

# Collaborative Learning Training Through CSCL Approach (Computer Supported Collaborative Learning)

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**Abstract.** This paper is made with the intention of knowing the effectiveness of collaborative learning that is applied using the CSCL method in learning. This is done to find out how much the contribution of computer use in collaborative learning. The main focus is how subject teachers utilize computer learning media in implementing collaborative learning. Learning with this method is expected to be able to improve the quality of learning carried out by the teacher and provide great motivation for students because it utilizes learning media to the maximum because before the teacher still used traditional methods of learning that made learning motivation low.

The objectives in detail in this study are 1) to know how to develop a collaborative learning model through CSCL (Computer Supported Collaborative Learning) approach to subject teachers; 2) knowing how to design collaborative learning models through the CSCL approach; 3) Knowing how the results of developing collaborative learning through the CSCL approach have met the criteria of valid, practical, effective, and efficient. Planned research is educational research and development (educational research and development). Computer supported collaborative learning (CSCL) learning model is part of the learning function with a student-centered learning model. The CSCL learning model is a combination of cooperative learning models and the use of computers and the internet as a medium for learning. With increasingly sophisticated technology, individuals in remote locations make it possible to collaborate online.

**Keywords:** Collaborative learning supported by computers, collaborative learning training.

## A. INTRODUCTION

Communities throughout the world are now aware of it or not, individual lives are characterized by transitions that are traditionally, often considered very important. In addition to a view of the level of time, individuals are also

viewed from their health in living life. Health behaviors shown by individuals or certain groups of people have received much attention. The development of technology today is increasingly rapid. The use of computers as part of technology is also increasingly widespread and has penetrated the world of education. Computers in the world of education in higher education are not only used as a medium of learning in the classroom that helps teachers to present learning material. Computers can function more than just those things, which can be used as learning media for students. Computer functions in learning in the early development are classified into groups that become two things, namely computer assisted instruction (CAI) and computer managed instruction (MAI). But along with the increasing use of computers in learning, computer functions are expanded into three classifications, namely: management functions, learning functions and action research functions. The management function is intended to make school budgeting, accounting, record keeping, electronic communication, printing and information retrieval. Meanwhile, the learning function is divided into two, namely teacher-centered learning and student-centered learning. The function of action research includes application of data storage and statistical analysis that helps teachers to process learning outcomes (Eri Satria, 2009).

The learning process generally emphasizes the importance of cooperation rather than competition and interdependence rather than independence (Sudarman, 2008). If competition is developed, the tendency can lead to thoughts and feelings that are not reluctant to attack other people. On the other hand, the development of cooperation can actually develop the ability to face challenges, leadership, and management that are indispensable if later they have entered the workforce. Collaborative Learning (CL) is a structured and systematic instructional strategy in which a group of students work together to maximize the

learning of their peers (Wu Junqi, 2009). The form can be in the form of dialogue, negotiation, and arguments to solve the problems they have. The emergence of collaborative learning stems from a philosophical perspective on the concept of learning. To be able to learn, a person must have a partner. Collaborative learning can provide opportunities to lead to successful learning practices. As technology for learning (technology for instruction), collaborative learning involves active participation of students and minimizing differences between individuals.

One method of implementing collaborative learning is Computer supported collaborative learning (CSCL) where a group of students is in a computer network in order to maximize individuals, teams, and learning outcomes to achieve goals through useful discussion and assistance (Xinyu D., Li Min, 2008). The CSCL learning model is viewed from the psychology of education including constructivism, which is to train students to build their own knowledge. Students can study independently or in groups, form communication networks and interact with group members. Students can interact not limited to time, school, city, or even the country. The CSCL learning model was allegedly able to form independence and a sense of learning responsibility, increase learning motivation, shape metacognitive abilities and critical thinking skills in problem solving. Learning models have broader meanings than learning strategies, methods or procedures. The term learning model has 4 special characteristics that are not possessed by learning strategies or methods: 1) Logical theoretical rationales prepared by educators; 2) Learning objectives to be achieved; 3) The teaching steps needed so that the learning model can be implemented optimally; 4) Learning environment needed so that learning objectives can be achieved.

Collaborative methods are based on assumptions about the learning process of students as follows (Semiawan, 1992): (1) Learning is active and constructive. To learn lesson material, students must be actively involved with the material. Students need to integrate this new material with the knowledge they have had before. Students build meaning or create something new related to the learning material; (2) Learning is context dependent. Learning activities expose students to challenging tasks or problems related to the context that is already known to students.

Students are directly involved in completing the task or solving the problem; (3) The students have a variety of backgrounds. The students have differences in many ways, such as backgrounds, learning styles, experiences, and aspirations. These differences are recognized and accepted

in collaborative activities, and even needed to improve the quality of the achievement of shared results in the learning process; (4) Learning is social. The learning process is a process of social interaction in which students build meaning received together. From the understanding of collaboration expressed by various experts, it can be concluded that the notion of collaborative learning is a learning strategy in which students with multilevel variations work in small groups towards one goal. In this group students help each other with each other. So the situation of collaborative learning is a positive element of dependence to achieve success.

In this collaboration method, the process approach emphasizes how students pour ideas into writing. After receiving comments and suggestions from the teacher and friends in the form of scribbled repairs, students write and improve the results of the writing. And so on until the writing is worthy of being considered good writing. The process approach has changed the focus of product writing to the writing process which is more promising for students to be more skilled in writing. The writing process emphasizes the development of ideas that are devoted to getting optimal writing results. On this occasion, the teacher should provide motivation to students to be more courageous in developing their ideas.

