Creating a Multicultural Technical Learning Environment

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Abstract

In recent years, it has become more and more apparent that the integration of computers into so many aspects of life has indeed ushered in a new age: the information age. Since the turn of the century, the level of technological advancement, and also the aspects of life in which technology and information processing have become integrated have continued to increase steadily. It is also safe to say that continuing into the future, our use of information will continue to evolve and advance rapidly. At one time in the not too distant past, it was possibly to dismiss learning how to operate a personal computer, and performing normally in society without any idea what the Internet posed no issue. That day has indeed come and gone however, and as we go into the future we believe that our use and reliance on the Internet and other systems will continue to broaden, both at the cutting edge and also adding societies from underdeveloped nations as well.

It is for this reason that computer and technical instruction has become a major staple in all modern curricula. While when the members of the project were in school computer education was not mandatory, now less than a decade later it is taught to all students in all developed countries. And although it wasn't mandatory, all members of the project participated in computer classes as children, and hence we can all draw on our own experience for comparison with the research we do while teaching here in Japan. In this way, the project intends to research into a few pertinent aspects that can be observed by teaching.

Along with teaching the curriculum, it is also important to develop and foster an environment that is receptive to multiculturalism. The world society becomes closer and closer every day through modern systems like the Internet, and in this day it is important to have an ability to interact with people from other cultures. Still, the amount of interaction that Japanese children have with those of other cultures is very limited. This is where our project comes in: developing healthy communication with the children is our primary goal.

Also, we will turn our attention to the nature of the class itself, which is a computer class, while trying to consider it in comparison to others in the primary school curriculum, and also to analyze its role and/or importance for both the students and the school. For several reasons, this class has similarities and differences to an average primary school class, and therefore it should be possible to find relevant results and to implement successful methods for teaching relevant topics. For our topics, we focus on both commonly used computer tasks and also not-so-commonly used but highly interesting computer topics with the hope that we can keep the students' interest and thereby create the communication which is our overall goal.

Keywords: computer club, primary school education, multiculturalism, hands-on-teaching.

1 Introduction

Since the turn of the century, Japan has continued to be a world leader in science and technology, and because of this the trend of multiculturalism continues rapidly. For this reason, it is becoming more and more important to become familiar with computers and technology, and also being able to interact with foreigners from a young age.

To help in this role, this project was started in September of 2003, consisting of a small group of foreign exchange students, primarily from Australia and more recently other western countries, who spend time developing lessons for primary school students, building on techniques that were used in their respective home countries. This creates an interesting learning scenario for both the primary school students and the foreign exchange students.

More recently, the project has delved more into the aspects of teaching subjects that are more connected with the University of Electro-Communications, in the field of technology such as computers. This creates an interesting and relatively unique learning/teaching environment which is then studied and improved. Foreign residents in Japan often teach English in primary schools, however it has been found that this year's classes, which are taught completely in Japanese, have a somewhat different dynamic that is worth observing

and drawing from. More specifically, in both the Fall of 2006 and the Spring of 2007, the project taught approximately four classes of forty minutes each at Sugimori Primary School. These classes are in the form of an elective "club" which is called "Computer Club."

A student of any grade from four to six can join the club, creating yet another type of learning environment than the more traditional English course being taught by a foreign resident. In the Fall, the project's classes were taught by four members, one ten minute and one forty minute class each, whereas in the Spring all four classes were taught by a single member. The concrete topic that was taught this semester was the basic usage of digital cameras and how to use the PC to enjoy the photos that were taken, and the abstract topic of copyrights was also incorporated.

2 Objectives

The objective of the Sugimori Primary School Project is to create a method for UEC exchange students to experience and examine the Japanese education system, while at the same time using foreign methods to improve upon the system and also to improve upon themselves. At the core level, the purpose and objective is to improve communication and multiculturalism in the classroom. By teaching the kids about subjects they are interested in, in this case computers, it is hoped to have an impact on their perception of foreign students, foreign teaching methods, and perhaps even have a slightly more objective outlook on their own heritage.

A more concrete objective for this semester was for the children to become familiar with how to make full use of a digital camera, from shooting to photo album printing, and for those who are already familiar to improve their skills. Also set as an objective was to use this scenario as a way to simply explain the concept of a copyright to the children, which will be elaborated on later.

A final objective was to improve the project member's multiculturalism through researching his own country's teaching methods and comparing the ideas and effectiveness of them with traditionally Japanese methods. Included in this is a study on communication skills, which as was made clear in the Fall, is not simply a matter of Japanese language ability; especially when communicating with kids, a more robust method is absolutely necessary

3 Class Outline

The project taught four classes, on four consecutive Mondays, during the time slot of the computer club. The club was also visited for introductions on the opening day. The first two classes were taught at the beginning of the period and were only ten minutes each. The last two classes were taught for the entire period, roughly forty minutes each. The final class taught was also the final day of the club. The content of the classes consisted first of taking photographs, then gathering them, and finally arranging and printing a photo album, which was made up of photographs chosen from the entire class's photographs.

