

International Cooperative Learning via the Internet – The Case Study Based on APEC ICT Model School

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Abstract: - In the beginning of 21st century, the information and communication technology (ICT) has created significant impact on the pedagogical environment. The ICT pedagogical methodology and tools has increasingly altered the landscape in the educational field, particularly in higher education. New ICT technology will be embedded in every corner of society or pedagogical setting. ICT Model School Network is a sub-division of APEC Future Education Consortium. There are fourteen member economies of Asia-Pacific joined in the consortium, 67 elementary or junior high schools, about 273 teachers, and 7100 students attended this project. The members shared and exchanged their pedagogical experience and skill via the Internet. The students also cooperate learning with the students of sister school. Our study is a pilot program to explore the feasible ways for two elementary schools from different countries to cooperate, exchange their teaching and learning experience.

Key-Words: - Cooperative Learning, Internet, International Culture Exchange, Project-based Learning, Digital Divide.

1 Introduction

In the beginning of 21st century, the information and communication technology (ICT) has created significant impact on the pedagogical environment. The ICT pedagogical methodology and tools has increasingly altered the landscape in the educational field. New ICT technology will be embedded in every corner of society or pedagogical setting.

Several researches have showed the positive effect of ICT technology in educational domain. Panagiotis [7] has explored the evaluation methodology and discuss most important results of distance learning, particular, in elementary school. Neo [5] has conducted a group-based co-operative learning in Malaysian. Okamoto and Cristea[6] have developed a distance ecological model for individual and collaborative learning support.

In May, 2005, Linyuan Elementary School registered as a member of ICT Model School

Network affiliated to APEC Future Education Consortium. In September 8, 2005, two of our staffs attended the 1st APEC Future Education Forum 2005, and joint with a Korea elementary school as a sister school. In a three days workshop, teachers from 14 member economic entities in Pan-Pacific area discussed the possible and viable ways to cooperate teaching and learning through the Internet. Our study is a pilot program to explore the feasible ways for two elementary schools from different countries to cooperate, exchange their teaching and learning experience.

2 Background of ICT Model School Network

In 2004, April, ICT Model School Network was proposed at the 3rd APEC Education Ministerial

Meeting by Korea. ICT Model School Network is a sub-division of the APEC Future Education Consortium[2] . There are 14 member economic entities of Asia-Pacific joined in the consortium and participate in this project. Under the APEC Future Education Consortium, there are 27 members of the research committee from 11 economic entities, 15 members of the steering committee from 14 economic entities, and 67 schools from 14 economic entities participated in the ICT Model School Network project. The Institute of APEC Cyber Education(IACE) charged for the implementation of this project.

APEC Future Education project regards as one of the four priority areas identified in the 3rd APEC Education Ministerial Meeting. They also achieved a joint statement “Using ICT for Teaching and Learning”. Following the statement, ICT Model School Network is to be constructed and found the ideal school model within APEC area. Further more, ICT Model School Network will be devoted to elevate APEC school collaborations, exchange expert and special knowledge and information within APEC community[2] .

2.1 Objectives of ICT Model School Network

The first goal of ICT Model School Network is searching for the best schools for using ICT within APEC economies, and surveying the educational model for future school through the interchanging and collaborating activities between APEC economies and schools within this area

The second goal is to reduce the digital divide within APEC members’ economies by constructing the efficient sharing system for teachers and students to exchange their teaching or learning experience.

The third and most important goal is to promote understandings the linguistic, cultural, historical diversities within APEC regions through the interchanging facilitation of each school’s own activity.

Last, it provides space for members to share practical policies and best practice discussed and evaluated at APEC Future Education Forum, Steering Committee meeting.

2.2 How to become a member school

There are several prerequisite for your school to become a member of ICT Model School. The necessary Criteria of ICT Model School are as follow:

1. The principal of a school has vision of education using ICT and 100 percent support this project
2. The teachers have the capacities of practicing ICT and English.
3. A school is provided with facilities for class using ICT to conduct pedagogical activities in their classroom.
4. Students capable to use ICT skills for learning and have the abilities to develop new contents in their language and English.

