

Consideration on English Learning for Undergraduates Using a Portable Game Machine

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Abstract: The Nintendo DS handheld game console, which was developed by Nintendo and has been sold worldwide since 2004, is a game console which features/incorporates dual touch screens, voice-recognition features and innovative controls, and has been used not only as a video game device but also in the fields of education and as an education tool. In this study, I conducted research regarding Nintendo DS software for learning English with the objective of exploring the possibility of introducing and utilizing such software as an education tool in universities. The result was that when not only the students who were proficient in English, but also the students who initially displayed little interest in learning English using the Nintendo DS, actually started using it, they began to realize that it was fun and helpful to work with.

Keywords: e-Learning, Nintendo DS, English education, Educational technology, Educational psychology.

1. INTRODUCTION

The Nintendo DS, which was developed by Nintendo and has been sold worldwide since 2004, exceeded 30 million units in the total number of consoles sold in Japan in 2010, and its successor device named the Nintendo 3DS was also announced (Famitsu). The Nintendo DS is a game console which features/incorporates dual touch screens, voice-recognition features and innovative controls, and as Nintendo had stated its intention for it to become a "machine that enriches the livelihood of its owner," it has been used not only as a video game console but also in the fields of education and as an education tool (Iwata) (Sankei).

In recent years, as globalization progresses, the need for English communication abilities has become more and more important. There are countless paper-based exercise books published for use as educational materials. On the other hand, various educational software has been released

in recent years as a form of e-learning.

In this study, I conducted research regarding Nintendo DS software for learning English with the objective to explore the possibility of introducing and utilizing such software as an education tool in universities.

2. RESEARCH

I conducted the following two types of research on university undergraduates with regard to the use of the Nintendo DS for English education.

2.1. Research 1

First, I conducted research on whether there were any differences in attitudes towards using the Nintendo DS for education between students that were proficient in English and those who were not, and also between the different year groups.

2.1.1. Research Method

I conducted an anonymous survey using questionnaire sheets.

[Target Subject] Engineering faculty of F University located in Fukui prefecture

Freshman: English proficiency level group: A-class 21 people, C-class 42 people

Sophomore: English proficiency level group: S-class 24 people, A-class 39 people, B-class 56 people

Proficiency class grading is composed of S/A/B/C for freshman, and S/A/B for Sophomore.

[Survey period] Mid-April to Early May 2012

The questions asked included two questions concerning the Nintendo DS itself and four questions on education using the Nintendo DS.

2.1.2. Survey results and Observation

First, I asked whether they were interested in the Nintendo DS game console itself. As a result, as shown in Table 1, the Freshman A-class students showed the highest interest, with 76% of its students responding positively, followed by Sophomore S-class students with 63%. The positive rates were higher with classes that had higher proficiency. In contrast, 27% of the students in the Sophomore B-class answered "No interest," which, combined with "Not very interested," came to 60%, which was the only class for which more than half expressed disinterest in the console.

Table 1: Are you interested in the Nintendo DS?

Q. 1	Very interested	Somewhat interested	Not very interested	No interest	No answer	Total
Freshman A-class	5 (24%)	11 (52%)	2 (10%)	3 (14%)		21 (100%)
C-class	5 (12%)	18 (42%)	15 (36%)	4 (10%)		42 (100%)
Sophomore S-class	3 (13%)	12 (50%)	8 (33%)	1 (4%)		24 (100%)
A-class	2 (5%)	18 (46%)	14 (36%)	4 (10%)	1 (3%)	39 (100%)
B-class	7 (13%)	13 (23%)	19 (33%)	15 (27%)	2 (4%)	56 (100%)

Then, when I asked if they owned a Nintendo DS (regardless of the model), 57% of the students in the Freshman A-class and 67% of the students in the Freshman C-class said they owned one, showing that 10% more students in the C-class owned a Nintendo DS. For Sophomore students, 50% of S-class, 51% of A-class, and 52% of B-class said they owned one. All classes showed that roughly 50% of students owned one, and there was little difference between the different classes. As we can see in Table 1, when considering that 54% of the students in the Freshman C-class and 36% in the Sophomore B-class showed some form of interest towards the Nintendo DS, we can deduce that there are students in these classes that own a Nintendo DS but have no interest in them.

Next, I asked whether they had used educational Nintendo DS software before. The ratio of students that responded affirmatively were: 43% in the Freshman A-class, 40% in the C-class, 42% in the Sophomore S-class, 36% in the A-class and 30% in the B-class, which indicates that the ratio of students that had used such software increases along with higher proficiency levels in both year groups. Also, over 40% of the freshman students in all class groups had experience using such software, which showed that there were generally more students in this year group than among the sophomore students that had experience using such software.

When I limited the software to English educational software, the ratio of students that responded affirmatively were: 24% in the Freshman A-class, 12% in the C-class, 17% in the Sophomore S-class, 10% in the A-class and 18% in the B-class. Except for the Freshman A-class, the percentage of those that had experience using one was below 20%. Also, we can note that over half the students that had experience using educational software had experience using English educational software.

