Proposal for Online Collaborative Learning for Remote Learning

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DOI: https://dx.doi.org/10.47772/IJRISS.2024.803032S

Received: 08 April 2024; Accepted: 14 April 2024; Published: 16 May 2024

ABSTRACT

This study explores the effectiveness of Online Collaborative Learning (OCL) in synthesizing knowledge and enhancing students' learning experiences in a remote learning environment due to uncertainties in Philippine education system. The purpose of the study is to propose a paradigm for OCL to promote active student engagement and knowledge synthesis, addressing the challenges posed by the new normal in education. The study involved 70 senior high school students in the Philippines, implementing the OCL scheme over two months during the 2022-2023 school year. Results indicate that the OCL scheme was highly effective in fostering knowledge synthesis, integrating diverse perspectives, promoting critical thinking, and enhancing overall understanding of the subject matter. The study concludes that OCL is a valuable pedagogical approach for remote learning, providing support for its implementation in educational settings beyond the pandemic.

INTRODUCTION

The collaborative learning is an indisputable part of acquiring knowledge but vanishes due to new normal setups in education, not only in the Philippines but in the whole world. A proposal paradigm in this paper is formulated to resume the collaborative learning while in the midst of distance learning. Digitalization has opened up new perspectives and discussions on how to learn and how to disseminate what we learn in human life and society (Courtney & Wilhoite-Mathews, 2015). The paradigm of Online Collaborative Learning or OCL paradigm of the researcher promotes actively engages students to process and synthesize information and concepts, rather than using self-learning discussions written in the modules. Students work with each other on projects, where they must collaborate as a group to understand the concepts and formulate solutions being presented in the modules.

Palvia et al., (2020) discussed the changes in education delivery models have been rapid and transformational. As institutions worldwide adapt to these changes, a very dynamic education landscape has generated immense interest among teachers and students. The researchers also emphasize that students in the new normal are expected to work on the modules individually. Llego (2020) defined self-learning is an emerging form of learning that has emerged due to the availability of learning resources online or the provided modules of the teachers. One of the advantages of self-learning is the student can choose their own pace, materials, methods, and everything is up to their interest but students nowadays prefer working together in small groups, sharing their ideas, and interact with the person with similar interest. Conducting the collaborative learning in the pandemic is challenging for both students and teachers however combining online learning and collaborative learning as emphasize by Stoytcheva (2018) proves that the employed collaborative scenario contributes to the realization of the educational objectives and the development of the expected competences at the end of the online discussions.

This study involved 70 senior high school students who served as respondents. They were students at a state university in the Philippines, an institution that also offers distance learning to meet student needs and

address uncertainties in the Philippine education system. The respondents were selected through random sampling. The Online Collaborative Learning (OCL) implementation took place over two months during the 2022-2023 school year. Following this phase, the students' perceptions of the level of engagement in the OCL implementation process and the effectiveness of the OCL scheme in synthesizing knowledge were assessed using Likert scale questions.

REVIEW OF RELATED LITERATURE

This part of the proposal includes the ideas, finished thesis, generalization or conclusions, methodologies and others. Those that were included in this collected literature helps in familiarizing information that are relevant and similar to the present proposal.

Collaborative learning theory is rooted in Lev Vygotsky's idea, Zone of Proximal Development. Students rely on one another to accomplish tasks that they otherwise wouldn't be able to complete individually. Collaborative learning is key for developing critical thinking skills, with it suggested that students retain more information when working in groups (Rosseli, 2016). Collaborative learning theory involves peer-to-peer learning that fosters deeper thinking in the classroom. Collaborative learning theory suggested by Tran (2013) that group learning helps students develop their higher-level thinking, oral communication, self-management and leadership skills. Students also have the opportunity to build upon their leadership and organizational skills.

