



COLLABORATIVE LEARNING- AN ONLINE APPROACH

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Abstract:

Learning has shifted gears and changed perspectives in recent times. While in the past, it was basically text book and classroom orientated, the advent of internet has permitted an approach towards online learning. Thus, we focused ourselves on an empirical qualitative study researching and reflecting on the online collaborative learning. Our research involved an online survey, towards which we employed the means of questionnaire and interviews. The target audience of our research was group of students of higher secondary schools in the state of Goa in India. Our study aims at confirming that online collaborative learning could improve and facilitate communication between teachers and learners. It also affirms that online learning is an augmentation tool rather than a substitute for the physical presence of a teacher in a classroom. We attempt to study and analyze the perceptions and experiences of the learners regarding online collaborative learning. We endeavor to bring to the fore the benefits and challenges of online collaborative learning. While on one level OCL provides an away from the classroom environment, at the same time, it can also tend to make the experience impersonal and distant. The face to face approach is replaced by an often impersonal, less interactive, and being aloof or distant. Our findings reveal that the learners were keen to explore avenues of knowledge online, and they felt enhanced in their pursuit of knowledge. It fostered a greater sense of creativity and ability, and in the bargain, they appreciated the possibility of working collaboratively. The OCL provided the learners with a platform to explore, analyze, appropriate and discuss various subject matters and to draw up their own conclusions.

Keywords: Online collaborative learning (OCL), knowledge, creativity, experiences



Introduction

Recently, with the expansion of online collaborative and communication tools, online collaborative learning has become a new form of education in which learners create knowledge through interaction with other members. Thus, the basis of OCL emphasizes on collaborative learning, online learning and community learning. Moreover, online collaborative learning is regarded as an effective method for improving practical and highly advanced problem-solving abilities which is a part of project-based learning and inquiry-based learning in educational institutions. In contrast to face to face individual learning methods, online collaborative learning involves the complicated processes of organizing teams, setting common goals, performing common tasks, and evaluating the outcome of team activities. According to Gerlach, “Collaborative learning is based on the idea that learning is a naturally social act in which the participants talk among themselves (Gerlach 1994). It is through the talk that learning occurs”

Behaviourism, cognitivism, connectivism and constructivism are the most common learning theories utilized when developing online learning environment. Constructivism and connectivism best support e-learning because they focus on making connections with new information through learner and technology interactions. Originally called computer mediated communication or network learning which has now been redefined as online collaborative learning (Harasim 2012).

She describes OCL as follows:

OCL theory provides a model of learning in which students are encouraged and supported to work together to create knowledge: to invent, to explore ways to innovate, and, by so doing, to seek the conceptual knowledge needed to solve problems rather than recite what they think is the right answer. While OCL theory does encourage the learner to be active and engaged, this is not considered to be sufficient for learning or knowledge construction.....In the OCL theory, the teacher plays a key role not as a fellow-learner, but as the link to the knowledge community, or state of the art in that discipline. Learning is defined as conceptual change and is key to building knowledge. Learning activity needs to be informed and guided by the norms of the discipline and a discourse process that emphasises conceptual learning and builds knowledge.



Benefits & challenges of OCL

Online learning through collaboration is an augmentation tool rather than a substitute for the physical presence of a teacher in a classroom. Hence, developing a deep transformative academic learning in learners. High level intellectual skills such as critical thinking, evaluation, analytical thinking and synthesis are the pillars to support 21st century learners. Most advantages of online learning methods have challenges bound up with them. The constructivist learner centered model identifies the instructor's role as a facilitator to develop collaborative learning activities.

The purpose of the study

This paper was to study and analyze the perceptions and experiences of the teachers and students regarding online collaborative learning. We endeavor to bring forth the benefits and challenges of online collaborative learning through a survey and interviews.

The following research questions were addressed:

1. What are student attitudes toward working collaboratively in an online setting?
2. What is the opinion of teachers towards online collaborative learning strategies?
3. What are the requirements towards successful online collaboration of students?

