 Visual Communication Design students from 45 universities throughout Indonesia. It is projected that this number will continue to proliferate, considering the needs in the industry requiring the ability of Visual Communication Design graduates to produce solutions have increased. However, the high level of people's interest in Visual Communication Design has yet to align with innovations in the teaching field that are generally still conventional [5].

One of the specializations in Visual Communication Design at Telkom University, namely Designpreneur, is trying to accommodate the problem of the relationship between formal teaching in the classroom and design practice in the real industrial world [6]. By emphasizing education on how to market products, design based on user needs, determine business models, make portfolios and presentations, and design interactive strategies. In essence, all Designpreneur subject matter is intended for Visual Communication Design students to simulate how design knowledge is applied to real situations. However, the form of simulation in class is still conventional because the lecturer teaches students through presentations that contain theory and examples.

One of the courses in Designpreneur is Visual Packaging, taught in the third semester. In Visual Packaging, students are introduced to design ideas for making adequate/suitable packaging, encouraging consumers to buy the product and get a distinct impression of the structure [6]. Under ideal conditions, the Visual Packaging course is taught in eight face-to-face lesson meetings, four practical meetings, and two exams. Visual Packaging courses were held online during the pandemic from 2020 to mid-2022, so they experienced several obstacles, especially in practice.

However, on several occasions, especially since the beginning of 2022, the author has tried to apply an Online Collaborative Learning (OCL) learning approach, also known as collaboration, one of which was developed by Linda Harasim. This research aims to describe the results of applying OCL/ collaborativism to Visual Communication Design Students at Telkom University, especially those in Designpreneur concentration who took Visual Packaging course. The results of this study are expected to be a reference for class cases and other subjects.

2 Literature Review

This research initially referred to social constructivism as an educational paradigm that became the basis of reference. Furthermore, this research also refers to Online Collaborative Learning (OCL) / collaborativism as a theory used to analyze the learning activities that have been carried out.

Social constructivism in this study is used as the basic assumption that the learning activities carried out have the view that students are not blank slates but already have their understanding, and the educator's task is to facilitate it. Meanwhile, OCL/ Collaborativism is used by elaborating on the results of interviews and observations to see the learning outcomes.

2.1. Social Constructivism

Social interactions and cultural context play a significant active role in the co-construction of knowledge and understanding, according to the learning theory known as social constructivism [7]. Social constructivism significantly emphasizes culture and context in comprehending societal occurrences and constructing knowledge based on this understanding [8], [9]. This perspective is closely linked to several contemporary concepts, such as Bandura's social cognitive theory and the developmental theories of Vygotsky, Bruner, and other scholars. Social constructivism operates on specific assumptions regarding reality, knowledge, and learning. Understanding the premises underlying instructional models rooted in social constructivist perspectives is crucial.

- According to social constructivists, the concept of reality is not an objective entity that exists independently. Instead, they believe that it is a product of human activity and that members of a society collectively shape and invent it [10]. Social constructivists view reality as something that emerges through social invention rather than something that can be discovered.
- According to the social constructivist view, knowledge is created by people and is greatly influenced by different social and cultural factors [9], [11]. Individuals generate meaning through their interactions with other individuals and their environment. Knowledge is not seen as an absolute truth but rather as a result of active engagement and negotiation within social contexts.
- Social constructivists believe that learning involves collaborating with others and applying knowledge in real-life scenarios to construct knowledge together [12].

2.2. Online Collaborative Learning / Collaborativism

In Linda Harasim's text entitled *Learning Theory and Online Technologies* [13], it is stated that Online Collaborative Learning (OCL)/ collaborativism needs to differentiate itself from connectivism. Collaborativism emphasizes the significance of human agency and knowledge rather than diminishing them to AI, as envisioned by connectivism [13]. It explores the utilization of the Internet for collaborative learning and the creation of human knowledge, serving as the foundation for the Knowledge Age [14].

