A Comparative Study of Teacher Training Formats
Blended Training vs. Face-to-Face Training

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Abstract: We examined whether an e-learning seminar in teacher training is as effective as a face-to-face meeting seminar. We compared the difference between them in the area of assessment of learning. As a result, we found that: 1) e-learning with rich-media presentation was as effective as a seminar in a meeting format, 2) exercises using the courseware and BBS in e-learning was effective to some extend, and 3) observing lessons using a TV conference system was not as effective as a seminar in a face-to-face meeting format.

Key-Words: E-learning, Teacher training, Rich-media presentation courseware, TV-conference

1 Introduction
Since a five-day school week was introduced into the school system in 2002 in Japan, it has been difficult for teachers to participate in a seminar outside of their schools because they are busy at teaching and instructing. On the other hand, seminars for teachers with 10 years experience were extended in 2003. So they have to participate in the seminar out of school. Under the present situation, e-learning has attracted many peoples attention because they can join the seminar even if they stay in their homes or schools. The survey by the federation of education center in Japan reported that the number of seminars using e-learning at education center will increase immediately from now on [1]. So we need to guarantee the effectiveness of e-learning. Then in this study we look for how e-learning was effective compared to meeting at the education center.

Nowadays various functions of e-learning are available. For example media-rich presentation, authoring tool for courseware, BBS, Chat and TV conference system are widely used in the universities and collages. Then what type of e-learning is the most effective and efficient for education center. One of us is charged of the seminar about assessment of students learning at the education center for teachers. The seminar mainly consists in three parts, presentation about assessment, exercise of group moderation, and discussion about lesson study.

In this study we are going to find out the most powerful e-learning for teachers by comparing a meeting seminar with e-learning at three kinds of, functions, media-rich presentation, exercise using
courseware and lesson study observing lessons using TV conference system.

2 Functions of e-Learning

2.1 Media-Rich Presentation
In the meeting seminar we often have presentation in front of participants to give information about the theme. It is requested for e-learning to give participants the feeling of being a live performance as well as the meeting. Then we introduced the presentation recording tool of A-company. We can synchronize their Power Pont slides and video playback. And we can edit the file and upload to the server easily. After that participants can browse the media-rich presentation in Internet whenever they like.

2.2 Exercise of Using Courseware and BBS
In meeting seminars, we usually have exercises with grouping participants. It is required for e-learning that participants join the exercise and discuss among participants on BBS as well meeting. Then we introduced the authoring tool of B-company. We can make the courseware of e-learning using the authoring tool. The participants can browse the courseware and exercise.

Then we place assignment on courseware and request them to browse it and discuss about assignment on BBS.

2.3 Discussion through TV Conference System
In the meeting seminar we sometimes use video of lesson and discuss about it with participants. It is requested for e-learning to give participants the feeling of being a live performance of lesson. Then we introduced the TV conference system of C-company. It can broadcast the video and audio of the lesson through internet. We can observe the lesson and then discuss about the lesson.

3 Methodology

3.1 Preparation
At first we recorded 4 media-rich presentations synchronizing video and slides about assessment of learning. And then we set the server computer in the education center. After that we edited the file uploaded it to the server. And then participants can browse the media-rich presentations.

Secondly we installed authoring system into the server. And we made the courseware to exercise of group moderation and placed it on it.

Thirdly we delivered TV conference software and small video camera, microphone to the participants. This system can restrict the member who can join the conference. (Fig.1)

3.2 Participants
A total of 12 teachers participated in the e-learning seminar. All of them were elementary school teachers.

3.3 Conditions
The theme of the e-learning seminar was assessment of learning. The term is May 2002 to February 2003. The objectives of the seminar were:
1) Understanding the fundamental knowledge about assessment of learning through browsing media-rich presentation.
2) Acquiring the skill of group moderation to consist teachers’ judgment through exercise using courseware.
3) Discussing about lesson through observing lesson using TV conference system.

The schedule was in Table 1.

At first they get together in the first meeting on May 23 and learned how to use courseware and TV conference.

Secondly they regularly access to the server to learn the fundamental knowledge about assessment.

Thirdly they access to the courseware to exercise the group moderation.

Fourthly they observe the lesson on the particularly day and discuss about the lesson.
Finally they got together to think back about seminar.

