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PRACTICE OF TABLET DEVICE CLASSESIN KEIO YOCHISHA PRIMARY SCHOOL- ICT EDUCATION FROM PRIMARY SCHOOL FIRST GRADE

Tsugumasa Suzuki
Keio Yochisha Primary School, Tokyo, Japan
deniro@yochisha.keio.ac.jp

Abstract

This research is an ongoing project started in September 2013 at Keio Yochisha Primary School, involving a continuing series of classes taught to a group of thirty-six second grade students, utilizing tablet devices which have been provided for each student in class from the first grade until the present. These students have already been taking classes that use tablet devices for a total of eighteen hours during their first grade. The purpose of this research is not only limited to development of certain skills, such as ICT literacy and twenty-first century skills, but the research also focuses on the introduction of tablet devices as new stationery. Most standard and general tablet functions were selected and tested for the classes. Drawing applications, digital cameras, movie shooting applications and drills have been utilized over the course of the project. Students continue to take classes on how to use tablet devices after moving up to second grade (thirty-one hours total). Results from t assessment of activities in these classes and questionnaires given to students at three points in the first grade suggest improvements in their personal ICT skills. To students, ICT is no longer a set of special gadgets, but has started to become part of their familiar, everyday learning. In this presentation, the process of how such change occurs is described.

Keywords
Primary Education, ICT Skills, Tablet Devices, Learning Style

1. Introduction

The purpose of this research is to develop ICT skills and literacy at students‟ early age. This attempt was made through providing a tablet device and a set of digital learning materials for each first grade student at the time of their entry into regular primary school classes, and continuing to provide such educational practice in their regular courses.

In recent years, introduction of ICT in educational environments has become very popular. Furthermore, with respect to computerization of education, as well as education using ICT such as IWB or tablet devices, Japan is actively promoting these advancements as national policy, and their importance is increasing. On April 28, 2011, “A Vision for Education Informatization” [1], a summary of comprehensive policy and strategy on „informatization‟ of school education (for primary and secondary school education) was presented. There are also experimental studies by individual ministries such as “Future School Promotion Project” initiated by the Ministry of Internal Affairs and Communications in 2010, [2] and "Business Innovation of Learning" by the Ministry of Education, Culture, Sports, and Technology in 2011.

[3] Currently, there are various action researches on: electronic whiteboards, wireless LAN environments, education clouds, and education through the distribution of one information terminal per person. It should be noted that while many of the ICT related action researches in these high-technology projects are targeted at upper primary school grades and older, the target of this research is a lower grade group, and therefore has significance in that respect.

2. Education System at Keio Yochisha Primary School

One of the characteristics of the education system at Keio Yochisha Primary School is that there is no class change: both students and homeroom teachers remain the same throughout their entire six years of schooling. This means that while the homeroom teachers‟ responsibilities are great.

The teacher (this author) of the second grade class (thirty-six students) has not changed since first grade, and as a general rule, will continue to teach the students until their graduation at the end of the sixth grade. In this class, each student was provided a tablet device during their first grade year from September 2013, as part of a joint research project with Keio University Graduate School. The goal is to familiarize the students with the use of tablet devices from the early primary school stage, and to have them actively utilize various types of ICT instruments in various learning situations as a

new type of stationery during their six years in the school.

3. System Environment

ASUS Te K Computer Inc.‟s Android products were chosen as the students‟ tablet devices. A special storage cabinet and charging cabinet have been hand-made.

The devices are configured so that iPad, Android, PC and other screens can be projected onto electronic whiteboards or projector screens by a single-touch operation using Apple TV and Miracast compatible wireless HDMI adapters. Cisco Systems, Inc.‟s wirelesses AP were also installed in order to create a stress-free, high-speed wireless LAN environment in the classroom. For the purpose of nurturing awareness that use of tablet devices is not special, but ordinary, only inexpensive or free applications with minimal functions that are very general or standard were chosen. Learning methods that fully utilize the advantages of tablet devices, such as intuitive operation and light weight (mobility), are currently being explored: for example using drawing applications, digital cameras, movie shooting applications, and workbooks.

4. Practice

As stated earlier, the class taught by the author already had a total of eighteen hours of classes using tablet devices during the students‟ first grade of primary school (September 2013 – March 2014).[4] Table 1 shows the description of each class.

Instructions on how to use ICT devices were kept to a minimum, so that the students could develop ICT skills while working through the coursework. As expected, students gradually became more familiar with tablet device operation, and became creative in the use of the devices without teachers having to teach them how.

Table 1: *First Grade Class*

Class no. Date	**Class description**
No. 1 Sept. 17	Rules and confirmation concerning use of tablet devices, how to put devices away, how to turn power on/off and other basic operation
No. 2 Sept. 18	How to take photos using camera, how to look at photos
No. 3 Sept. 27	Arithmetic: "Number Check"; Taking photos of favourite animals
No. 4 Oct. 4	Arithmetic : Creating Addition Quiz using blackboard app.
No. 5 Oct. 11	Japanese: Drawing pictures using blackboard app.
No. 6 Oct. 18	Drawing app.: Free drawing

No. 7 Oct. 25	Drawing app: Importing photos
No. 8 Nov. 15	Calculation app.: Drill (1)
No. 9 Nov. 27	Calculation app.: Drill (2)
No. 10 Dec. 4	Creating stories in groups (1): Photo taking and drawing
No. 11 Dec. 11	Creating stories in groups (2): Presentation
No. 12 Jan. 31	Studying newspaper web site (1)
No. 13 Feb. 5	Studying newspaper web site (2)
No. 14 Feb. 7	Studying newspaper web site (3)
No. 15 Feb. 19	Creating stories using sound app. (1)
No. 16 Feb. 26	Creating stories using sound app. (2)
No. 17 Mar. 5	Learning how to write using kanji app.
No. 18 Mar. 14	Reading exercises using kanji app.