Groups tend to learn through discussion, clarification of ideas and evaluation of others' ideas. Information that is discussed is retained in long-term memory. Kelly (2019) affirm that that we learn approximately 10% of what we read, 20% of what we hear, 30% of what we see, 50% of what we see and hear, 70% of what we discuss, 80% of what we experience and 95% of what we teach others. Collaborative learning is vital for enhanced learning in the classroom and students who demonstrate lower levels of achievement improve when working in diverse groups. Collaborative learning teams are aim to attain higher-level thinking and preserve information for longer.

A further study of Hammond (2016) argue that working together could lead to the development of social skills such as turn taking and active listening. Based on the study of Scager et al., (2016), indicates that positive interdependence was an important factor contributing to the effectiveness of collaboration. Although the researchers disassembled the factors contributing to collaboration in the analysis, assume interdependence does not consist of a single factor but rather is constructed through the interaction between motivated students and design factors (the nature of the task and student autonomy). Tsay and Brady (2010) found that the degree of active participation of university students in collaborative groups was affected by the importance they attached to grades: students who perceived grades as highly important were more active collaborators.

Cherney, et al., (2017) assert that online education continues to grow, as does the need for effective team collaboration. As such, online course groups have been the focus of many studies and publications in recent years. Although the existing literature has provided a number of insights on group formation, roles, interaction, collaboration, and social factors in online student groups, several limitations exist. Through a meta-synthesis of existing literature on student collaboration in online courses, it became evident that current literature presents conflicting results and conceptual definitions, is notably lacking in true empirical data, and is mainly written by, and for, education scholars. Future research has ample opportunity to address these limitations and provide a more thorough understanding of online course group processes, yielding beneficial practical applications for current and future online course instructors and students.

AbuSeileek (2012) indicates there is usually a positive relationship between cooperative language learning tasks in computer-based environments, and reducing anxiety and developing communication skills.

Computer-assisted environment learning may provide greater participation opportunities for people in subordinate positions. For instance, it is an excellent atmosphere for the shy students to express themselves. Moreover, Greenfield (2003) points out that computer-assisted learning reduces students' anxiety, fear, discomfort, or lack of confidence. Another study of Cents-Boonstra, et al., (2020) reports that technology assisted instruction motivates students who rarely participate in the physical classroom due to potential embarrassment. AbuSeileek (2012) notes that the student is not embarrassed to ask about a point he/she does not know in computer based instruction. This is not available in other types of instruction where the student may be shy or afraid to ask the instructor in front of other classmates.

Collaborative learning in distance education is a well-documented and viable approach, supported by multiple researchers. Rakitskaya (2023) and S. Lu & Smiles (2022) note the importance of intentional instructional design and effective facilitation methods to achieve collaborative learning online, emphasizing its role in boosting student engagement and developing real-world skills. Takao (2023) and Yang and Niu (2023) further elaborate on how cooperative and well-structured asynchronous discussions enhance educational environments and elevate cognitive learning levels among students. Various strategies derived from research articles, such as the creation of an online community identity, instructors' crucial role in fostering collaboration (Cao, 2023; Evangelista & Thrower, 2023), scaffolded learning approaches (Ortega & Jambaya, 2022), and the use of interactive tools (Pinandito A. et al., 2021), contribute to the effective implementation of online collaborative learning. Olobia (2022), Li et al. (2022), Altowairiki (2021), and Polyakova et al. (2021) further emphasize the significance of teamwork tasks, diverse support forms, optimized course design, and integrated assessments to enhance engagement and learning outcomes in online collaboration. Challenges in implementing online collaborative learning, as identified by Cao (2023), Wang (2022), Altowairiki (2021), Banteli et al. (2017), and Pisutova (2016), include grouping students, establishing learning tasks, evaluating progress, dealing with cultural barriers, and fostering meaningful interactions in online environments. Overcoming these obstacles through thoughtful course design and proactive support is crucial for promoting successful online collaborative learning experiences.