2.3 The member of ICT Model School Network

The member of ICT Model School Network was selected or recommended by government of the member economic entity. Each member economy could select 4 elementary or secondary schools to attend this project. The total number of ICT Model School was 67 schools participate in this project at first, later, four school joined this project increased the number to 71. There are also 273 teachers and 7100 students involved in this project.

In Taiwan, there are four school, Linyuan Elementary School (Kaohsiung county), Yanping Junior High School (Tainan city), YingHai High School (Tainan city), and San Min Vocational High School (Kaohsiung city) participated in this project. In this study, our case was based on the example of Linyuan Elementary School

2.4 The major activities of ICT Model School

The IACE settled down several major activities for ICT Model School listing as follow:

1. Online Joint Class: The aim of this activity is to search for materials of Online Joint Class shared in elementary and secondary graded within APEC member economies and examining the capabilities of Online Joint Class.
2. English Homepage Development Contest: The IACE set a few rules for this activity as follow
 - a. Sending an entry for the contest through ICT Model School Network Homepage by participating schools
 - b. Contents of English homepage: Including School Introduction, Present Condition & Circumstance of the School, Annual Plan of Activities, Interesting School life, and Bulletin Board for Boasting of the School.
 - c. Process: Constructing servers for each of schools, and Setting links in ICT Model School Network Homepage.

- d. Evaluating and Awarding a prize
- 3. Online Sketch Competition: Students of ICT Model Schools can attend this activity by sending the pictures about the topics as follow:
 - a. Facilities of Schools and Classrooms in the Future
 - b. Lessons in the Future Class,
 - c. and APEC in the Future.
- 3. Online Essay Contest: Students of ICT Model Schools can attend the online essay contest by submitting their writing, such as poetry, novels, and essays which related to those topics as follow:
 - a. Facilities of Schools and Classrooms in the future,
 - b. Lessons in the future class,
 - c. APEC in the Future.
- 4. Best ICT Material Collecting Contest: Students and teachers of ICT Model Schools can participate in the best ICT material collecting contest by submitting the materials utilized in actual class and made by teachers and students which related to those topics as follow:
 - a. Facilities of Schools and Classrooms in the future,
 - b. Lessons in the future class,
 - c. APEC in the Future.

3. Constitutes a sister school partnership

This study was based on the case of Linyuan Elementary School, Kaohsiung, Taiwan, and Cheongok Elementary School, Ulsan, Korea. After the workshop of the 1st APEC Future Education Forum, these two schools shared the same experience, and conclude a joint statement to cooperate with each other as a sister school. The international cooperative learning project of Linyuan and Cheongok Elementary School, titled as “Understanding other Cultures Through Exchanging Various Activities” will be described as follow.

3.1 Purposes

The purpose of this project is to understand and experience cultural differences via exchanging the various traditional culture activities, such as folk songs, traditional arts, traditional games and special festival activities from two countries. In order to implement this project, we have developed an English web site, at “<http://cheongok.es.kr>”, as our mutual platform. Students from these two schools can exchange their activities and viewpoints through the website. And

also, They will experience and share their culture with each other

3.2 Principal Activities

1. Became sister school. July, 1 2005
2. Members of sister school attended the 1st APEC Future Education Forum. Sep. 8-10 2005
3. Exchange the opinions for cultural activities and events Sep.-Nov 2005.
4. Members and students of Cheongok Elementary School visited Linyuan Elementary School. Dec 12-16 2005.
5. Members and students of Linyuan Elementary School visited Cheongok activities. Feb. 6-9 2006.

3.3 Project overview

Describe briefly how this project will proceed to accomplish the objectives of the project including the target beneficiaries, the methodology, etc.

3.3.1 Infrastructure of learning environment for international cooperation

1. Develop and operate school English homepage: Development of English homepage and introduce school history, status, major, goals, and project proposal for international cooperation and cultural learning aspects, etc. Training students and teachers to use it.
2. Operating a place to exchange the learning method on the web: Share learning material and method with a sister school using ICT learning exchanges, educational activities and question/answer on English homepage. Exchange opinion between students and teachers of the schools on Q&A forum.
3. Operating a place to experience the cultural festivals on the web: Provide the chance to experience some cultural events, history and information about the local communities indirectly.