Methodology

Analysis is based on open-ended survey conducted over a year 2019-2020. In the first half of the year, one questionnaire was administered to the science students of the first year of the higher secondary schools in Goa. This study in the early half of the year aimed at gaining background information and testing the attitudes and perceptions of students towards online collaborative activities.

In the second half of the year, the study comprised of online semi structured interviews of the



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teachers facilitating online collaborative activities and informal feedback through email and telephonic conversation of teachers and students.



The population for this study consisted of the science stream students and teachers in higher secondary schools in Goa, India. The respondents of the survey were 67% Biology students and 33% Computer science students.

Limitations

The study is subject to a number of limitations. Due to the COVID-19 pandemic, the interaction with the respondents and interviewee was restricted. Therefore, most of the study was conducted through virtual platforms. Secondly, due to connectivity issues it was challenging to reach out to a large number of respondents.

Results

STUDENT SURVEY RESULTS

The *four* main aspects of the study highlighted in the questionnaire were as follows:

- 1. Online collaborative skills**
- 2. Formation of teams**
- 3. Comparison of OCL with traditional methods of learning**
- 4. Overall learning experience through OCL**

1. Online collaborative skills

Based on the student survey, 82% participants stated that online collaborative skills like leadership and communication were among the most predominant. By frequently occurring responses, a significant number of students (92%) showed willingness, flexibility and teamwork that played a vital role for positive online collaboration. A few respondents were inclined towards the traditional approach to learning in comparison with OCL; individual accountability



being the reason.



2. Formation of teams

Most response of students favored the formation of teams by the participants themselves rather than by the instructor, based on different factors creating heterogeneous groups with diverse abilities. The goals of achieving a well-equipped collaborative team would mainly depend upon the time and effort by each individual as well as their reinforcing social interaction. A few experienced technical difficulties in forming groups. Students preferred to form groups of 4-5 rather than larger groups for any given collaborative tasks.

3. Comparison of OCL with traditional methods of learning

A significant number of responses emphasized on the shift from the typical teacher centred learning to collaborative methods. 74% students agreed that OCL gave them freedom to collaborate at their own time and at any location with internet access. A few students pointed out that the main hurdle was a materialistic traditional way of learning rather than experiential method and OCL helped overcome it through virtual interaction. 30% noticed a few limitations in regards to student's involvement and assessment and only the presence of a skilled instructor would facilitate this process.

4. Overall learning experience through OCL

74% students stated that OCL promoted deep learning and encouraged discussions at a higher-level intellectual skill such as critical thinking and reasoning, problem solving, creative skills and analysis.

46% students ascertained that OCL facilitated active learning and promoted social interaction which lead to positive outcome on student performance.

TEACHER INTERVIEWS RESULTS

The interviews were semi- structured around the pedagogical aspect of OCL and the opinion of teachers towards OCL on the points below:



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- 1. Teachers role**
- 2. Assessment of learning**



3. Problems

4. Overall experience of OCL

1. Teachers Role in OCL

Teachers realized the shift of learning from ‘the sage on the stage’ to ‘the guide on the side’ where both the student and the teacher are the co-creators of knowledge and experiences. A teacher focused mainly on the dynamic interaction between the collaborative task, instructor and learner. Unlike traditional methods, Online courses provide a high degree of personal contact because asynchronous online courses offer more opportunities for reflection, in depth discussion and web-based interaction. The online instructor must be a proponent of facilitative learning and have confidence in the system. Teachers who have been sensitive, open, flexible helped create a supportive online collaborative learning environment.

2. Assessment of learning

Teachers viewed the group assessment as a challenge in online collaborative learning. The assessment rubric for the learning outcomes for OCL need to be developed systematically and intricately. In line with the student’s views, teachers also pointed the challenges in accountability of individual participation.

