

# Combining Music Practicing with the Submission of Self-made Videos for Pre-School Teacher Education

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**Abstract:** It has been pointed out that it is difficult to raise students' skill in piano playing within the limited hours of face-to-face lessons possible in the training of prospective pre-school teachers. It has been believed that the only solution to this problem is to increase the number of hours of face-to-face lessons. Our new approach to solving this problem is to require students to take videos of their own playing/singing and submit them to their instructors. This has led to improved skill in performing without increasing the length of face-to-face lessons. In order to reduce students' worry about using a complicated system, we used "KS20" from Company F, which offers the capability of managing information easily. The results of our trials with this approach indicated that (1) students who submitted videos 4 or 5 times made a significant improvement in their performing skills, and (2) this approach was effective in improving basic skills for piano playing and singing.

**Keywords:** educational practice, use of educational devices, education of pre-school teachers, piano playing training support, self-training ability

## Introduction

A key role played in learning to play the piano is skill transfer through face-to-face instruction. Voluntary practicing is also essential in raising the skill level. Since the 1980s there have been proposals for improving the educational programs for piano playing, and during the 1990s, there were vigorous attempts to use music laboratories (MLs) for group lessons, particularly in institutions specializing in training prospective pre-school teachers.

A music laboratory is usually equipped with some tens of keyboards. In an ML, the instructor can listen to the piano playing of individual students, and give private advice to each student. As such, an ML was considered a pioneering educational system for group training of music. MLs have been used for the training of not only piano playing but also elementary music theory, including harmony, which can be tried out using keyboards. It was thought that an ML, in which each keyboard is used by one or two students, was effective in teaching elementary music theory and piano playing because the instruction through an ML can efficiently substitute for private lessons in these areas. However, the use of ML equipment is so complicated that it imposes a considerable burden on the instructor. Also, since students' performance can be checked only during the class hour, an ML is not practical at all for classes with a hundred or so students. Consequently, there is still considerable reliance on face-to-face training when it comes to the teaching of music.

One teacher education institute used observation by others as a tool to discover problems and find solutions in one-to-one teaching of piano playing, or simultaneous piano playing and singing [1]. One pre-school teacher education institute introduced "practice record cards", on which students recorded details of practice and difficulties encountered, as part of private lessons especially for students with no prior experience in playing the piano [2]. One problem with teaching methods that rely on observation by others or on practice record cards is that students cannot check their own performance, and thus are not fully convinced by the instructions given.

We have sought to improve the teaching of simultaneous piano playing and singing in a pre-school teacher training institute. In this trial, students were required to take videos of

themselves playing or singing and submit them to their instructor. The teaching consisted of two types of lessons: group lessons and private lessons.

### 1. Teaching environment

This trial was conducted for two months (June – July 2006) for “Music for Pedology I” (a required subject for sophomores) in the Department of Pedology, Faculty of Human Development and Education, Kyoto Women’s University(KWU). Each lesson was 180 minutes long, during which both singing and piano playing were taught. The number of students involved was 105 from two courses: singing and chord harmonies. In the lesson on playing the piano and singing at the same time, students were divided into groups. We gave mid-term and end-of-term performance tests and an end-of-term written test to students to check their progress.

KWU assigns fewer hours to lessons on piano playing than pre-school teacher courses in other universities. In fact, “Music for Pedology I” is the only class available for this subject. Therefore, the primary objective of this class is to improve students’ ability as much as possible in singing to the accompaniment of the piano played by themselves. Students were allowed to select songs they would play from among those in the books of “200 Songs for Children” and “200 More Songs for Children”, which contain many songs that are regularly found in examinations for the employment of pre-school teachers, songs routinely sung in Buddhist nursery schools and kindergartens (many nursery schools in Japan are run by Buddhist organizations), and songs included in a textbook for singing lessons. The intention of selecting these songs is to prepare the students for employment examinations and practice teaching in nursery schools or kindergartens, in which they usually participate before their graduation.

Figure 1 shows differences between our approach and the conventional approach to the teaching of piano playing as well as the ICT device (KS20 [2]) used in our approach. Conventionally, one group lesson lasted 45 minutes, and lessons were given regularly throughout a semester. Mid-term and end-of-term performance tests were carried out to evaluate students’ playing ability. In such a condition, the students’ only motivation for

practice was these performance tests. In contrast, in our approach, after a mid-term performance test (last May 2006), students not only took group lessons but were also recommended to make a video of their playing/singing, made as part of