Collaborativism concentrates on methods and strategies that utilize the internet to facilitate collaborative learning and knowledge development, transforming formal, non-formal, and informal education for the Knowledge Age. Its objective is to enhance human comprehension visibly. Extensive research and practical experience worldwide indicate that collaborativism holds the potential to improve traditional classroom and distance education and enable novel and superior learning alternatives [13].

Collaborativism refers to educational approaches prioritizing collaborative discussions and knowledge work facilitated by the Internet. Online learners collaborate to identify and enhance their understanding of various issues in this context. They then apply their newfound understanding and employ analytical terminology and tools to solve problems, formulate plans, or construct explanations. Collaborativism is a teaching method that focuses on how learners can develop a deep understanding of concepts and create knowledge products. It involves discussions among peers who use the resources and practices of a knowledge community, while the instructor represents this community. Learners typically communicate through text-based forums or computer conferencing systems, allowing for asynchronous conversations.[13].

Collaborative learning involves a progression from divergent to convergent thinking, encompassing three stages: Idea Generating, Idea Organizing, and Intellectual Convergence [13]. Each step contributes to the overall process, as outlined below:

- During the idea-generating phase, the focus is on developing various ideas within a group. This involves brainstorming, sharing thoughts and positions, and generating information related to a specific topic or problem.
- Participants shift their thinking and explore new ideas in the Idea Organizing phase. They clarify their understanding and group-related ideas based on similarities and connections. They evaluate various positions, including referencing, agreement, disagreement, or questioning, and select the most important ideas while eliminating weaker ones.
- The last stage of the process, Intellectual Convergence, is when participants reach a shared understanding, even if they disagree. During this phase, everyone contributes to creating a solution or knowledge product together.

3 Methodology

This research uses a qualitative approach. The author employed qualitative methodology to understand the phenomenon more deeply and uncover nuanced meanings about utilizing learning theories [16]. Qualitative research interprets data collected through interviews and observations to explore social phenomena as experienced in natural settings.[17].

Data collection techniques in this study were semi-structured interviews and literature studies. The research subjects were Visual Communication Design Students from the Designpreneur concentration at Telkom University students who took the Visual Packaging course. The research subjects were selected through purposive sample criteria with the following criteria:

1. Students who participated in Visual Packaging courses during the pandemic, specifically between 2020 and 2022.

- 2. Showing active class participation involves regularly asking questions and engaging in discussions at least once during each meeting.
- 3. To demonstrate their commitment to pursuing Visual Communication Design, students should maintain a GPA above 3.0 through their third semester.
- 4. Have an interest in packaging design in general.

Based on these criteria, six informants were obtained with the following profiles and information (Table 1):

Table 1. Informants’ profile and information.

No.	Code	Profile
1.	Case ID #1	Class of 2019 student, 20 years old
2.	Case ID #2	Class of 2020 student, 19 years old
3.	Case ID #3	Class of 2021 student, 18 years old
4.	Case ID #4	Class of 2020 student, 19 years old.
5.	Case ID #5	Class of 2021 student, 18 years old.
6.	Case ID #6	Class of 2021 student, 18 years old.

Observations were conducted during the Visual Packaging course between 2020 and 2022, specifically during the odd semesters, encompassing approximately fourteen sessions. The interview was conducted online with a semi-structured question guide containing 8 - 10 questions about their interest in packaging design, their views on the use of collaboration, and its impact on understanding the material being taught and practiced in class. The duration of the interviews was approximately 30 minutes to one hour each. Lastly, as an application of the literature study, data collection will be associated with the collaborativism theory from Linda Harasim.

Before the research was carried out, the researcher first provided information about the study to the informants and asked for their consent regarding the time of the interview, the activities observed, and the inclusion of identity. Informants were also informed that they could only withdraw from the research process if they included adequate reasons. This research data is stored confidentially and can only be opened by researchers. That is, the researcher assured the informants that their data and confidentiality were guaranteed in this study.

