

# THE IMPORTANCE OF STUDENTS' COLLABORATION IN THE E-LEARNING IMPLEMENTATION

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*Abstract: E-Learning, as in the use of technology for teaching and learning purposes, has been promoted in Indonesia to be an alternative of learning process. Although it was late if it is compared with other Asian countries, it is a step forward for a learning process in Indonesia. However, many of the E-Learning practices involve the uploading of digitized content materials to a learning management system. In the present, the activity of student is downloading the content materials from his/her lecturer only. It makes the E-Learning website have no competitive advantage compared with the common website. The E-Learning website should be a medium for the students to interact, discuss, and collaborate in their project work. A collaborative learning can increase better quality of learning because there is a unity of thinking and learning skills. There are several kinds of software which provide the Learning Management Systems (LMS) but not all of them can give media for collaboration. A tutor is one of the LMS that can give a media for the students to create a draft using its virtual room. Each student can give inputs or revise the draft to improve the quality. Then, the final report can be shared to other students using the virtual library after the draft is finished.*

*Key words: E-Learning, E-Collaborative, collaboration, learning, internet.*

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## INTRODUCTION

Innovation in the technology used for the learning process never stops. Every time educators who involve in this field try to develop the technology used nowadays and fix the weaknesses of the technology in order to improve the education quality. The support from the government, especially from Directorate General for Higher Education Ministry of National Education (*Dirjen Dikti Depdiknas*) stimulates some universities in Indonesia to start building web-based learning system. Besides that, there is another support given in the form of Competitive Grant Program in the area of Information and Communication Technology, which motivates educational institutions in this country to start using the information technology in the learning process. E-Learning or electronic-based learning is popular term used to illustrate the use of technology in education.

Nowadays E-Learning or electronic-based learning through electronic media, especially internet, is considered as the educational solution for students who cannot come to the class in every lecture but they have intention to get knowledge or continue their study in the higher education. For educational institutions, technology in the E-learning can be used as the media to improve the quality of distance learning. Formerly E-learning was considered passive learning and only one way of learning – from the teacher only. However, gradually this impression has changes. The facilities including forum, chat and blog in the media of E-learning begin to change the views of many people about the learning via active website. The multimedia support and new developments in the world web help more and more the implementation of interactive learning, although the students and teacher do not meet physically.

One of our neighboring countries, Thailand, even regularly holds International Conference on E-Learning which is usually held in August every year. The support from the Secretary of Information and Communication Technology Thailand in this event can increase the number of foreign speakers and participants from different majors. The inputs from various speakers make the format and quality of E-Learning implementation become better and better. On the third year implementation, various new scientific ideas come to change the learning concept in the E-Learning. If in the beginning the learning process using E-Learning could only be seen as huge activities of uploading and downloading educational materials through internet media,

nowadays the learning process using E-Learning is more interactive and stresses on collaborative learning. It is not only the activities of spending internet bandwidth, but also improves the learning quality in it.

Until now, most websites used to serve E-Learning still focus on providing facilities for teachers to upload materials in the server and for students to download the materials. Although materials can be in the form of presentation or multimedia documents, it is still considered as weaknesses. No interactive relationship and one way communication between the teacher and the students become main concerns. The idea to provide communication facilities between both the teacher and the students and the students themselves in order to improve the learning quality was delivered by one of the speakers who tried to take the participants out of the conventional concept of E-Learning. According to him, E-Learning website must be used to facilitate group assignments although each student is separated by location and time.

The needs hoped in the E-Learning can be found in various software of Learning Management System (LMS) such as ATutor, Moodle, Sakai Project, and many others. LMS existing nowadays provides facilities such as forum, blog, chat, learning process, collections of questions, scoring, multimedia support, wiki, group assignment, and language support. However, these facilities are not enough; the existing facilities must be able to relate the group assignments in which collaborative thinking between students is possible to happen.

In the software of ATutor, there is additional facility, ACollab that can be used to relate collaboration among students. This facility enables students to work together in making the draft of the assignment and communicate by using mailing list, forum, and chat room. Moreover, calendar consisting group's activities can be accessed and maintained together in order to arrange working schedule easily. Another kind of software, Sakai Project, can be the media for E-Collaborative learning. Some universities in USA even like this software to create teamwork atmosphere in the learning (Chew 2006). Because of the collaborative learning, the learning quality can improve.

