



# The Online Collaborative Learning as the Innovation of Learning Paradigm

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**Abstract.** This Study is to investigate how the online collaborative learning in the era of digital university is implemented. In fact there are many universities try to develop a certain strategy as a respond of a huge change caused by cyber technology. So it also influences the policy to develop the online learning and teaching by implanting a software, in the system of their cyber campus. It facilitates the lectures and students to involve in the virtual English class anytime and anywhere. Then the lecturers and students never miss the teaching-learning activities although they must go somewhere because of a certain important reason. Furthermore this study is to try to see more how the collaborative learning is carried out because the use of the cyber campus that effects the interaction among the students in the process of learning activities. So the community of information technology-supported collaborative learning (students that learn in the same group) becomes the important factor to study in this paper.

**Keywords:** online collaborative learning · cyber technology · virtual English class

## 1 Introduction

Education in the 21st century is influenced so much by very fast development of information and communication technology. Furthermore in the era of industrial revolution 4.0 any information and knowledge can be accessed easily through the computer and the hand phone or tablet with a very strong and fast internet networking called *long term evolution* (LTE). Inevitably it also influences so much the world of education. Many schools and universities have been using the higher technology in order to support their teaching and learning processes starting from the planning to the evaluation of the teaching and learning.

The higher educational institution is more and more competitive to apply a qualified educational system. Only universities that have the modern systems are able to attract any learners to be students there. In fact some universities which are late to develop the system and finally they cannot survive in the competition. A university that has not equipped itself with such a technology in the new digital era will be left behind. According to [1] there are a lot of institutions and educators have been caught unprepared to face the huge changes forced upon them therefore researches into effective teaching and learning

techniques are both urgent and very important. Universities have to take important roles in the era of industrial revolution. Then they must implement or develop a system of website in which all educational components such as the management of the universities, the financial and academic administration, the virtual library, and so on must be attached in an integrated system including the online teaching and learning activities that are regularly done by the lectures and students.

The new wave of innovative teaching technique has come and the researchers has explored new teaching methods supported with the digital technology. The universities are necessary to prove that they are able to provide a digital experience to the new students. Computer and cellular can be used smartly in world of education. Information technology which is based on *cloud* and *advanced analytics* enables to present new opportunities in improving and redefining the experience in teaching and learning activities.

[2] states that one of ten skills that are very crucial for the future workforce is virtual collaboration. They enable to work productively when a virtual collaboration is established. While the students are being connected by technologies, it is easier for them to share ideas or to learn together without any physical separation. It is very important to create environment that are equipped with a new set of competencies dealing with virtual technology.

Actually collaborative learning is not a new idea. Indeed people have been working and learning informally in groups since many years ago. There is a fact that many students, especially at university level, prefer to learn individually. And then [3] has conveyed a result of research that says collaborative learning methods were experimented with, and found to be successful. He also believes that teachers must reduce their action and let the students free to learn from another.

Collaborative learning is designed to seek a goal that must be achieved collectively. When several students are in a group, the collaboration is a way that is related to mutual respect and appreciate the capabilities and contribution of all members of the group. A collaborative way of learning can encourage students to be more active and interactive as well. Furthermore [4] states that one purpose of online learning is to encourage collaborative work to construct a new knowledge. [5–8] state that learning is as a social process and a crucial point to the development of thought and behavior patterns.

Although many educational practitioners have known the collaborative learning but they seldom apply it particularly at the university level. And [9] also conveys many distinct benefits — academic, social and psychological — that can be expected from the application of group work. That is why this paper tries to elaborate some possible and important points about the benefits of online collaborative learning.

## 2 Literature Review

Online learning in teaching activity is used increasingly and become a common approach because of the fast development of internet and other IT technology. The online collaborative learning is based on two fundamental fields: the collaborative learning and the cyber technologies that is applied to support the online learning activities in order to achieve the learning goals. And the literature review highlights the two aforementioned fundamental fields.

## 2.1 Collaborative Learning

The word ‘collaborative’ implies that two or more students work together in a group in order to obtain a common goal. All members of the group are obliged to respect each individual’s contribution to the whole. A learning method that uses social interaction as a means of constructing knowledge is as a core of collaborative learning [10].

It is broadly defined that collaborative learning reforms classroom learning by altering passive students who receive information given an experienced teacher to active agents in constructing knowledge. It provides structured group activities and needs social skills that students need to work together [11].

Collaborative learning provides enormous advantages: to improve student learning and to revitalize college teaching. It is suitable to be applied for any discipline because the collaborative approach is flexible and adaptable. Collaborative learning is an umbrella term for some educational approach involving the merging of intellectual effort by students or students and teachers together. The students work in group of two or more. They carry out mutually searching for understanding something, find solution, and create a product. So everybody in the class has to participate and work together in small groups. Some important points that drive the group activity are questions, problems, and creating something [12].

Collaborative learning causes a significant change from the typical teacher-centered or lecture-centered to student-centered learning activities. So collaborative learning class are conducted based on students’ discussion and active work with the course material. So the role of teacher in the collaborative learning is *not as an expert transmitter* of knowledge but as *an expert designer* of intellectual experiences for students [13].