## **B. RESEARCH METHODS**

### **1. Type of Research**

This study uses a descriptive qualitative approach that utilizes the principles of development research. This development is carried out with an engineering approach where the stages used are: analysis, design, implementation, and evaluation. After a collaborative learning model was produced through the CSCL approach (Computer Supported Collaborative Learning), the research was continued by conducting trials on products developed for students of Perbaungan Middle School 1 and Pantai Cermin Open Middle School in North Sumatra Province, both of which were applied by their respective subject teachers - each school.

### **2. Development Model**

This research is educational research and development. In accordance with the understanding that this study aims to produce products. Computer supported collaborative learning (CSCL) learning model is part of the learning function with a student-centered learning model. The CSCL learning model is a combination of cooperative learning models and the use of computers and the internet as a medium for learning. With increasingly sophisticated technology, individuals in remote locations make it possible to collaborate using applications on the internet. Multimedia

development used in this study is as proposed by Lee & Owens (2004: 161). Development consists of 5 stages: 1) Analysis, 2) Design, 3) Development, 4) Implementation, and 5) Evaluation.

### **3. Development Procedure**

The procedure of research and development of the Borg & Gall model (1983: 772-774) basically consists of two main objectives, namely: (1) developing the product, (2) testing the effectiveness of the product in achieving the goal. The first goal leads to the development of a product and the second objective is to lead to validation. Through the adaptation of the research models, the development model used in this research and development is obtained

### **4. Test the Product**

The product testing in the collaborative learning model through the CSCL (Computer Supported Collaborative Learning) approach that will be developed is validating the product to material experts, media experts, visual communication experts, and programming experts. The initial product validation is carried out in an integrated manner starting from the devices produced in the design (design) to the product of the collaborative learning model. to the development of a product and the second objective is to lead to validation. Through the adaptation of the research models, the development model used in this research and development is obtained.

## **C. RESULTS AND DISCUSSION**

### **1. Results**

The results of this study draw conclusions about training related to the development of teacher skills in conducting and implementing collaborative learning with CSCL techniques, which can contribute to improving the quality of student learning at school. Collaborative learning is used as a teaching medium when learning in the classroom is a complement that can be accessed by students anytime and anywhere via the internet.

First, the preparation here is intended as an activity which includes: a) determining learning goals by determining learning materials and tasks completed and what collaborative skills are carried out in groups, b) dividing students into study groups, c) explaining collective tasks both academically and socially, and d) compiling positive dependence (interdependence of students to work together in order to achieve learning goals). Second, the learning process, namely the role of the teacher as long as students learn and work in groups, in this case the teacher acts as a facilitator, namely: a) guiding students in completing tasks and b) guiding students to work cooperatively. Third,

evaluation, where the evaluation process carried out by teachers is of two kinds, namely: evaluation of learning outcomes and evaluation of collaborative skills. Collaborative learning has several advantages including: higher learning achievement, more positive level of understanding, improved self-esteem and more inclusive learning.

### **2. Discussion**

The CSCL learning model is seen from the psychology of education, including understanding constructivism, namely students build their own knowledge. Students can study independently or in groups, form communication networks and interact with group members. Students can interact not limited to time, schools, cities and even countries that have become obstacles to distance learning. The CSCL learning model was supposed to be able to form the independence and sense of responsibility of students' learning, improve student learning motivation, shape metacognition skills and students' critical thinking skills in problem solving.

Computer supported collaborative learning (CSCL) learning model is part of the learning function with a student-centered learning model. The CSCL learning model is a combination of cooperative learning models and the use of computers and the internet as a medium for learning. With increasingly sophisticated technology, individuals in remote locations make it possible to collaborate online. The use of this learning model can be utilized by the teacher effectively, although it is something new that may still have many obstacles. But it is believed that in the future this distance learning model will develop rapidly along with technological developments and the development of learning methods.

CSCL offers an innovation and the advantages of using computer technology in learning models Technology is seen as a way to automate learning and can save costs, without changing the perspective of traditional learning as the transfer of knowledge from authorized sources to relatively passive student memories. CSCL uses media that are different from traditional ways to create new learning experiences for students, where students can interact with each other in a learning structure designed by the teacher to create exploratory and discussion situations (Stahl, 2009).

Computer technology now allows individuals who are in remote locations to collaborate online. The use of this tool is increasing, a real example is the number of online game enthusiasts that allow players in different locations to work together or compete in an online game. The use in the world of education is also possible to be developed, although it is

something new, but as the use of the internet spreads, this online learning model can be used effectively.

Computer Support Collaborative Learning (CSCL) is a learning model that brings benefits from collaborative and cooperative learning models for learners who are localized with a computer network. The aim of CSCL is to provide guidance or support to students in learning together effectively. CSCL encourages learners to communicate ideas and information, collaborate on access to information and documents, and enable learners to provide feedback during learning activities. In addition, CSCL encourages and facilitates group processes and group dynamics that do not allow for direct face-to-face communication.

#### D. CONCLUSION

Research in the field of Computer Supported Collaborative Learning, or commonly referred to as CSCL, provides a new experience that Blog is one model that can be used to enhance collaboration in learning. The utilization in increasing collaboration in learning provides an input that Blogs are good when integrated into learning. As is the case in this study, which can be concluded that:

1. Collaboration between teachers and students in utilizing Blogs provides a good relationship to increased collaboration between teachers and students. Use of this Blog makes it easy for Teachers and students to share information and interact both personally or in groups / general. Collaboration activities do not only occur in the campus environment but anytime and anywhere.
2. Collaboration between students and students in utilizing Blogs provides a good relationship to increasing collaboration between students and students. Utilization of Blogs makes it easy for students to coordinate with other students or study groups. They are also easier to share information and communicate and provide

feedback on what their partners are doing. In addition, students can reconstruct their learning outcomes. The effectiveness and efficiency of using Blog as a CSCL media with several indicators obtained a Very Effective and Very Good assessment.

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