## **LITERATURE REVIEW**

**E-Learning is a learning process facilitated and supported by the use of information and communication technology. The learning process in E-Learning can include different kinds of activities which are the combination of traditional activities and e-learning, held online. Whatever the technology, the learning process is an important element. E-Learning relates not only distance learning, but also the alternative form of appropriate system for an effective learning process (Computing Services 2004). In every aspect, E-Learning is often connected with higher learning technology, which uses technology and learning methods applying network and/or multimedia technology (Wikipedia 2007b).**

**However, discussed in the introduction, the needs of media in teamwork among students have urged. Teamwork enables students to combine their ideas so that they can make more qualified products. Teamwork or collaborative in e-learning is often called E-Collaborative. E-Collaborative is collaboration in e-learning media. This term comes because there is a need when some students participated in doing a project. The quality can be better if they meet each other, discuss and work together through direct meeting either physically or not. This need can be seen from the work which needs higher thinking skills and comprehensive abilities such as analyzing, synthesizing, and evaluating (Chew 2006).**

**Collaborative learning is the main term from different kinds of approach in education which stresses on the combination of intellectual efforts between students or between students and teachers. Collaborative learning refers to methods and situation where people working on it will depend on it and be responsible for their work. Students work in groups to look for understanding or solution, or to make their learning process into products. The activities in the collaborative learning can include collaborative writing, group project and others (Wikipedia 2007a).**

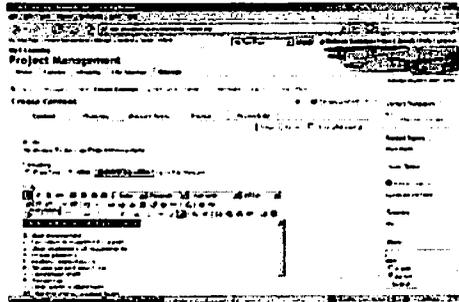
**However, there is not much e-learning software that can be used to fulfill the needs which facilitate students to do some collaboration in their learning process. E-Learning software is software which enables the computer to do some instructions related to the learning process via internet. Besides that, it can be used as private learning media at home by using internet network as the media (TechTarget 2007).**

Since 1999, a lot of E-Learning software which are web-based has been available on the market with charge and without charge. Besides their easy application, it is easy enough to access them through internet network which is common to use nowadays. Although the users are in other continents, they can access the available learning materials as long as there is an internet connection (Wahono 2005).

Moodle ([moodle.org](http://moodle.org)), ATutor ([atutor.ca](http://atutor.ca)), and Sakai Project ([sakaiproject.org](http://sakaiproject.org)) are the examples of Learning Management System (LMS) web-based software which are an open source, and free. Many educational institutions have used this software to provide the content of E-Learning. Most of them have equipped the software with facilities such as forum, blog, chat, learning process, collections of questions, scoring, multimedia support, wiki, group assignment, and language support (Sanjaya 2006).

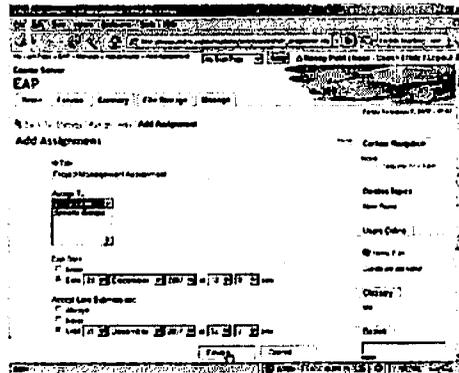
## **DISCUSSION**

Before discussing further about collaboration in E-Learning to increase the learning quality, the following discussions will be about the process and facilities provided by web-based E-Learning software which has been used by many educational institutions. In general, the basic online-based learning needs include (1) making materials and uploading them in the E-Learning system, (2) managing assignments, (3) creating collections of questions, (4) testing, and (5) communicating with students. These basic needs are parts of facilities provided by various Learning Management System (LMS) software. The available facility to write materials makes teachers able to write materials or share information to the students online, directly and anywhere. Meanwhile, the uploading facility can be used if the learning materials have been typed by using computer and saved in a file form. Students are able to read those materials by using the available downloading facility.



**Picture 1:**  
**Writing materials**

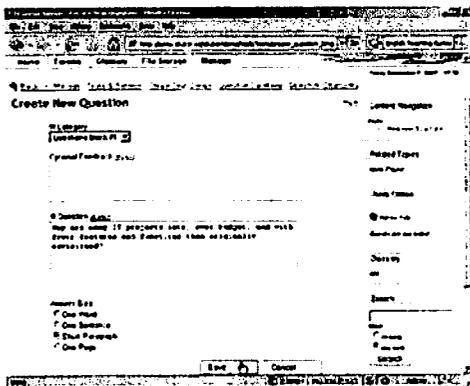
The second facility, related to the managing assignments, is provided to help teachers give the deadline for assignments in a systematic way and arrange the softcopy of the assignments in the server in order. Then, teachers can collect the assignments via the downloading facilities provided by the E-Learning software.