### 2.1.1 The Characteristics of Collaborative Learning

How students will do in a collaborative environment cannot be always known by the academics but if the academics prepare and perform successfully as mediators and facilitators, not only the academics but also their students will benefit from the collaborative experience. [14] mention that there are four characteristics of collaboration.

- 1) Shared knowledge between teachers and students. The teacher is, many ways, the information giver, but in collaborative learning he incorporates some student input in which they share experience or knowledge.
- 2) Shared authority between teachers and students. The teacher shares the setting of the learning goals which states the topic discussed by the students. It allows the students to approach the solving of the assignment in the manner of their choosing.
- 3) Teachers as mediators. In this characteristic, the role of the teachers is to encourage the students to learn how to learn – the most crucial aspects of collaborative learning.
- 4) Heterogeneous groupings of students. In this characteristic, the students are taught to respect and appreciate any contributions given by all members of the class, no matter the content.

In a collaborative learning environment, every student should be equally empowered to contribute to the interchange of ideas and concepts, of course the instructor takes a role

as facilitator or mediator and the learners as equal participants. [15] and [16] convey that the successful techniques of collaborative learning enable learners to learn at a faster rate and to obtain more confidence in their ability to grasp concepts. The learners teach each other to study and understand the topic with the active participation of the academic. Furthermore [17] state that a successful collaborative learning can be attained when the doubts, comments, and questions are shared by learners who discuss the same educational goals. Then [18] convey their opinion that “when two people collaborate, they often have to justify their action to each other,” and it often leads to a great understanding of the information being shared and discussed.

### **2.1.2 Some Obstacles of Collaborative Learning**

[1] comment about some obstacles that probably emerge in the collaborative learning class.

- 1) Teachers’ ego: Many teachers defend their own self-importance and interest. They are happy to be the center of attention. The teachers do not trust students to learn. so in order for teachers to actively involve their learners in the learning process, they must be able to overcome the egotistical side of teaching. It is very difficult to sustain in the online arena for this egotism.
- 2) Fear of loss of control in the classroom: controlling college students is something that must be maintained is pedagogically abhorrent. The teachers still have a tendency to regard them as if they were still at “school”. In fact, the students have been adults.
- 3) Large class sizes: in order to have the best collaborative learning, smaller class has to be designed so the student have greater access to the academic. Actually in online learning class sizes and layout do not cause problems, but a tighter control is needed in discussion groups.
- 4) Lack of self-confidence by teachers: academics do not have enough training especially the young academics although they have ever picked up from lectures when they were in a university, but they have not been experienced enough to conduct a class with the teaching paradigm.
- 5) Students’ resistance to collaborative techniques: Students do not always participate kindly to collaborative learning. Then changing the students’ attitude becomes the academic’s duty.

The five obstacles often occurs in collaborative learning. And the other difficult aspect is that the academics have encouraged the students, whether school leavers or mature age, to be collaborative in their school, but collaboration between students is often regarded as open invitation for cheating. The above comments show the fact that changing from traditional to collaborative methods is difficult. The difficulties can be physical and logistical. Finally the hardest difficulties to overcome are those that appear in the educator minds.

## **2.2 Information and Communication Technology on Education**

Almost all fields in life are influenced by the developments of Communication and Information Technology (ICT) – one of them is education. ICT is very potential tool

for change and innovation in education [19, 20]. In general, teacher is one of many factors that determines educational development and innovation because he is the one to use ICT for educational development. Actually, the technology has no an educational value in itself but it becomes an important factor when the teacher uses it in learning–teaching process, however some people still regard the present of the technology can create pressure and needs effective use in the classroom [21].

### 2.3 Online Collaborative Learning

*Online collaborative learning OCL is the one supported by computer mediated communication. The OCL receives significant attention by any people concerned with the developing students' capabilities that meet the challenging work in post modern world. The students often enjoy and benefit from OCL with their peers. Teachers apply the online communication equipment and assessing different instructional designs in order to conduct better collaborative learning and then learning outcomes are improved [22].*

*Notion of knowledge-building communities are the most promising pedagogical advances when conducting OCL. Students in knowledge-building communities are engaged in the production of conceptual artifacts such as models, principles, theories, interpretations, ideas, etc. that can be compared, discussed, tested, modified, and so forth, and then their main jobs are to produce and improve such artifacts [23].*

*Web-based learning system and e-learning applied by high education institutions hopefully can save more costs associated with the conventional instruction and in attempts to deal with globalized higher education markets [24].*

*OCL needs attention both the processes of collaborative and the tools through which they are achieved – computer mediated communication. [25] talk about the goal of collaborative learning which is stated as to create an atmosphere in which productivity interactions between students can be generated. The meaning of productivity is what the students produce together, evaluating the different context, processes and outcomes that support such productivity.*