Next, I asked whether they have an interest in using English educational Nintendo DS software. As shown in Table 2, 100% of the students in the Sophomore S-class said that they would like to use such software. 76% of the students in the Freshman A-class and 54% of Freshman C-class students responded positively, so 22% more students in the higher proficiency classes in the freshman year showed an interest in using such software. While 29% of the students in the C-class said they "Absolutely (did) not" want to use such software, the percentage of students showing an interest in using such software were comparatively higher in the freshman year students than the sophomore year students, where the percentages were 38% for the A-class and 39% for the B-class.

Table 2: Would you like to use English educational software?

Q. 5	Very much	Maybe	Not very much	Absolutely not	Total
Freshman A-class	4 (19%)	12 (57%)	2 (10%)	3 (14%)	21 (100%)
C-class	5 (12%)	18 (42%)	7 (17%)	12 (29%)	42 (100%)
Sophomore S-class	3 (13%)	21 (87%)			24 (100%)
A-class	2 (5%)	13 (33%)	17 (44%)	7 (18%)	39 (100%)
B-class	3 (5%)	19 (34%)	20 (36%)	14 (25%)	56 (100%)

Finally, I asked which software they would prefer between Nintendo DS-based software and PC-based software. As shown in Table 3, students that preferred PC-based software in the Freshman A-class and Nintendo DS-based software in the Freshman C-class were both 4% higher than those who answered otherwise. For sophomores, all classes answered higher for Nintendo

DS-based software. Especially in the B-class, although 34% of the students answered “Neither,” there was a larger 30% difference between the respective preferences for the two software.

Table 3: Which English educational software would you prefer: PC-based software or Nintendo DS-based software?

Q. 6	Nintendo DS	PC	Neither	No answer	Total
Freshman A-class	9 (43%)	10 (47%)	2 (10%)		21 (100%)
C-class	14 (33%)	12 (29%)	15 (36%)	1 (2%)	42 (100%)
Sophomore S-class	14 (58%)	10 (42%)			24 (100%)
A-class	16 (41%)	12 (31%)	11 (28%)		39 (100%)
B-class	27 (48%)	10 (18%)	19 (34%)		56 (100%)

2.2. Research 2

Next, I conducted research on what the students thought after actually using English educational software, and the differences in thinking between students that were proficient in English and those who were not.

2.2.1. Research Method

After using the software, I conducted an anonymous survey using questionnaire sheets.

[Target] Engineering faculty of F University located in Fukui prefecture

Freshman: English proficiency level group A-class 10 people, C-class 10 people

[Survey period] December 11, 2012 - February 6, 2013

During said period, the period between December 11 and January 7 was considered "Period 1," the period between January 8 and 21 was considered "Period 2," and the period between January 2 and February 6 was considered "Period 3."

[Software that was used]

1. *Eigo ga Nigatena Otonano DS Training Eigozuke* (Nintendo, January 2006)
2. *NOVA Usagi No Game de Ryugaku!?* DS (Konami Digital Entertainment, February 2007)
3. *Eigo ga Nigatena Otonano DS Training Motto Eigozuke* (Nintendo, March 2007)
4. *Eigo wo Taberu Fushigi na Ikimono* Marsh (Dimple, October 2007)
5. *Zombie Shiki Eigo Ryoku Sosei Jyutsu ENGLISH OF THE DEAD* (Sega, May 2008)
6. *MottoTOEIC® TEST DS Training* (IE Institute, June 2008)
7. *Gakken Eigo Zanmai DS* (Gakushu Kenkyusha, November 2009)
8. *Steve Soleici no Business Eikaiwa Pera-pera DS Training* (IE Institute, March 2010)
9. *Eigo de Tabisuru Little Charo* (Nintendo, January 2011)
10. *TOEIC® Test Chosoku Training* (IE Institute, April 2012)

(In Software release date order)

I leased out the latest Nintendo 3DS LL console (the latest model at the time of this research) to each subject, and assigned one software cartridge chosen arbitrarily from the 10 listed in the above to be used freely at home for each class and each period. At the end of each period, I conducted an anonymous survey using questionnaire sheets. I used the same questionnaire sheet for all three periods. The questions asked included one question concerning handheld game consoles, and one question on education using the Nintendo DS, and nine questions on the Nintendo DS software that was assigned.

Software No. 10 supported 3D, so I notified the subjects using this not to use it continually for an extended period of time.

2.2.2. Survey results and Observation

First, I asked whether they had interest in handheld game consoles such as the Nintendo DS and PSP (PlayStation Portable). As can be seen in Table 4, the result was that 94% of students in the A-class and 83% in the C-class answered positively, which showed a high degree of interest for both classes. Especially notable was the A-class, where 61% of the students answered "Very much." On the other hand, 10% of the students in the C-class answered "None."

Table 4: Do you have interest in handheld game consoles?