Overall, online collaborative learning promotes high level of learning. Accountability is an important factor in group working agreements. Since a teacher must find creative and effective ways to facilitator multiple groups working at once in the classroom, assigning roles can be incredibly helpful. For example, if students are working in groups of four reading and analyzing a news article, you may ask each group to pick an investigator, a recorder, a discussion director, and a reporter. For the group to be successful, each student must complete the tasks that accompany his/her role. The coordination-emphasizing students focused more on coordinating procedure and teamwork. The communicative students were quite active in discussions but had a considerable amount of social action. The task-oriented students had a large amount of discussions on task and task-related knowledge.

METHODOLOGY

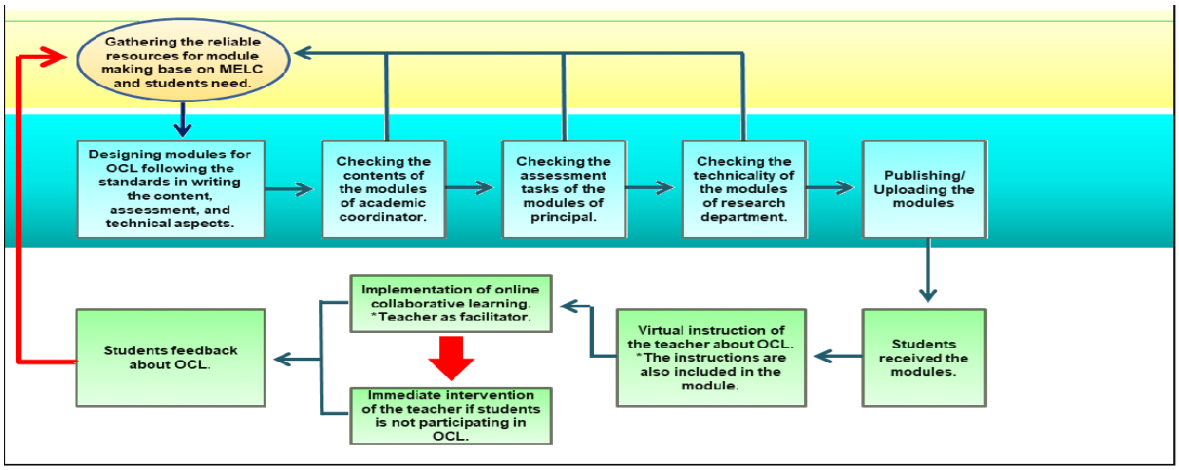

Figure 1.1. Online Collaborative Learning paradigm (OCL paradigm)

The Online Collaborative Learning paradigm shows the conception, formulation, and implementation of collaborative learning to enhance the understanding of student about the module and form academic relationship among students. The following are the stages of OCL paradigm.

Stage of Conception

The stage of conception is the gathering of essential learning resources for designing modules. The learning resources are textbooks, encyclopedia, journals, online resources, etc. as long as the information from those resources is reliable and up to date. The teacher on this stage must consult the Most Essential Learning Competencies (MELCs) as the primary reference for all public and private schools under DepEd in determining and implementing learning delivery approaches that are suited to the local context and diversity of learners, while adapting to the challenges posed by pandemics. Student's needs must also consider of the teacher while collecting references to ensure all information are feasible for collaborative learning.

Stages of Formulation

The stages of formulation will happen within the institution. The teacher on this stage is intended to design module for online collaborative learning. In designing the module, the teacher must follow the guidelines in writing the contents, assessment tasks, and follow the technical aspects. After designing the module, the teacher will submit the copy to different individual. The academic coordinator will guarantee the quality of the content. Then, the principal will check the appropriateness of the assessment tasks. Lastly, the research department will evaluate the technicality of the module. The module design for OCL is expected to be approved for publishing or uploading, if not, the teacher will return to the Stage of Conception to re-assess the quality of the module.

