A Pilot Study to Search for Possibilities in English Study using Cellular Phones with Multimedia Function

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1. Purposes
1-1 Meet the needs of Japanese students
1. English is necessary not only for communication but for job hunting.
2. High TOEIC (test of English for International Communication) score is important to attain a successful career plan.
3. An effective TOEIC study curriculum is needed for students.

1-2 Develop a new project of E-learning for students
① Virtual University type
② Blended type
③ Transformative type
   - Integrated use of Website, Cyber Campus System (campus learning network system) & cellular phones

Figure 1 Transformative type of e-learning system

Integrated use of Website, Campus Learning Network System, & cell phones
In the classroom
At home
During commute
On campus
Any time, anywhere
2. Background of the project
Working group of mobile learning for English study at Aoyama Gakuin University, Japan.
• First project 2002-2003
• Second project 2004-2005

Take advantages of students’
• learning style
• life style
• learning preference

2.1 Use spare time effectively

Figure 2 How long does it take to get to the university?

N=89

More than 2 hrs: 5%
1-2 hrs: 34%
around 1 hr: 23%
within 30 m: 28%

More than 85% has a long ride

2.2 Use cell phones & computers effectively

Figure 3 How do you like cell phones and computers?

N=89

Use cellphone very often: 86.70%
Like computer: 72%

2.3 Use students’ interest effectively

Figure 4 What interests you about e-learning project?

N=89

Mobile learning: 62.0%
TOEIC study: 24.3%

3. First project:
3.1 Study TOEIC by computers and cell phones

Figure 5 Cell phone screen -first page
3.2 Students’ Learning style has changed by mobile learning

Figure 8 Studying by cell phones between classes, on the train, and while waiting for a friend

3. First Project:

Test score improved

T-test result showed a significant difference between pre-test and post-test (p<0.0001)

Figure 10 TOEIC test score

<table>
<thead>
<tr>
<th></th>
<th>Mean</th>
<th>S.D.</th>
<th>Correlation</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pre-test</td>
<td>30.44</td>
<td>6.697</td>
<td>.579</td>
<td>.000</td>
</tr>
<tr>
<td>Post-test</td>
<td>32.61</td>
<td>8.479</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

4. Second Project: Watching video

Figure 11 Main Usage of Cell Phones

- Telephone: 33%
- Mail: 30%
- Camera: 17%
- News/Weather report: 6%
- Music: 4%
- Train map: 4%
- Watching TV/Video: 0.2%


N=4,121

4. Study world news by computers and cell phones

News Source: ABC World News from a textbook, Kinsei -do, Japan

4. Second Project: (1)

Figure 12 Watching news clip by a cell phone and answering questions on the computer

4. Second Project: (2)

Figure 13 Listening to the news by a cell phone and answering questions on the computer

5. Results

1. Students’ responses
2. Vocabulary listening test
5.1 Students’ Responses (1)

**Advantages** of studying news video clip by cell phones

1. Good time management
   - Can study anywhere, any time
2. Convenient tool
   - Easy to handle & carry
   - Multiple functions
3. Fun

5.1 Students’ Responses (2)

**Disadvantages** of studying news video clip by cell phones

1. Expensive telephone bill
2. Limitation as a study tool
   - Requires big volume of battery
   - Small window
   - Limited file size
3. The number of owners of cell phone with camera capabilities (FOMA) was limited

5.1 Students’ responses (3)

**Figure 16** Average telephone bills/month

<table>
<thead>
<tr>
<th>Category</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Other</td>
<td>4.1%</td>
</tr>
<tr>
<td>More than $90</td>
<td>17.3%</td>
</tr>
<tr>
<td>Around $80</td>
<td>43.4%</td>
</tr>
<tr>
<td>Around $70</td>
<td>4.6%</td>
</tr>
</tbody>
</table>

5.1 Students’ responses (4)

**Figure 15** What do you think of the visual image of the cell phone?

<table>
<thead>
<tr>
<th>Visual Image</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>This could be usable for study</td>
<td>73.3%</td>
</tr>
<tr>
<td>The screen is small but necessary information is identifiable</td>
<td>87.6%</td>
</tr>
<tr>
<td>The screen is too small</td>
<td>80.0%</td>
</tr>
</tbody>
</table>

5.2 Test Result

- Vocabulary Test (Full mark = 40)
- Score improved in 1 week

**Figure 17** Vocabulary test by listening

<table>
<thead>
<tr>
<th>Category</th>
<th>Mean</th>
<th>T-test</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pre-test</td>
<td>18</td>
<td></td>
</tr>
<tr>
<td>Post-test</td>
<td>21.98</td>
<td>.026*</td>
</tr>
</tbody>
</table>

*P<.05

6. Conclusion

1. Mobile learning (Transformative e-learning system) met the needs of Japanese students.
   - Changed students’ lifestyle and learning style in a better way.
   - Study with computers in class and review by cell phones whenever and wherever they like.

2. TOEIC study and video clip study by cellular phones are added in our new curriculum
   - Cell phones are good for a small quiz style questions.
   - Video clip study on cell phones enhances listening ability.
Thank you very much for your listening.