3.3.2 Exchange learning experience on the cultural aspects in school homepage

Project-based learning (PBL) is more and more popular in E-learning environment, and is different from the traditional pedagogical method which focuses on helping students to apply what they have learned from daily life[4]. We set up several project-based learning activities from the students' learning background.

1. Folk song activities from Korea and Taiwan: Introduce and play traditional folk songs from each country. Exchange a musical note to each

other and play them using musical instruments. Write impression and their opinion about the experience of every activities they conducted, and share them on the homepage.

2. Activities to experience the traditional games of Korea, and Taiwan: Introduce and play traditional games from each country, and explain the methods about how to play them. Write impression and their opinion about the activities they experienced, and share them on the homepage.
3. Activities to exchange native art and festival of Korea, and Taiwan: Introduce two main traditional festival days to each other. Explain what they do and what they eat on their traditional festival. Write impression and their opinion about the activities they experienced, and share them on the homepage also.

3.4 Implementation phases of ICT Model School project

Either cooperative learning or ICT Model School Network is a wholly new experience for the teachers and students of both schools. We settle down the project step by step for our teachers and students to implement the concept of cooperative learning via the Internet. Figure 2 depicted the ICT Model School Cooperative Learning and Culture Exchange Model.

1. Phase 1: Meeting on the Internet: In the first phase, teachers from Linyuan and Cheongok Elementary School discuss the project via the Email, video conference, and cyber phone such as Skype. It is the cheapest way to conduct cooperative learning through the Internet. At first, the teachers devised a preliminary plan include the topic they interested in, and then our teachers replied the email with our opinion.
2. Phase 2: Homestay: In phase 1, most activities were conducted in a "Click and Mortar" environment (Virtual environment). In phase 2, we like to extend our activities into "Brick and Mortar" setting (real environment)[3]. Warkentin et al [8] found the relational links among team members were a significant contributor to the effectiveness of information exchange. In order to strengthen the relationship of two schools, teachers and students from Cheongok Elementary School, Korea, visited Linyuan Elementary School at Dec. 20 2005. Students were homestay at Taiwan students' house, so that they have a chance to experience the culture and custom of Taiwan. In Feb. 6, 2006, Students from Taiwan

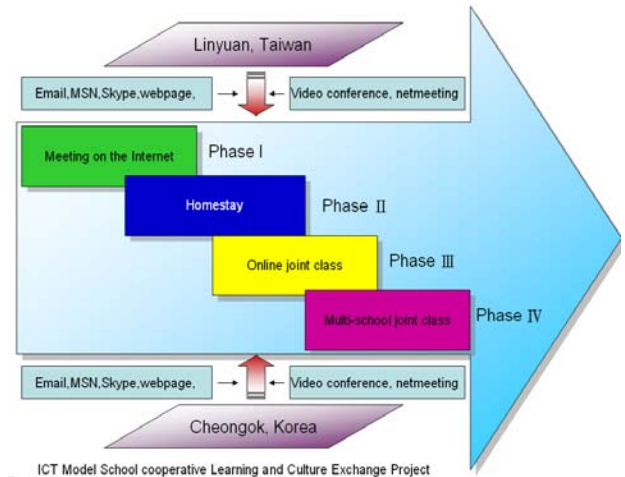


Figure 2 ICT Model School Cooperative Learning and Culture Exchange Model

also have the same homestay experience in Korea.

3. Phase 3: Online Joint Class: In phase 3, most of our teachers and students more familiar with Korea teachers and students. Both the teachers and students have more experience in cooperative learning via Information and Communication Technology. Teachers were more used to write and communicate in English to each other. They also like to communicate instantly with their foreign friends through cyber phone, such as Skype.
4. Phase 4: Multi-School Joint Class: After one year of cooperative learning via the ICT Model School Network, and homestay activities. Most members of both countries show their enthusiasm in this project. Some of Korea teachers and our members were been tranfered to another school during this semester. Albeit, our study was based on the case of Linyuan and Cheongok elementary school, we would like to extend our project from "school to school" into "multi-schools to multi-schools" in phase 4, in the near future.