3. Problems encountered

Many experienced technical difficulties and lack of online professional training was the main hindrance towards OCL. In contrast to traditional learning, OCL involves a lot of effort and time from the teacher. Teachers questioned about the sincerity of the participants involved in online collaborative tasks. A rethinking and reframing of the curriculum and course content would be crucial towards a positive outcome in building web-learning communities.

4. Overall experience

The interviewees commented on the evaluation process of OCL being complicated as well as enriching. In this process, teachers identified themselves as co-learners in building learning communities. Online collaborative learning setting gave an opportunity to the student to



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create an enriching experience by sharing diverse ideas towards 21st century learning goals.

They have come to realize that OCL has evolved as teachers work in collaboration by



observing each other's approaches of teaching and learning. The teachers also opinioned that learning OCL demands responsibility, persistence and sensitivity.

Discussion and conclusion

The aim of the study confirms that OCL builds human relationships both among students and teachers and is at the center of the educational process. It also affirms that online learning is an augmentation tool rather than a substitute for the physical presence of a teacher in a classroom. This study explores the perceptions and experiences of the students and teachers regarding online collaborative learning. The survey highlighted the importance of collaborative skills and formation of teams and the overall learning experience as a social activity. The Interviews expanded the study towards the aspects required for building positive learning collaboration between learners. It also stressed on the challenges faced by the teachers amidst this process.

The early seeds of collaborative learning were by Dewey who advocated the teaching through discussions and hands on problem solving. The OCL provided the learners with a platform to explore, analyze, appropriate and discuss various subject matter and to draw up their own conclusions. It fostered a greater sense of creativity and ability, and in the bargain, they appreciated the possibility of working collaboratively. Collaborative activities helped train learners not only to share ideas, express opinions and manage time but also to work with others in real world situations. The students first hand experience in online collaborative learning has given them greater insights in their needs, understanding and requirement for an effective collaboration. Through research it is seen that small groups are preferred. Most authors (Cooper, et al., 1990; Jhonson, et al., 1998; Slavin 1995) favour groups of four to five students because larger groups do not provide opportunity for all members to participate and enhance their skills. Through smaller group interactions, the likelihood of positive interdependence is greater.

Formation of Heterogenous groups create a more diverse environment for the learners which has been emphasized in literature (Cooper, 1990; Jhonson, et al., Slavin, 1995).

Collaborative learning and its origin, then, are synonymous with the attempt to bring constructivist theories into practice in the classroom by the teachers. For knowledge to be



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internalized and a framework established, a social discourse must first take place. It is this discourse that leads to the conceptual framework in which to relate the new knowledge (Bruffee, 1992). Teaching is a complex, multifaceted activity, often requiring them to juggle multiple tasks



and goals simultaneously. Teachers thus needs to be a facilitator, team-mate, participant, coordinator, organizer, instructor, resource, leader as well as a role model, etc. at the same time in order to achieve the desired outcomes from OCL techniques into virtual classrooms. Harasim believes that the teacher is critical to this knowledge construction not only to facilitating the process and providing resources to the group but also to ensuring that the co concepts and the practices of the subject domain are fully integrated. (Harasim, 2012)

With development of tools and technology, the challenges encountered with Online collaborative learning have been reduced tremendously. These issues are discussed in more depth by Salmon (2000); Bates and Poole (2003); and Palooff and Pratt (2005; 2007). Finally, the results of this study have several important implications towards online collaborative learning to serve as a good practice. Experience using internet and the Web can be the first step towards enhancing the teaching learning process through OCL. Thus, the desired training in pedagogy, motivation and proficiency is needed to design and assess online collaborative activities within the virtual world. Sharing Assessment and allowing learners to provide peer-peer feedback creates transparent learning environments. It is thus important to create productive learning environments through online collaborative learning groups by orienting students, structuring the learning tasks and facilitating student collaboration. As a conclusion, online collaboration learning technique offers a positive approach for realization of the virtual learning process.

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