First Ten Minute Class: Introduction of the assignment, how to use the camera, and first photoshooting.

Second Ten Minute Class: Continuation of photoshooting and short introduction of download.

First Forty Minute Class: More concrete explanation of copyright, began creation of photoalbums.

Second Forty Minute Class: Completion of photoalbum and review of copyright.

Due to the fact that the first two classes were only ten minutes long, it was decided to keep the task simple and not to fully explain the idea of copyright. However, because it was intended to have the children complete an exercise in copyright protection, they were instructed to complete a log while taking photographs during both the first and second classes. On this log, they were to write the file number of each photograph, who took the photograph, and what was pictured.

Figure 1: Photo Log. Left, image number. Middle, photographer's name. Right, photo subject.

After the second class, all the photos were gathered, about fourty in total, then the name of the child who

took the photo was saved inside each file. Then during the third and fourth classes, when the children were to create photo albums, they were instructed to get the photographer's permission before using their photo. They were to show this permission in the form of a signature or mark on another logsheet. Through this simple task of creating a photoalbum, the children were able to get first hand experience and understand a complex idea like copyrights.

4 Goal Description

This semester, the project set five major goals for the children. The first three are the technical content, which for this semester was all about digital cameras. The fourth goal focuses on the more abstract concept of a copyright and how to use one, and the fifth goal is the overall goal regarding communication and multiculturalism.

Goal 1: Basic Camera Mastery

This consists of how to power on a camera, how to focus, how to zoom in and out, etc. The main point to be emphasized was to hold the camera firmly in order to reduce blur.

Goal 2: Fundamental Windows Skills Improvement

This goal includes the process of copying image data from a camera through the use of a card reader. Previous project members have shown that children's ability to multi-task with multiple windows is quite limited, so it was aimed to give them an opportunity to practice this. While having the software open to create the photo album, the children would be instructed to have another normal explorer window open in the folder with all the photos. In this window it would be instructed how to display the embedded photographer name data. This point (displaying, hiding, and sorting file properties) is also one of the predicted difficulties, since it is expected that the children have little to no experience with this concept.

Goal 3: Design a One Page Photo-album

Using the software available on the student computers, which is oriented for children's use (see *Environment Details*), the basics of creating a photoalbum (with or without a template) would be taught. The design aspect was left to the children although it would be emphasized to write the credits and caption for each photo. The major difficulty here was predicted to be how to set the software up in a way to easily insert the images from a network location.

Goal 4: Experience the Idea of Copyright

By using a relatively simple and fun task such as taking photos and creating an album, a firsthand experience of the idea of a copyright would be instilled in the childrens' minds. Before using another person's photos in an album, that person's signature would be required. Also because each student was only to take two photos, it was guaranteed that all students would be forced to ask someone else for permission.

Goal 5: Multiculturalism

This goal focuses on affecting the Japanese learning environment in such a way that having a foreigner as a teacher does not seem extraordinary or automatically imply an English lesson. Through the member's experiences at four separate Chofu primary schools, and also experience with children in various other parts of Japan, it became apparent that the most common reaction of children when they see a foreigner, especially a westerner, is to treat them like a celebrity.

This fact stands out as a point where an improvement in multiculturalism can be made. The overall goal this year in the project is to affect the children involved in such a way that if they meet another westerner they will be able to use a better method of communication.

Also for the goal of communication, it was set as a goal for the member to follow the project's focus on primitive communication with children - that is, communication without dependance on Japanese language.

5 Goal Realization

5.1 Basic camera operation: no problem

This goal was fully accomplished. All the students were able to take the required two photographs without any major problem. As instructed, they made sure to use a firm hand, and in the end, there were no overly blurred photographs.

One area of improvement for this goal would be to include a few more aspects of digital photography that are always available independant of the camera. For example, the proper usage of the flash should have been taught, as one group had some trouble getting the desired results. Also, the convenience of the ability to delete photos that aren't the desired result should be emphasized more.

5.2 Multi-tasking difficult, but file properties understood

This goal was only partly accomplished. As previous project members have stated in earlier proceedings,

teaching the students how to effectively multi-task can be extremely difficult. The same results were found, as only a very small number of the students completely grasped the multi-window idea that was taught. Recognizing this, it was decided to display the same information through the projector. The children who chose not to use the multiple window or project approach figured out who took the photo simply by asking peers.

Accepting that multi-tasking is fundamentally difficult for children of this age, in the area of displaying special file properties in an explorer window, the goal was mostly accomplished. Though it was difficult for the children to understand by explanation, by actually going to their computer and teaching the idea to them face-to-face, they were able to grasp the concept.

