The UIT(utilization and integration) of
ICT tools in promoting web based Collaborative learning system

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Abstract

Collaborative learning most often requires conversation among participants. Learning working in groups must socially negotiate a common understanding of the task and the methods they will use to accomplish it. For collaborative learning to be effective, the teacher's role is not to transmit information but to serve as a facilitator for learning. Actually this involves creating and managing meaningful learning experiences and stimulating students' thinking to real word problem. The utilization and integration of ICT tools can indeed assist students in learning activities as well as enhance the quality of their learning experience.

This present paper is structured as following; first, examine the concept of collaborative learning. Secondly, examines the present scenario of ICT Model School as regards ICT integration and tries to determine if ICT skills of teachers in the light of existing infrastructure facilities are adequate to promote teaching and learning. Thirdly, present the process of ICT learning activities was designed in order to empowering collaborative learning and 21st century skill. And finally in the concluding part the researchers suggest the use of interactive ICT tools to enhance the collaborative learning and 21st century skill.

Keywords: ICT, interactivity, rich learning environment, collaborative learning, 21st century skill

INTRODUCTION

Humans naturally work together in learning and knowledge-building communities, exploiting each others' skills and appropriating each others' knowledge. When learners become part of knowledge-building communities both in class and outside of school, they learn that there are multiple ways of viewing the world and multiple solutions to most of life's problems [1]. Collaborative learning is the instructional use of small groups and organizes different students into that various small groups. Its aim is to allow the students to work together to maximize their own and other's learning. There are many aspects of benefits of collaborative learning, e.g., builds self-esteem in students, enhances students satisfaction with the learning experience, promotes a positive attitude toward the subject matter, provides weaker students with extensive one-on-one tutoring, provides stronger students with the deeper understanding that comes only from teaching material, and promotes learning goals rather than performance goal, etc [2].

The concept of collaborative Learning has been around a long time. It is the student-centered approach that requires students working together to accomplish shared learning goal and to maximize their own and their group members' achievements [3]. Collaborative learning is seen when students work in groups on the same task simultaneously, thinking together over demands and tackling complexities. There is a sharing of authority and acceptance of responsibility among group members for the group's actions. The underlying premise of collaborative learning is based upon consensus building through cooperation by group members, in contrast to competition in which individuals best other group members. The students are responsible for one's another learning as well as they own. Thus, the success of one student helps others students to be successful. This approach matches with the philosophy of contemporary perspective on learning and teaching aiming to promote higher achievements, more positive inter-

personal relationships and greater psychological health, resulting in graduates being cooperative, caring, reflective, critical and creative [4].

Education systems around the world are searching for the ways to help learners or students gain access to knowledge and information by using technology. During the mid-1990s, computer-supported collaborative learning approaches began to explore how computer could bring students together to learn collaboratively in small groups and in learning communities [5]. Various kinds of tools are used for this activity. Motivated by social constructivist and dialogical theories, these efforts sought to provide and support opportunities for students to learn together by directed discourse that would construct shared knowledge.

ICT MODEL SCHOOL

Globalization is a major element in 21st century economies, and its dependence on technology, makes the role of computer-related technologies in education very critical. Traditional educational practices no longer provide prospective teachers with all the necessary skills for teaching students to survive economically in today's workplace. To live, learn, and work successfully in an increasingly complex, information-rich and knowledge based society, students and teachers must utilize technology effectively. The Ministry of education, Thailand launched the ICT Model School project aims to explore alternative approaches on how to integrate ICT into school and classroom activities. It was to improve teachers' professional development by asking collaboration from university professors. The university professors mainly help school staffs in empowering school teachers and principals to gain knowledge and skills in ICI application and integration in their instruction as well as school management.

Inspiring the Teachers to promote Collaborative Learning and 21st Century Skills for Students

Teachers learned how to integrate information and communication technology (ICT) helping students acquire 21st century skills such as critical thinking, problem solving, collaboration and digital literacy. The major challenges are
  • Improve integration of ICT for teaching and learning, in line with Thailand's education reforms.
  • Provide teacher personal development relevant to individual needs.
  • Develop student-centered learning and outcome-driven educational approaches.
There are 3 stages of training program in ICT Model School.

1. Rethinking about learning

Teachers should understand the policy goals and social priorities and identify, design, and use specific classroom activities that address these goals and priorities. Teaching is student-centered in this approach and the teacher's role is to structure problem tasks, guide student understanding, and support student collaborative projects. In this role, teachers help students create, implement, and monitor project plans and solutions. With this approach, classroom structure is also different. Class periods and classroom structure are more dynamic, with students working in groups for extended periods of time. In guiding students' understanding of key concepts, teachers will employ open-ended technology tools that are specific to their subject area—visualizations in science, data analysis tools in mathematics, role play simulations in social studies.

2. Strengthen ICT skill

The teachers must know basic hardware and software operations, as well as productivity applications software, a web browser, communications software, presentation software, and management applications. They must have the technological skill and knowledge of Web resources necessary to use technology to acquire additional subject matter and pedagogical knowledge in support of their own professional development.

3. Integrate ICT into the classroom

In this stage of development teacher competences related to the technology literacy approach include basic digital literacy skills along with the ability to select and use appropriate off-the-self educational tutorials, games, drill-and-practice, and web content in computer laboratories or with limited classroom facilities to complement standard curriculum objectives, assessment approaches, unit plans, and didactic teaching methods. Teachers must also be able to

use ICT to manage classroom data and support their own professional development.

Inspiring the Students to use ICT to effective 21st Century Skill

With the approach that the learning process goes beyond a focus on knowledge of school subjects to explicitly include the 21st century skills such as problem solving, communication, collaboration, and critical thinking. Students will also need to be able to determine their own learning goals and plans. Assessment is itself a part of this process; students must be able to assess the quality of their own and each others' products. Students work in a learning community in which they are continuously engaged in creating knowledge products and building upon their own and each others' knowledge base and learning skills. A variety of networked devices, digital resources, and electronic environments are used to create and support this community in its production of knowledge and anytime, anywhere collaborative learning.

Within a sound educational setting, technology can enable students to become:
• Capable information technology users
• Information seekers, analyzers, and evaluators
• Problem solvers and decision makers
• Creative and effective users of productivity tools
• Communicators, collaborators, publishers, and producers
• Informed, responsible, and contributing citizens

Teachers need to design ICT-based knowledge communities and use ICT to support the development of students' knowledge creation skills and their continuous, reflective learning. To support their collaborative projects, the teachers use network resources to help their students collaborate, access information, and communicate with external experts to analyze and solve their selected problems. Teachers also are able to use ICT to create and monitor individual and group student project plans, as well as access experts and collaborate with other teachers making use of networks to access information, colleagues, and other experts in supporting their own professional development.

CONCLUSION

Collaborative learning activities are based on interdependence among participants to reach a common goal. The collaboration and interaction among students-instructor and students-peers are the keys and can be conducted via the communication tools. ICT is a tool and acts as guide or tutors, giving instruction to learners on what to do and leading them to perform task. The success of building a collaborative learning environment via ICT not only depends on the students with fully active involvement but also the fact how the teachers interact with students and spends more time to guide the students through the activities. ICT can help the teachers to monitor collaborative learning process and promotes the collaborative learning. It also helps the students and teachers to effective collaborative learning.

In a survey conducted among teachers, all agreed that the ICT training program promoted new ways of thinking that were beneficial for the students. ICT places value on each student's individual learning style and ensures that their needs are met through a variety of innovative teaching strategies.

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