**Picture 2:**  
**Managing assignments**

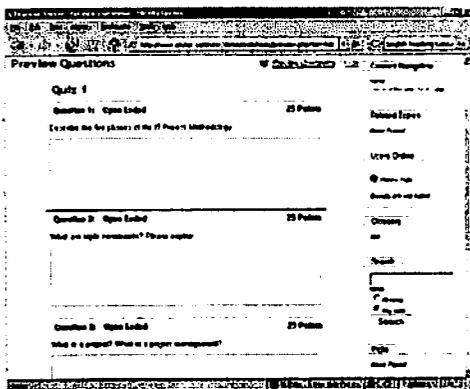
For the third need, namely creating collections of questions, teachers are given freedom to decide the types of question and the variety of question given to the students in the exams. The collections of questions make the students get various questions. Furthermore, the order of the questions can be arranged randomly in the exams. The testing facility, which fulfills the fourth need, provides the mechanism for presenting questions, giving test

deadline and announcing test result. If the facility reaches its optimal use, every user will get different collections of questions from each other.



Picture 3:  
Creating collection of questions

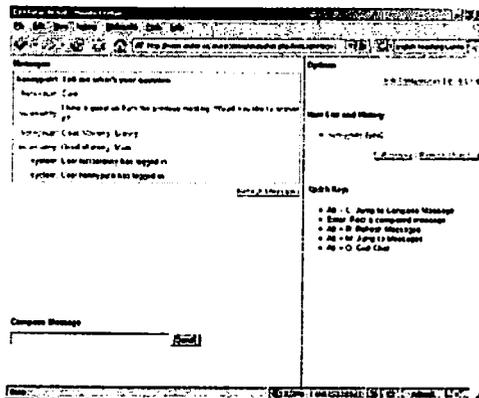
Many people often doubt the validity of online testing because the profile of participants who join the test cannot be really known. However, if the teachers follow the students' progress in the learning process using this media, the achievement of each student will be able to observe from the beginning. So, the extreme unbalanced result on the online-based testing will not happen.



Picture 4:  
Online testing

The fifth facility, communication media with students, is often in the form of forum, blog, and chat. Communicating in the forum is nicer because its management is based on the topics which have been clear. Students need to choose only the topics which are suitable for their needs and do the discussion. Teachers can also give comments on the topic that he or she manages. Meanwhile, blog is a medium for teachers to state their ideas, opinions, experiences or knowledge which can be responded by the students through the system of commenting. By getting inputs, teachers will state their ideas, opinions, experiences or knowledge more critically in the blog.

For chatting as the communication medium, teachers and some students are possible to communicate in the real-time although they do not meet physically. Discussion can happen with a fixed schedule or accidentally. This type of communication makes consultation possible to happen between teachers and students.



Picture 5:  
Chatting as a medium of communication

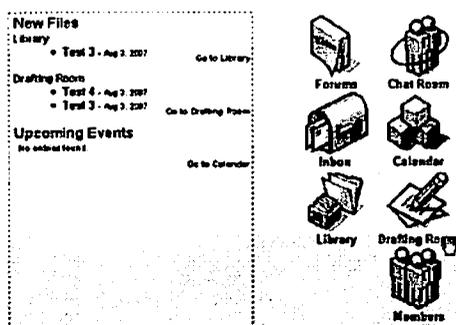
## THE IMPORTANCE OF COLLABORATION

Those basic facilities are not enough for a learning process that needs group thinking. The available facilities must be able to connect the group assignments which enable collaborative thinking among students. When using

the general facilities provided, students have a tendency to depend on their own, without any collaboration, to produce a comprehensive thinking.

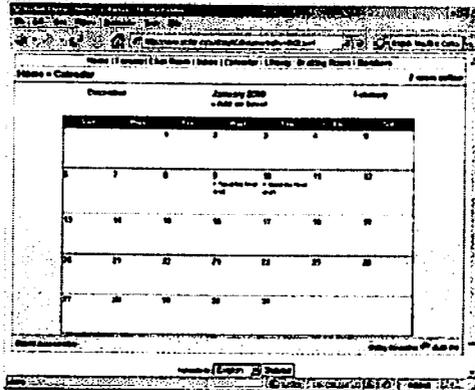
Teamwork is one of the important parts in the soft-skill useful for students when they work in the real world. If this need can be fulfilled in the E-Learning, the learning quality using this media will also increase. The forms of collaboration using this media can be a room to gather although the students do not meet physically in the same time. This room is able to gather various ideas to be united in one comprehensive idea at the end.