During students‟ second grade, in the two-semester period from April to December 2014, a total of thirteen hours of classes were taught using tablet devices.

Table 2 shows the description of each class

Table 2: *Second Grade Class*

Class no. Date	**Class description**
No. 19May. 9	Arithmetic: learning "time": using time learning app. "Kuma Dokei"
No. 20 May 19	Arithmetic: learning "time": using time learning app. "Hanpuku Dokei"
No. 21 June 5	Japanese learning "who does what"(1): using tablet's movie app. for shooting "who does what to what"
No. 22 June 13	Japanese learning "who does what" (2): continue shooting "who does what
	to what" using tablet's movie app. and presentation
No. 23 June 19	Japanese learning using text "Swimmy": creating flip cartoon animation (using Mozilla Web-based site for creating animation on Swimmy)
No. 24 June 26	Japanese learning using text "Swimmy" (2): continue creating flip cartoon animation (using Mozilla Web-based site)
No. 25 July 3	Exercises using kanji app.
No. 26 Oct. 23	Practicing flick input (1) “Typ Gage” “TYPROID”
No. 27 Oct. 29	Practicing flick input (2) “Flick Master” “My Typing”

No. 28 Nov. 12	Self-photo shooting and posting, and inputtingself-introduction using flick input method and sending to education SNS "Edmodo"
No. 29 Nov. 13	Photo shooting and posting and writing description using flick input method on topic of autumn and sending to SNS "Edmodo"
No. 30 Dec. 12	in Japanese class, to create original rakugo (Japanese comical stories) and sending to education SNS "Edmodo"
No. 31 Dec. 15	creating further rakugo stories using "reply" function of “Edmodo".

5. ICT Skills Survey

In this chapter, I will discuss the teaching practices of the tablet devices from three perspectives:- performance based assessment, questionnaire, and observation. Students began to take advantage of the tablet device as new stationery, as they gain more experiences. The students were able to learn a variety of skills and knowledge. Students learned ICT skills and literacy as summarized following: (1) How to use the tablet's built-in camera, (2) How to take photos using the camera, (3) How to view the photos, how to delete them,(4) Importing, modifying, and editing photos, (5) Sharing of image data,(6) How to share and present the data already edited and modified, (7) Use of application for arithmetic drills and Kanji learning, (8) Working on arithmetic and Kanji study exercises, (9) Browsing internet websites, (10) Composition of newspaper article summary from web sites, (11) Selection of media using the web site and the Japanese of notes, (12) Presentations and information sharing of newspaper summary using the web sites, (13) Sound recording and playing audio data,(14) Making a story using a sound app.

In addition, results of the questionnaires show how students changed their attitudes in their use of tablets in class. We have conducted the survey three times and we asked the same question every time. "Would you like to use a tablet in class?”Following is a summary of the surveys conducted at three different stages of the project. 1) prior to the introduction of tables, 2) after 11 class sessions over three month period, 3) after 18 class sessions over six months. The summary below shows the transformation of students' consciousness (table 3).

Table 3: *Awareness survey "Would you like to use a tablet in class?"*

Would you like to use a tablet in class?			
Number	**Yes**	**Neither**	**No**
No.1 Sept.13 / 2013	25	0	11
No.2 Dec.11 / 2013	36	0	0
No.3 Mar.13 / 2014	35	1	0

6. Summary and Agenda

As stated earlier, a tablet device was used by each of the 36 first grade students for subjects such as Japanese and arithmetic, during the fifteen month period from September 2013 to December 2014, for a total of thirty-one hours. Data such as questionnaire surveys, class records, and students‟ comments in the class were used in order to address issues such as: how to find suitable scenarios for the most effective use of electronic whiteboards and ICT instruments like tablet devices; and how to develop and improve teaching methods. Learning using tablet devices was not only shown to be possible in first and second grade lower primary school classes, but there were also improvements in these students‟ understanding and activeness. On the other hand, questions concerning students‟ interest toward tablet devices as a new form of stationery, and the more essential question of whether there has been progress in understanding learning, will require a longer period of observation and research. Furthermore, there is also a necessity for a change in attitude by the teacher (the author) himself on educational guidelines for a lower elementary class group: that teachers must also change from a one-directional, lecture-style transmission of knowledge to students, to a more interactive learning style, where teachers actively participate in the teaching process.

During these classes, tablet devices were always placed in the classrooms for students to use freely. By establishing strict rules on usage, problems that might have occurred, such as students taking away these devices without permission for purposes other than learning, were avoided. The students have started to learn how to efficiently take out and put away their tablet devices at the appropriate times during classes.

Further, the students are starting to become more knowledgeable about tablet device operation and are able to creatively utilize the devices without the teacher's instructions. This is one of the achievements of this project. In some classes, the students became the center of teaching rather than teachers, and teachers sometimes became facilitators, or, in some cases, learners along with the students.

Ideas on how to use tablet devices in school learning were invented by students themselves. For an example, in social science when students studied geography of the area students live in, they searched Google map to identify and clip to show their home town on a detailed map. Such ideas are perhaps the result of their inexhaustible desire that emerges during the learning process. Such desire of these students should not be stopped, but rather, methods to support and promote better learning should be sought. Based on class data as stated in this report, further development of education materials and studies on teaching methods should be set as a goal, as well as the continuation of data gathering and analysis of the educational effects of conducting active classes that utilize tablet devices as learning tools.

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