4. Evaluation methodology of ICT Model School Network Project

The effort of an evaluation methodology for the ICT Model School Project is one of the most important task in this project. It was a decisive factor in revealing certain key factor in this project, especially at pilot stage. The main target of the evaluaton in our study is to detect key factor that will contribute to a successful international cooperative learning. In our pilot study, we settled down a few aspects, such as difficulties from students' viewpoint, difficulties from teachers' viewpoint, students' attitude, school

staffs' attitude, and parents' attitude to assess the effectiveness of this cooperative project.

4.1 Difficulties from student's and teachers' viewpoint

Table 1 showed the difficulties from the viewpoint of students and teachers.

Table 1 Difficulties from students' and teachers' viewpoint

members topics	Teacher of Korea (6)	Teacher of Taiwan (6)	Student of Korea (30)	Student of Taiwan (30)
Folk song	0	0	6.7%	10%
Traditional game	16.67%	66.67%	16.67%	43.33%
art and festival	0	0	13.33%	6.67%
Language problem	83.33%	50%	86.67%	66.67%
ICT Skill	66.67%	33.33%	56.67%	40%

1. Folk song activities: Neither teachers from Taiwan nor teachers from Korea considered folk song activities were difficult. 6.7% of students from Korea and 10% of students from Taiwan conceived these activities were difficult.
2. Traditional game activities: There were 16.67% Korea teachers and 66.67% Taiwan teachers thought these activities were difficult, and 16.67% students (Korea) and 43.33% students (Taiwan) deemed these activities were difficult. This result reflected the traditional game are disappearing gradually.
3. Art and festival activitie: There were 0% teachers (Korea), 0% teachers (Taiwan), 13.33% students (Korea), and 6.67% students (Taiwan) reckoned these activities were difficult.
4. Language problem: There were 83.33% teachers (Korea), 50% teachers (Taiwan), 86.67% students (Korea), and 66.67% students (Taiwan) considered these activities were difficult.
5. ICT Skill: There were 66.67% teachers (Korea), 33.33% teachers (Taiwan), 56.67% students (Korea), and 40% students (Taiwan) considered these activities were difficult.

4.3 Attitudes of students, school staffs and parents

Table 2 showed the attitude of students, school staffs, and parents:

1. Attitude of students: There were 90% students very supported these activities, 6.67% students supported a lot, and 3.33% supported a little.
2. Attitude of school staffs: There were 66.67% staffs very supported these activities, 16.67% staffs supported a lot, 8.33% supported a little, and 8.33% supported very little.
3. Attitude of parents: There were 85% parents very supported these activities, 6.67% parents supported a lot, 3.33% supported a little, 1.67% supported very little, and 3.33% don't like these activities.

Table 1 Attitude of students, teachers, and parents

who support	Students(60)	Staffs(12)	Parents(60)
Not at all	0	0	3.33%
Very little	0	8.33%	1.67%
A little	3.33%	8.33%	3.33%
A lot	6.67%	16.67	6.67%
very	90%	66.67%	85%

5 Conclusion

The evaluation methodology of our study focuses on two aspects (difficulties and attitude) and three dimensions (students, staffs/teachers, and parents). According to the analysis of the results, we found several key factors in international cooperative learning project.

1. Activities of folk song, art, and festival are the easy dimension to implement an international cooperative learning project.
2. Traditional game are disappearing gradually, especially in Taiwan. Students don't like to play traditional game anymore.
3. ICT skills are common difficulties in international cooperative learning project.
4. Language is the most difficult part of an international cooperative learning project.

In the other aspects showed that this project was very supported by both students and parents, while some staffs are not very support these activities.

Our future endeavor will be focused on the improvement of these aspects and dimensions.

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