

Developing an Online Video Presentation Evaluation System to Promote Mutual Evaluation and Survey of Operability

Shin KURATA^{a,b*}, Takashi FUJIKI^a & Masao MUROTA^b

^a*Faculty of Education, Nagasaki University, Japan*

^b*Graduate School of Decision Science and Technology, Tokyo Institute of Technology, Japan*

*shin1222kurata@nagasaki-u.ac.jp

Abstract: Today, e-learning through video-on-demand, such as MOOCs, has become popular. However, there is a problem in the evaluation of learning outcomes of the large-scale e-learning environment. This study's aim is to solve the problems related to the load on learners that affect the mutual evaluation of the e-learning environment. Therefore, we developed an Online Video Presentation Evaluation System to reduce the load on learners. In addition, we conducted a questionnaire survey about its operability for learners. Consequently, it is revealed that OVPES is a tool that can reduce the burden of conscious on learners.

Keywords: presentation, mutual evaluation, mobile learning, mobile application

1. Introduction

Today, e-learning by video-on-demand has become popular the world over. Among the most popular video-on-demand methods are MOOCs (Massive Open Online Courses). There are many MOOC users. Therefore, it is difficult to evaluate the large number of artifacts produced by learners. In the future, through the improvement of technology, there will be a variety of digital contents and not only artifacts of character input. One solution is a mutual evaluation by peer review; advantages of this method include the deepening of knowledge, gaining a new perspective, and improving learning motivation (Sluijsmans et al. 2001, Akahori and Kim 2003). In addition, mutual evaluation of artifacts is valid for the achievement of learning goals (Namatame 2004). However, it is difficult to perform learning and evaluation in parallel (Hirai et al.). It is necessary to support mutual evaluation according to the artifacts so as to reduce the load on the learners.

Though some previous research has investigated the development of an online presentation evaluation system (Pals and Shawback 2006), the research has focused on the presentation in real-time rather than on video-on-demand. Further, another previous research study has developed a system for supporting mutual evaluation (Sibasaki 2008); however, this mutual evaluation was conducted by character input on the computer. Furthermore, some previous research has developed a system operated simply for mutual evaluation (Yaegashi et al. 2006). However, it did not aim to improve the artifacts of learners. Therefore, to fill in the gaps that all the above previous studies did not address, this study aims to develop an Online Video Presentation Evaluation System (OVPES) to reduce the load on learners. Therefore, we conducted and analyzed the results of a questionnaire survey regarding learners' subjective evaluation after a trial experiment.

2. OVPES : Online Video Presentation Evaluation System

Figure 1 demonstrates the main screen of the OVPES, Figure 2 demonstrates the main screen after evaluation by the marker of evaluation on the OVPES, Figure 3 demonstrates the confirmation screen of the OVPES. OVPES is an application running on iOS, which conducts learning by online video presentation. Concurrently, it is possible to evaluate an online video presentation by using OVPES. The major features of OVPES for learners are as follows:

- marker of evaluation
- voice input
- confirmation screen

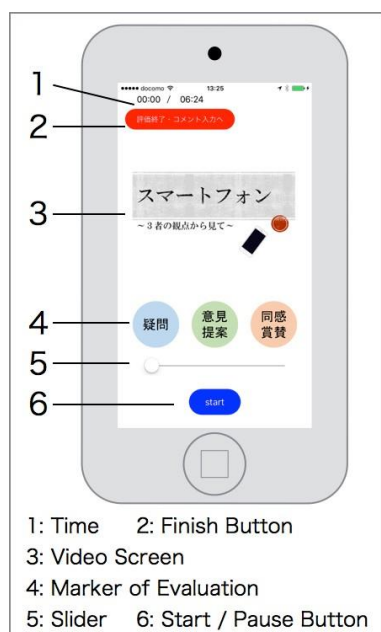


Figure 1 : main screen in the OVPES

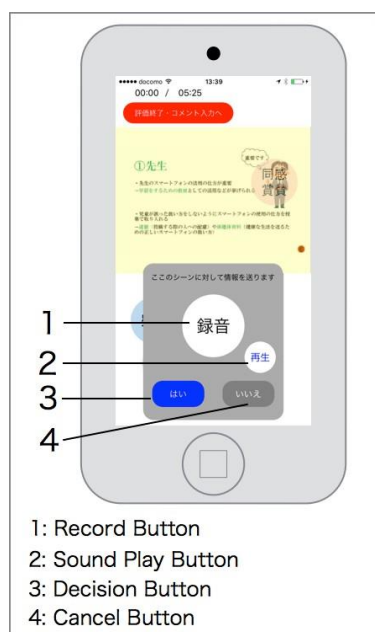


Figure 2 : main screen after evaluation by the marker of evaluation in the OVPES

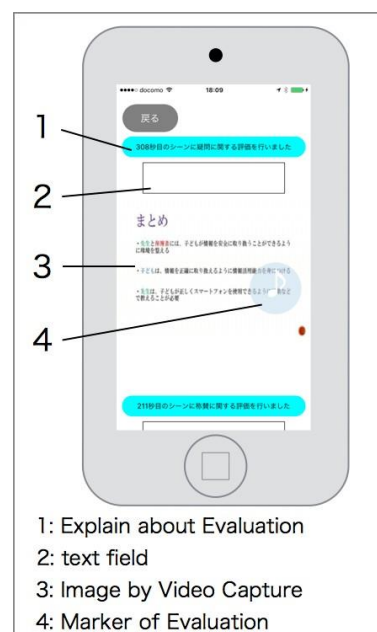


Figure 3 : confirmation screen in the OVPES

We implemented the marker of evaluation in the OVPES for the purpose of simplifying the evaluation work. It is possible to move the marker of evaluation by dragging a finger. And it is possible to insert the marker of evaluation into the screen of the online video presentation.

We implemented the feature of voice input in the OVPES for the purpose of recording evaluation work as rapidly as possible. It is possible to record the contents of evaluation by voice after evaluation by the marker of evaluation.

We implemented the confirmation screen, including images by video capture, in the OVPES for the purpose of easily checking all contents of learners' evaluation. It is possible to confirm easily using images. And, it is possible to confirm the contents of evaluation by voice easily, by tapping the marker of evaluation.

3. Survey

The flow of the survey is as shown:

- 1) Participants learned how to use the OVPES
- 2) They observed the steps of the OVPES in the sample video
- 3) They answered the questionnaire survey

We conducted the questionnaire survey with a 4th grader of university of 9 people who belong to the Faculty of Education. The content of the sample video was related to information technology. The play time of the sample video was 5:25 minutes. Major contents in the questionnaire concerned the operability of OVPES. The questionnaire comprised ten items. We undertook a questionnaire survey based on a 5-point Likert scale (5=Strongly Agree, 4=Agree, 3=Neutral, 2=Disagree, 1=Strongly Disagree).

4. Results and Discussion

Table 1 shows Subjective assessment about operability by using the OVPES. (1) In question item "I could evaluate as I had thought by using the marker of evaluation," the average value was 4.7 and the standard deviation was 0.5 (2) In question item "I didn't feel a load by using the marker of evaluation during watching the video," the average value was 4.8 and the standard deviation was 0.4. (3) In question item "I think it was easy to operate the marker of evaluation," the average value was 4.9 and the standard deviation was 0.3 (4) In question item "I think it was easy to operate the OVPES on the whole," the average value was 4.9 and the standard deviation was 0.3. (5) In question item "I could say as I had thought by evaluation through voice input," the average value was 4.7 and the standard

Table 1: Subjective assessment about operability by using the OVPES

item	AVE	STD
(1) I could evaluate as I had thought by using the marker of evaluation	4.7	0.5
(2) I didn't feel a load by using the marker of evaluation during watching the video	4.8	0.4
(3) I think it was easy to operate the marker of evaluation	4.9	0.3
(4) I think it was easy to operate the OVPES on the whole	4.9	0.3
(5) I could say as I had thought by evaluation through voice input	4.7	0.5
(6) I didn't feel a load by evaluation by voice input during watching the video	4.7	0.5
(7) I think it was easy to operate the evaluation through voice input	4.8	0.4
(8) I could confirm all of my evaluations on confirmation screen	4.8	0.4
(9) I think it was easy to enter texts in the text field on the confirmation screen	4.8	0.4

deviation was 0.5. (6) In question item "I didn't feel a load by evaluation by voice input during watching the video," the average value was 4.7 and the standard deviation was 0.5 (7) In question item "I think it was easy to operate the evaluation through voice input," the average value was 4.8 and the standard deviation was 0.4 (8) In question item "I could confirm all of my evaluations on confirmation screen," the average value was 4.8 and the standard deviation was 0.4. (9) In question item "I think it was easy to enter texts in the text field on the confirmation screen," the average value was 4.8, the standard deviation was 0.4.

The operability of OVPES was highly rated regarding the marker of evaluation, the feature of voice input, and the confirmation screen for learners. It was suggested that learners can properly evaluate as they had thought by using the OVPES from the results of the questionnaire items (1) and (5). It was suggested that learners did not feel a load by using the OVPES from the results of the questionnaire items (2) and (6). It was suggested that learners can operate the OVPES easily from the results of the questionnaire items (3), (4), (7), and (9). From these, it was suggested that OVPES is a tool that can reduce the load of consciousness on the learner. It was suggested that learners can check their evaluation, from the results of the questionnaire item (8). From this, it was suggested that OVPES does not produce mistakes in evaluation.

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