Stages of Implementations

The stages of implementations starts from students received the modules. This stage happens between student and teacher. The teacher is anticipated to form virtual instruction on how OCL works. The virtual instruction can be done through Zoom, Google Meet, Messenger video chat and other platform to explain the OCL to students. The main instructions about OCL are about the groupings of the students, rules and regulations, possible medium of communications, and dos and don'ts for OCL. The instructions of the teachers about OCL are also written in the modules as a guide for all students. The implementation of the OCL will be facilitated of the teachers. Like the normal setups in the classroom, teacher will asks the leaders and the members of each group about their collaborations. Students are allowed to send their queries about the group project. In case of one member of the group is inactive, immediate intervention of the teacher is expected. The teacher will call the attention of inactive member to determine the reasons and form agreement to continue the OCL. At the latter part of the school year, the teachers will gather the student's feedback about the OCL to improve the quality of the innovation. The feedbacks will be used again in the stage of conception as basis of student needs for the development of OCL.

RESULTS AND DISCUSSION

The table presents the results of a study on the effectiveness of inquiry-based interactive multimedia learning material in an online collaborative learning environment. The table shows the mean (WM) and standard deviation (ST) for 10 items related to the students' engagement and perceptions of the online collaborative learning activities.

Table 1. Level of Engagement of Students in the Process of Implementing OCL Learning

Process of Implementing Online Collaborative Learning	WM	SD	Interpretation
1. The online collaborative learning activities helped me to actively participate in the course material.	4.1857	0.767	Agree
2. I found the online collaborative discussions engaging and	4.2	0.604	Strongly

beneficial for my learning.			Agree
3. Working with others in the online collaborative projects enhanced my understanding of the content.	4.1	0.569	Agree
3. The online collaborative tasks motivated me to actively participate in the learning process.	3.7571	0.985	Agree
5. I felt that my ideas were valued and respected during online collaborative activities.	4.1857	0.546	Agree
6. The online collaborative learning scheme facilitated meaningful interactions with my peers.	3.9714	0.851	Agree
7. I believe that the online collaborative tasks contributed to my overall learning experience.	4.2429	0.647	Stongly Agree
8. I enjoyed working with my peers in the online collaborative projects.	4.2143	0.74	Stongly Agree
9. The online collaborative learning activities motivated me to actively engage with the course material.	4.0286	0.701	Agree
10. I feel that the online collaborative learning scheme enhanced my retention of the course content.	4.1429	0.767	Agree
Grand Mean	**4.103**	**Agree**	

The table below presents the results of a survey evaluating the effectiveness of an Online Collaborative Learning (OCL) scheme in synthesizing knowledge.

The overall mean score of 4.001 indicates that the students generally agreed that the online collaborative learning activities were effective. The students strongly agreed that the online collaborative discussions were engaging and beneficial for their learning (M=4.2000, SD=0.6043), and that the online collaborative tasks contributed to their overall learning experience (M=4.2429, SD=0.6469). The students also strongly agreed that they enjoyed working with their peers in the online collaborative projects (M=4.2143, SD=0.7400). The students agreed that the online collaborative learning activities helped them actively participate in the course material (M=4.1857, SD=0.7669), enhanced their understanding of the content (M=4.1000, SD=0.5685), and motivated them to actively engage with the course material (M=4.0286, SD=0.7014). The students felt that their ideas were valued and respected during the online collaborative activities (M=4.1857, SD=0.5462), and that the online collaborative learning scheme facilitated meaningful interactions with their peers (M=3.9714, SD=0.8508). The students agreed that the online collaborative tasks motivated them to actively participate in the learning process (M=3.7571, SD=0.9845), and that the online collaborative learning scheme enhanced their retention of the course content (M=4.1429, SD=0.7668).