### Table.1 Schedule

<table>
<thead>
<tr>
<th>Date</th>
<th>Contents</th>
<th>Function</th>
</tr>
</thead>
<tbody>
<tr>
<td>1st 1 May 23 14:00-16:00</td>
<td>How to use e-learning? TV conference system Courseware, BBS</td>
<td>Meeting</td>
</tr>
<tr>
<td>2nd June</td>
<td>Presentation: fundamental of assessment of learning</td>
<td>Rich-media presentation e-mail</td>
</tr>
<tr>
<td>3rd July</td>
<td>Presentation: criterion-referenced assessment</td>
<td></td>
</tr>
<tr>
<td>4th Aug.</td>
<td>Presentation: assessment methods</td>
<td></td>
</tr>
<tr>
<td>5th Oct.</td>
<td>Presentation: raising objectivity of assessment</td>
<td></td>
</tr>
<tr>
<td>6th Nov.</td>
<td>Exercise: Group Moderation</td>
<td>Courseware</td>
</tr>
<tr>
<td>7th Dec.</td>
<td>Exercise: Moderation on the net</td>
<td></td>
</tr>
<tr>
<td>8th Jan.</td>
<td>Lesson Study</td>
<td>TV conference</td>
</tr>
<tr>
<td>9th Feb. 2 14:00-16:00</td>
<td>Conclusion of e-learning Thinking back about seminar</td>
<td>Meeting</td>
</tr>
</tbody>
</table>

### 3.4 Comparison of Methods

We ask the participants to answer some questionnaires and compare the result with the result of the meeting seminar in the past.

### 4 Experiment

#### 4.1 Media-Rich Presentation

According to the schedule on Table 1, we placed the media-rich presentation on the server and announced it by e-mail to the participants to browse and learn. The contents of e-learning were about fundamental of assessment of learning, criterion-referenced assessment, assessment methods, and analyzing the examples of assessment which the National Guideline of Japan published. After the 4 times presentations we asked the participants to answer the questionnaire in order to investigate how much they understood fundamental knowledge about assessment of learning.

#### 4.2 Exercise of Using Courseware and BBS

In this exercise, we used group moderation as an exercise. Gipps (1994) explained about group moderation. “Here examples of work are discussed by groups of teacher or lecturers; the purpose is to arrive at shared understandings of the criteria in operation and thus both the processes and the products of assessment are considered” [2]. In the process of group moderation teachers meet to discuss the assessment of their students’ work, decide on a standard and then agree on a score for that standard. This procedure is used in the some districts in the United Kingdoms, Australia and the United States. The Senior Secondary Assessment Board of South Australia (SSABSA) appears the assessment and moderation policy on the Website [3]. The purpose of group moderation is consistency of teacher judgment. Of course, in the meeting teachers get together and try group moderation.

In this study, we reproduced the process of group moderation on the courseware. To be concrete, the piece of work “Automobile Newspaper” was chosen as the assessment piece for group moderation. This is
the work of a 5th year student from Social Studies at an elementary school. We borrowed the works from the elementary school and used them as examples for group moderation. We put 7 pieces of samples on the courseware and announced the participants to browse and assess samples according to the three specific criteria were 1) Collecting information from automobile company properly 2) Using fundamental materials effectively 3) Devising the expression intelligible. (Fig 3)

After we calculated the sum and arranged them on the website according to the score, marking the lines of boundaries of A-B and B-C. Then we asked participants to discuss on BBS how they might help the student move from a C Standard to a B Standard.

4.3 Discussion through TV Conference System

We asked a participant of this seminar to broadcast the lesson through TV conference. He placed the teaching plan on the webpage in advance and other participants browsed it before observing the lesson. He showed the social studies lesson of 6th grade. 7 participants observed the lesson using TV conference system. (Fig.4)

![Fig. 4 TV Conference System](image)

5 Results

5.1 Media-Rich Presentation

We asked participants to answer the questionnaire by themselves, asking, “How much do you understand knowledge respectively?” The answer was multiple choices from 5 intervals scale, 5-Almost totally, 4-Quite a bit, 3-Moderately, 2-Slightly 1-Not at all. The score of average was in Fig.5.

![Fig. 5 Results of Questionnaire](image)
5.2 Exercise of Using Courseware and BBS
The records of each group and the average score on pieces of Automobile Newspaper are in Table 2. Some examples of description on the BBS are in Table 2.

5.3 Discussion through TV Conference System
In the final meeting, we asked participants to answer the questionnaire by themselves. The answer was multiple choices from 4 intervals scale, 4-Almost totally, 3-Quite a bit, 2-Slightly 1-Not at all. The score was in Fig.6.

![Fig. 6 Results of Questionnaire](image)

On the other hand, the average number of description which participants wrote on BBS was 1.5. It is smaller than 6.1 which was earlier average in meeting seminar. In the meeting there was a surge of enthusiasm for the discussion surrounding the samples on the desk. But in e-learning participants only wrote on BBS and there was little reaction. So we found seminar in e-learning can’t realize the eager discussion in this exercise.

As a result we confirmed that e-learning is effective as well as meeting in the exercise to some extent.

6.3 Discussion through TV conference
Only the average of question 1 exceeded the intermediate value. TV conference system at that time was not sufficient for the practical use. We found clear evidence that observing lessons using TV conference system was not so effective.

7 Conclusion
We examined whether e-learning seminar in teacher training is effective as well as meeting seminar at education center. We compared the difference between them in the area of assessment of learning. As a result, we found that 1) rich-media presentation in e-learning was almost effective as well as meeting. 2) Exercise using the courseware and BBS in e-learning was effective to some extend. 3) Observing lessons using TV conference system was not so effective.