Q. 1	Very much	Somewhat	Neither	Not very much	None	Total
A-class	18 (61%)	10 (33%)	1 (3%)	1 (3%)		30 (100%)
C-class	13 (43%)	12 (40%)	2 (7%)		3 (10%)	30 (100%)

Then, I asked if they had interest in education (not limited to English) using the Nintendo DS. As is seen in Table 5, 77% of students in the A-class and 60% in the C-class expressed interest. Especially notable was the A-class, where 33% of the students answered "Very much." However, both classes showed lower interest for the use of the Nintendo DS for education in comparison to their interest in handheld game consoles shown in Table 4.

Table 5: Do you have interest in education using the Nintendo DS?

Q. 2	Very much	Somewhat	Neither	Not very much	None	Total
A-class	10 (33%)	13 (44%)	6 (20%)		1 (3%)	30 (100%)
C-class	4 (13%)	14 (47%)	9 (30%)		3 (10%)	30 (100%)

Next, asking whether they knew of the software that was assigned to them, there were seven cases where the subject replied that they already "Knew" about it. On how they came to know about the software, six cases said they came to "Know of it by themselves or through the internet/magazines." and there was one case where it became known "Through hearing from friends."

Then, I asked whether they had actual experience using the assigned software before, and only one subject in the A-class answered positively, and it was for "Software for personal use at places such as home."

Next, I asked whether they had interest in the assigned software before actually using it. As we

see in Table 6, the result was that 64% of students in the A-class and 50% in the C-class expressed interest in it beforehand. Although those that answered "Very much" were 10% higher in the C-class than in the A-class, 27% in the C-class said they had "Not at all (no)" interest towards it.

Table 6: Did you have interest in the assigned software beforehand?

Q. 5	Very much	Somewhat	Neither	Not very	None	Total
A-class	2 (7%)	17 (57%)	4 (13%)	7 (23%)		30 (100%)
C-class	5 (17%)	10 (33%)	6 (20%)	1 (3%)	8 (27%)	30 (100%)

The results of whether they enjoyed using the software are given in Table 7. 60% of students in the A-class and 57% in the C-class said they "Enjoyed" using the software. Although the A-class has 3% more students saying they enjoyed it, the ratio of students that answered "Very" were 6% higher in the C-class. Note that in both classes, 13% of the students answered "Not very" enjoyable, but none answered "No (Not enjoyable)."

Table 7: Did you enjoy using the assigned software?

Q. 6	Very much	Somewhat	Neither	Not very much	No	Total
A-class	5 (17%)	13 (43%)	8 (27%)	4 (13%)		30 (100%)
C-class	7 (23%)	10 (33%)	9 (30%)	4 (13%)		30 (100%)

For the question regarding whether they thought the assigned software was useful for improving their English abilities, as we can see in Table 8, 83% of students in the A-class and 73% in the C-class answered that it was "useful" and 17% more students in the C-class than in the A-class answered "Very useful." Although 17% of the students in the A-class and 27% in the C-class answered "Neither," none of the students for both classes answered "Not very" or "No (Not)" useful.

Table 8: Do you think the assigned software was useful for improving your English?

Q. 7	Very	Somewhat	Neither	Not very	No	Total
A-class	4 (13%)	21 (43%)	5 (17%)			30 (100%)
C-class	9 (30%)	13 (43%)	8 (27%)			30 (100%)

However, when I asked whether they would like to use the assigned software in the future, as we can see in Table 9, only 43% of the students in both classes responded positively, while 23% of students in A-class and 17% of C-class answered negatively.

Table 9: Would you like to use the assigned software in the future?

Q. 8	Very much	Maybe	Neither	Not very much	Never	Total
A-class	6 (20%)	7 (23%)	10 (34%)	6 (20%)	1 (3%)	30 (100%)
C-class	7 (23%)	6 (20%)	12 (40%)	5 (17%)		30 (100%)

When I asked "How would you like to use it?" to those that answered positively (multiple answers allowed), there were eight cases for the A-class and nine cases for the C-class where they answered "for personal use," five cases for the A-class and three cases for the C-class where they answered "For use with friends," two cases for the A-class and one case for the C-class where they answered "For use with family members" (all three cases being "With younger brother/sister" and three cases for the C-class where they answered "For use as educational material with other people." On the other hand, when I asked the reason to those that answered negatively (multiple answers allowed), there was one case for the A-class and three cases for the C-class where they answered "Did not think it would help improve my English." There was one case for both the A-class and the C-class where they answered "The controls were too awkward," and one case in the A-class who answered "There was no game in it." There were five cases for the A-class and one case for the C-class where they answered "Others." These included answers such as "It was not very stimulating having to do voice training with a game," "The mini-games seemed like a routine exercise," "It took time to play," "I couldn't keep up with the game," and "The atmosphere was wooden." In the C-class, we noted answers such as "We were expecting a more basic kind of education, but that was not the case."

3. CONCLUSION

In this research, it has become apparent that for English education using the Nintendo DS, although both students that are proficient in English as well as those who are not showed little interest in the beginning, when they started actually using it, they began to realize that it was fun and helpful to work with. I would like to introduce this in my lectures, and to conduct research on its effect.

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