*Collaborative learning consists of three components which have been identified by [26] as collaboration, communication and social context. Linguistic studies deal with communicative processes. Social contexts have been the subjects of many social studies in online communities. And then collaboration is studied to see its perceived benefits in resulting in learning outcomes. The three components — collaboration, communication and social context — are observed holistically and integratively, rather than reduced to their three constituent components.*

### 2.4 The Benefits of Online Collaborative Learning

[27] states that some theorists such as Vygotsky and Lave & Wenger have underlined the importance of social interaction to an effective learning process. Computer-supported collaborative, if applied properly, can provide an ideal environment in which the student interactions play a central role in the learning process. Then [27] also states that [9] lists a substantial number of benefits to collaborative learning:

### 2.4.1 Academic Benefits

- OCL can generate critical thinking skills because it develops higher thinking skills, stimulate critical thinking, assist learners clarify ideas through discussion and debate, improve oral communication skills, foster metacognition in learners, and increase learners' recall of text content.
- OCL helps learner more active in the learning process. It establishes learning environment that is very active, involving, and exploratory. It increases the learner responsibility for learning. It involves learners designing curriculum and class procedures. It gives training to the learners as next prospective teachers about effective teaching strategies. It helps learners wean teachers as the sole sources of knowledge in order to be more confident in inquiring knowledge. It is suitable with the constructivist approach. And it lets learners exercise a sense of control on task.
- It improves classroom results. Collaborative learning increases higher achievement and class attendance. It increases a positive attitude of learners toward the subject matter. It improves learner retention. It increases self-management skills. It enhances learner persistence in completing assignment.
- It models proper learner problem-solving techniques. It generates modelling of problem-solving techniques by the learners' peers. The performance of the weaker learners can be improved when they are grouped with higher achieving learners.

### 2.4.2 Social Benefits

- It increases a social system for students, for example, interaction and familiarity of students in a faculty step up because they are accustomed to learning or working collaboratively. Then interpersonal relationship is fostered and developed.
- It establishes various understanding among the learners and staff. More positive heterogeneous relationship can be built through collaborative learning. The learner greater ability in viewing situations from others' perspective is fostered through collaborative learning.
- It creates a positive environment for modelling and practicing cooperation. Atmosphere of cooperation can be established through collaborative learning. It assists learners learn how to criticize ideas not people. It assists learners practice modelling societal and work related roles. It establishes environments where learners can practice building leadership skills. It assists instructors change their roles from being the center of the teaching activities to becoming facilitators.

### 2.4.3 Psychological Benefits

- It can foster learners' self-esteem. Anxiety can be reduced through group learning. Learner satisfaction can be achieved with learning experience. It increases a mastery attribute pattern. It motivates learners to look for help and accept tutoring from their peers.
- It fosters positive attitudes towards teachers. A positive attitude of the learner towards their instructors can be created through it and vice versa.

Collaborative learning within a computer-supported environment provides the benefits which at least as great as those conducted in a classroom or lecture hall. Through OCL, learners do not require a regular place and time. So missing a session of lecture can be avoided. Then fruitful and constructive discussions can occur at any time of the day or night whenever learners have inspiration or enthusiasm.

## **2.5 The Steps of Collaborative Learning Process**

Collaborative learning in its implementation needs some steps in the learning activity. Collaborative learning has six main steps [28] as follow:

- 1) Stating the goals and motivating the learner.
- 2) Providing information in the form of demonstration or reading text.
- 3) Organizing the students into smaller groups.
- 4) Guiding the group to work or learn.
- 5) Assessing what has been learned by asking each group to present the result of the discussion.
- 6) Giving reward both the groups and individuals.

## **3 Study Purposes**

The literature review above explains the learning paradigm called collaborative learning which has been implemented widely around the world. Then with very fast development of ICT, many aspects of human affairs including education are influenced so rapidly. After the collaborative learning has been equipped with ICT, it fostered e-learning combined with collaborative learning then it is called online collaborative approach. And this paper tries to explain some scientific opinion about collaborative learning.

## **4 Discussion**

Collaborative learning makes it easy for the students to learn and work together, they contribute ideas each other, and to be responsible for the achievement of learning results both in groups and individuals. So it emphasizes 'learning together'. Not all 'learning together' is categorized as collaborative learning. If each member of the groups does not contribute the ideas, it is not collaborative learning.

### **4.1 The Advantages of Collaborative Learning**

There are several advantages that can be achieved through collaborative learning. [29] conveys the advantage such as; 1) learners have better comprehension, 2) learners attain better achievement, 3) learners experience joyful learning, 4) learners can develop leadership skills, 5) learners enhance positive attitudes, 6) they improve their self-esteem, they develop future skills, and 8) they learn inclusively.

## 4.2 The Disadvantages of Collaborative Learning

The success and failure of learning depend certain conditions. [30] identify 5 conditions. If they are not fulfilled, the failure of learning will occur. The conditions are 1) reasonable answers that provide elaborative explanation, 2) the same responsibility for their group. The success of the group means the success of each member, 3) staying on the task, 4) needing each other, and 5) respecting each other.

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