In ACollab, supporting software for ATutor, Drafting Room has been provided for students to write the draft of their report together. The existing ideas are united in one directory. Every student is able to revise the draft. If the draft is well written, the result can be saved in the group library, which will enrich the abilities to analyze and synthesize a problem.



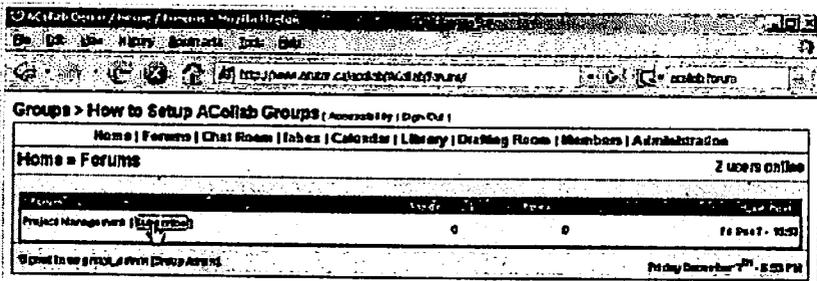
Picture 6:  
Room for drafting in ACollab

Besides that, the availability of accessible calendar can be a tool to make agreements in the group assignments. All agreements that have been made in the calendar will be displayed in the front page of every member in the group. Thus, every student can understand the working agenda he/she should do.



Picture 7:  
Calendar for making group's agreements

Other supporting tools like mailing list and forum enable students to communicate to each other, leave notes, or messages after the group assignment is made. Meanwhile, the chat room facility can facilitate every member of the group to communicate in real-time when they meet in the same time in the website to do the project.



Picture 8:  
Forum for communicating and leaving messages for group's members

The availability of these facilities makes the learning situation more active. The process of learning that happens is not one way learning process.

Moreover, it does not depend on the students' conditions like what happens to E-Learning media in general. There is a unity in the ideas among students who are able to increase the quality of learning for every student.

Another supporting facility called Wiki allows the users to add or change information in the website so that it can be used together. In general, the internet users' participation is expected in order to enrich its content. As a result, it is not surprising that Wiki is created and filled up by internet users in groups. The term Wiki or wikiwiki comes from Hawaii which means fast. Wiki is also translated as the abbreviation for What I Know Is.

To fill the content of Wiki, students do not need to know or master the program because Wiki has simplified the updating process through the web page. Wiki also does not need a special program except the web browser, like Internet Explorer or Mozilla Firefox. With Wiki, everyone can collaborate with other internet users to fill up information which relates to the topic. Because it is filled up together, the information which is passed on to other users can be finished quickly.

However, because of the openness and freedom, it is difficult to protect Wiki from vandalism. Vandalism which often happens includes the whole changes of content in a web page or the partial changes of information in the web page. This can be dangerous if the information changed is an important one. Yet, do not need to worry because Wiki is equipped with facilities to restore the information to the previous condition in a short time. The average time needed for the restoring process because of vandalism is so short, between 5 minutes or less, that the accuracy of existing information is still guaranteed. Because of its openness and freedom, this media can increase the students' trust in sharing experiences or knowledge they have.

If until now the use of web-based E-Learning media is still limited to the activities of uploading and downloading materials, now it is the time to start the optimal use of E-Learning media by maximizing the collaboration among students, and between students and teachers. It is hoped that this condition will make learning activities more active and qualified.

## CONCLUSION

Building a web-based learning includes not only the activities of uploading and downloading materials, but also the active participation of the users. Therefore, the media for students to communicate and participate are needed. These media can be in the form of Wiki, Forum, Blog, and Chat. By using Wiki, every student can have the same opportunity to participate in sharing various knowledge that he or she masters. The ability of Wiki to record inputs, adapt or even revise can guarantee the accuracy of information given. This media can increase students' trust to share their experiences and knowledge they have. Forum media can be used by E-Learning users to do online discussions which are recorded in the database. Meanwhile blog enables students to criticize, give suggestions and opinions on the information or experiences written by the teachers in the blog. As a result, the teachers and students' abilities in analyzing will improve. Chat media enables teachers and students to communicate although they do not meet physically.

In order to improve the learning quality by adding the element of teamwork in the web-based learning, a room for students to gather is needed. This room is used to make draft of report. In this room students can revise or add information. ATutor has the facility for this need. In ACollab, students can share documents and make draft in a group until at the end the file is saved in a group library that can be accessed together as the final report. This collaboration should be supported by mediator who is able to stimulate his or her members to make draft actively. E-learning supported by the facilities to collaborate will improve the learning quality although physical face-to-face communication does not happen.

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