4 Discussion

The problem during online/distance learning in this class was the need for more interaction between instructors and students. One way to address this issue is through collaborativism, where lecturers act as facilitators or moderators to encourage students to express their own ideas. The lecturers invited several practitioners to share their

views on packaging design based on their experiences to increase interaction. The lecturers and practitioners in Harasim's sense are also known as the knowledge community. Practitioners were asked to demonstrate more practices and information regarding packaging design through Zoom or Google Meet, commonly used during a pandemic for online learning.

In the context of collaborativism, the sharing of ideas by practitioners during class that the lecturers moderate is part of the idea-generating principle as the first step in collaborativism. Then the idea organizing section was implemented by providing opportunities for students to discuss and present ideas about packaging through online platforms. Finally, the intellectual convergence part was practiced with discussions, questions, and answers guided by lecturers in response to presentations from each group of students. The output of this entire process is expected to emerge as a form of collaboration from all elements in the class and not just the result of individual work.

The whole process requires lecturers to be actively involved in bridging, facilitating, and moderating practitioners and students to continue interacting and collaborating. In this sense, active learning in class can overcome obstacles to using online learning platforms. As a condition for this activity, class participants can only work in a small class. Consequently, if there are more prominent participants in one category, the course should be broken up into two or more classes to be effective. In addition, the hours of lectures can be brief considering people's resilience in online discussions, which cannot be too much compared to offline meetings. Based on that, the course, which was supposed to last for three hours, only lasted two hours. In addition, in a class that uses a collaborative approach, there is no specific division of when to give presentations and when to ask questions because all class time is assumed to be in the discussion.

Referring to Linda Harasim's theory, collaborativism is applied in three processes. Firstly, the idea-generating phase involves facilitating discussions among students and practitioners to find appropriate solutions related to the visual aspects of product packaging. This activity spans over two meetings, each lasting a maximum of two hours. Throughout this phase, the lecturer's role is to facilitate engaging discussions and discourage passive participation. The next step is idea organizing, which entails grouping the discussion outcomes between students and practitioners to inform the design outcomes. For instance, in one case, there was a disagreement between students and practitioners regarding the necessity of introducing a unique form in the product packaging. Practitioners perceived it as too risky and required significant financial resources, while students believed it would enhance the brand's reputation. The lecturer facilitated this difference by proposing a compromise of introducing a unique packaging element while maintaining the overall design. Finally, intellectual convergence is practiced by presenting the visual packaging ideas resulting from the discussions, including both agreements and disagreements, by both students and practitioners. These presentations are often made accessible to the public. By opening access to the public, the proposed packaging receives feedback and suggestions for further improvement.

The results of the interviews with the six informants showed several variations of the answers which, when summarized, the results are as follows:

1. Visual Packaging courses can only run optimally online if an innovative learning approach is applied.

2. Visual Packaging is a subject that requires entire interaction and collaboration between lecturers, practitioners, and students to discuss ideas so that fresh and original ideas are born regarding packaging design.
3. Using collaborativism in the Visual Packaging class can help absorb material effectively. However, it is often constrained by technical and non-technical issues such as varying internet network speeds, the inability of all students to open their cameras to optimize interaction, and the uneven ability of practitioners to interact.

The views of the research subjects or informants show that collaboration is very much needed in the Visual Packaging course but is constrained by technical and non-technical matters. At the same time, this is also a criticism of Harasim's idea of collaborativism, which has not considered aspects of smooth networking and collaborative understanding for the knowledge community. This means a complete guide is needed to enable the knowledge community to implement collaborative learning.

5 Conclusion

In summary, for teaching Visual Packaging courses in the Designpreneur concentration at Telkom University, the method of Online Collaborative Learning (also known as collaborativism) is utilized in the following manner:

1. A collaborative learning approach is needed to overcome problems in online learning, especially in the context of design learning.
2. Collaborative learning approaches can encourage students to express new ideas because they are continuously facilitated to interact and collaborate with the knowledge community.
3. The collaborative learning approach is only optimized if several technical and non-technical problems are solved, such as network constraints, camera inactivity, and the uneven distribution of knowledge community methods in interacting and collaborating.

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