5.3 Creatively designed photo-albums: simple, easy

This goal was also fully accomplished. All the students were able to complete the most basic steps of the album in the allotted time. This included choosing or designing a template and inserting the photos. Almost all of the children completed the task of inserting the photographer's name credit, however the task of marking the name in a way that identified it as a credit was only accomplished by a few. This could be due to the complexity, or also a result of the way it was instructed.

For future lessons, it is recommended to show a fully complete example as a model. However, this might cause the undesired effect of limiting the children's creative freedom. For example most students used the album templates described in the lesson, however a few students created their albums completely from scratch.

5.4 Others' copyrights: protected, borrowed, recognized

This goal was also fully accomplished. While the detailed aspects of copyrights was not completely understood by all the children, as was evident on the worksheet where it was asked that the child write the definition of a copyright, all children were able to get a firsthand experience asking for permission to use a copyrighted image, which was the goal in this regard.

The expectation was that the idea would be new for all of the children, however surprisingly, some of the children already had a solid grasp on the concept. It is likely that these children were instrumental in assisting the rest of the class.

Interestingly, although it was only requested that as permission one should give a signature, several children chose to use special symbols or writing styles to symbolize their permission, however understanding to

keep their mark consistent for verification. One example was a student who wrote "Very Very Good" in Japanese katakana. Other examples were signatures written in western style (cursive), standard Japanese signatures, or a picture of a hand giving the peace sign.
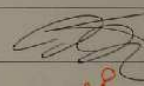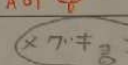

Figure 2: Permission Log. Left, image number. Middle, photographer's name. Right, photographer's permission (sign)

Figure 3: Another Permission Log

5.5 Successfully established a familiar, multicultural classroom

This goal was fairly well accomplished. While it is hard to evaluate how much actual effect the project had on the childrens' world-view or perception of their own culture, the difference of the childrens' behavior at the end from the beginning of the semester is obvious.

At the beginning, the children were very quiet and hesitant to answer questions from the foreign student, even in a one-on-one private situation. However, near the end, the foreign student and guests had established a repoire with the students, and were able to communicate even with little Japanese language.

Based on discussion with Japanese educators, this has been identified as a result of Japanese culture - specifically the tendancy to quietly and inactively observe a situation before risking embarrassment. In

other words, since the children likely have no experience engaging in such a situation with a foreigner, they are extremely hesitant to express themselves.

This is a contrast to how an American child might act, because since an American child most likely has experience interacting with foreigners (or more likely, has no instinct as to who is a foreigner and who is a native), they would be more likely to treat a foreign teacher with the same familiarity as a native teacher.

While it cannot be said with certainty, it is believed that the students involved with the project will be able to continue to communicate with familiarity even with foreign students.

6   Thoughts and Future Work

While this project has several goals both concrete and abstract, the most important of these is the promotion of multiculturalism and communication starting at the primary school level. For this purpose, one method that was extremely effective this semester will be offered here.

Basically, in order to rapidly establish a repoire with the students, a teaching method that implements face-to-face or hands-on learning as much as possible should be used.

Last year, when there were four members in the project, each member only had to teach one class. For this reason, each class was thoroughly thought out and planned. The lessons mostly consisted of a long and detailed powerpoint or demonstration at the front of the classroom. While this teaching method has its values, it was found last semester that even at the end of the semester, it was still had to get any reaction from the children; asking questions would always be answered with silence, no matter how simple or obvious the answer.

In contrast, this year there was only one member in the project teaching four classes, and therefore the level of preparation and written materials was uncomparably less. While this at first was thought to be a weakpoint, it was found through the semester to be the key to establishing communication. Since the spoken lesson or demonstration was very short and/or simple, all of the complicated or unclear parts of the task had to be explained on a one-to-one level; without asking the foreign teacher and guests questions, the children would not have been able to complete the photoalbum task.

So in conclusion, while it is not recommended to purposefully underprepare, it is strongly recommended to keep any lecture or demonstration as simple and short as is absolutely possible. Take advantage of the problems that will arise, or the obvious difficulties of the topic, as an opportunity to open or strengthen communication between the foreigner and student.

7   Acknowledgments

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8   Environment Details

Sugimori's Computer Club PCs are Intel-based Windows machines, running a shell that is designed for primary school children. A large variety of software that is easy for kids to use is laid out through a customized menu system.

8.1   Digital cameras used

This semester, the club's cameras were used. There were four in total, all the same model of National Panasonic SD memory cameras. The features on the cameras were quite limited, although plenty for basic mastery

8.2   Image transfer

The club's NEC multi-card-reader was used for transferring the images from the four cameras to the teacher computer.

8.3 File properties

All forty photos were gathered on a shared network drive, then using the standard Windows advanced properties panel, the photographer's name (in Japanese kanji) was stored.

8.4 Photo-album creation software

For the purpose of creating the photo-albums, the children used software inside the office suite "Just Smile."

References

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