Table 2. Level of Effectiveness of OCL Scheme in Synthesizing Knowledge			
Online Collaborative Learning Scheme in Synthesizing Knowledge	WM	SD	Interpretation
1. The online collaborative learning activities enabled me to integrate diverse perspectives and insights effectively.	4.1429	0.748	Agree
2. The online collaborative discussions allowed us to build upon each other's ideas and create new insights.	4.1857	0.687	Agree
3. The online collaborative tasks encouraged us to think critically and creatively when solving problems.	4.1571	0.735	Agree
4. The online collaborative learning scheme fostered innovation and novel solutions through collective	4.3143	0.649	Stongly Agree

problem- solving.			
5. I was able to identify patterns and connections between different concepts through online collaborative learning.	4.2143	0.679	Stongly Agree
6. The online collaborative activities promoted holistic comprehension of complex topics through interdisciplinary approaches.	4.3	0.729	Stongly Agree
7. The online collaborative learning scheme improved my ability to evaluate and analyze information effectively.	4.1857	0.767	Agree
8. Through online collaboration, we were able to develop a deeper understanding of the subject matter as a whole.	4.1429	0.687	Agree
9. The online collaborative tasks encouraged critical thinking and problem-solving skills when addressing open-ended challenges.	4.0429	0.711	Agree
10. Overall, I consider the online collaborative learning scheme as highly effective in fostering knowledge synthesis.	4.2	0.672	Stongly Agree
Grand Mean	**4.119**	**Agree**	

The results suggest that the implementation of inquiry-based interactive multimedia learning material in an online collaborative learning environment was effective in engaging students and enhancing their learning experiences. The high levels of agreement across the various aspects of the online collaborative learning activities indicate that this approach could be a valuable strategy for remote learning, where students can actively engage with the course material and collaborate with their peers to deepen their understanding and retention of the content.

The grand mean score of 4.1186 indicates that the participants generally “Agree” that the OCL scheme was effective in fostering knowledge synthesis. The survey results indicate that the Online Collaborative Learning (OCL) scheme was effective in fostering various aspects of knowledge synthesis. Participants reported that the OCL activities enabled them to effectively integrate diverse perspectives and insights (M=4.1429). The online discussions allowed them to build upon each other’s ideas and create new insights (M=4.1857). The collaborative tasks encouraged critical and creative thinking in problem-solving (M=4.1571). Notably, the scheme was seen as fostering innovation and novel solutions through collective problem-solving (M=4.3143). Participants were able to identify patterns and connections between different concepts (M=4.2143), and the activities promoted holistic comprehension of complex topics through interdisciplinary approaches (M=4.3000). Moreover, the OCL scheme improved participants’ ability to evaluate and analyze information effectively (M=4.1857). Collaboration led to a deeper understanding of the subject matter as a whole (M=4.1429). The tasks also encouraged critical thinking and problem-solving skills in addressing open-ended challenges (M=4.0429).

These findings suggest that the OCL scheme was perceived as highly effective in facilitating knowledge synthesis, integration of diverse perspectives, critical thinking, problem-solving, and overall understanding of the subject matter. The results provide support for the proposal to implement OCL as a pedagogical approach for remote learning.

RECOMMENDATION

This study has purposed to implement OCL for the development understanding of students’ and promote sharing ideas with peers in the midst of pandemic. As the propoal progressed, a few areas surfaced as suggested areas for future studies. The recommendations are as follows:

1. The OCL paradigm is design for online-based learning. Each teacher from grade 1 to grade 12 is able to follow the OCL but the application of the paradigm varies from different ages. The school official who will implement the OCL should make guidelines on how they will facilitate students from different age group during the collaborative learning.
2. The person involve in OCL are school officials, teachers, and students. The OCL is flexible to include parents or guardians in improving the innovation for student learning.
3. The OCL paradigm is dependent on using internet for the collaborative learning to happen. A further study about the effect of internet connection in the implementation of OCL is beneficial for students and teachers.
4. The OCL paradigm is best suited within this pandemic. After this global phenomena, the OCL should upgrade to keep going even the quarantine is lifted.

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