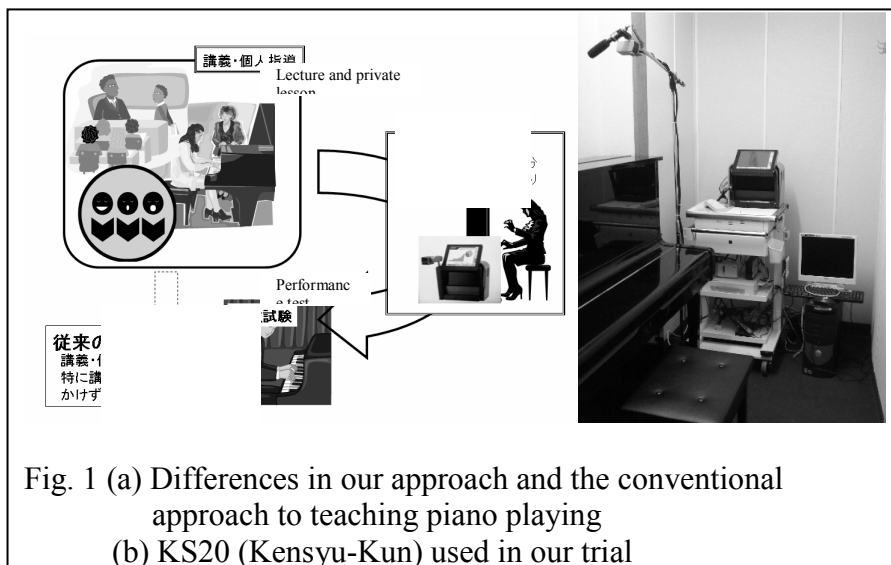


Fig. 1 (a) Differences in our approach and the conventional approach to teaching piano playing  
(b) KS20 (Kensyu-Kun) used in our trial

their practice for the end-of-term performance test, and to submit it to their instructor. Students were told that the submission of videos would add to their grade points. After these processes, the end-of-term playing/singing test was taken in mid-July.

The method of making and submitting videos was explained and demonstrated after the mid-term performance test. The operation of a content creation tool “KS20 (Kensyu-Kun) from Company F was explained to all students concerned. We thought that this would

encourage a significant number of students to practice by themselves. The following features of KS20 enables even students not skilled in computer operation to record or retrieve their own videos easily:

- The operation of video recording is the same as that of commercial video recorders.
- The user can write text into the video.
- The video recording format is MPEG2, which can be written to a DVD disk.
- The filename of the video file can be read using a bar code.

The submission by a student of the bar code output obtained after recording a video was taken as proof of submission of his or her video.

The recording of videos started in mid-June, increased in July, and peaked several days before the end-of-term playing/singing test. In order to measure the effect of making and submitting a video on improving performance skills, we evaluated three aspects in the end-of-term performance test: (1) skill in playing the piano, (2) playing posture and facial expression, and (3) skill in playing and singing together. The maximum score was 100.

## 2. Results

Using the teaching environment mentioned above, we verified the educational effect on teaching of making and submitting videos of simultaneous piano playing and singing in the education of potential pre-school teachers in two parts: group lessons and private lessons.

### 2.1 Group lessons

Table 1 shows students' scores in the end-of-term performance test after our teaching method had been applied.

The number of submissions represents the number of times an individual student submitted videos of his or her performance taken with KS20. The number of students represents the number of students who submitted videos of themselves the corresponding number of times. The standard deviation is that for the scores of the students who submitted their videos the

Table 1 Results of the end-of-term performance test in "Music for Pedology I"

Number of submissions	Number of students	Average score	Standard deviation
0	14	71.9	7.02
1	13	74.0	5.52
2	25	74.0	5.34
3	23	71.4	16.06
4	14	74.6	3.77
5	8	77.0	4.38

corresponding number of times. Since the examiners of the mid-term performance tests were different from those of the end-of-term performance tests and since almost all students took the latter tests, only the results of the latter tests are shown in the table.

The number of submissions ranged widely, from never to 10 times. However, there were only a few students who submitted videos more than 5 times. The scores of these students were not good, implying that they made many submissions in a desperate attempt to make the grade. For this reason, the data of these students is not shown in the table.

The average scores of those students who submitted videos of themselves one or more times were higher than those of the students who did not submit their videos at all. In particular, the students who made 5 submissions achieved a high average score of 77.0. The correlation coefficient between the average scores of the mid-term tests and those of the end-of-term tests was 0.66, indicating that there is a clear positive correlation between them.

The standard deviation of the scores of the students who made 3 submissions was extraordinarily high. The reason could be that this group included two types of students: one type that expected low scores in the end-of-term tests and made several submissions to make up for it, and the other type that genuinely worked hard.

## 2.2 Private lessons

After the group lesson described in Section 2.1, we gave an additional private lesson to closely examine which skills in simultaneous piano playing and singing benefited from video submission. The private lesson was given to students who failed to gain an adequate mark, and is being carried out in the period from October 2006 to September 2007. The process of the trial was as follows. After the students tried practicing for about 1.5 months, the lecturer assigned a specific song for the students to practice. Afterwards, the students recorded their performance using KS20 and submitted the videos. The performance in the videos was analyzed and resulting comments were fed back to the students by the lecturer's assistant. This sequence of video submission and comment feedback was repeated 3 times. After that, we examined whether these comments were useful and which skills in simultaneous playing and singing improved as a result of these sets of actions.

It was found that singing improved in 60% of the cases in which comments were given. In particular, problems with breathing and correctly sustaining the length of note, both basic skills, were almost completely corrected. However, problems with pitch were only partially corrected.

Improvement in piano playing was found only in 30% of the cases where comments were given. The examination of specific improvements revealed that video submission was useful for improving basic playing skills, such as keeping rhythm and reducing fluctuations in playing speed. However, problems related to the motif of music, such as "playing chords too heavily" and "lack of attention to slurs and phrasing", were not corrected. To summarize, video submissions for private lessons on simultaneous piano playing and singing was found to be (1) more effective for improving piano playing than singing, and (2) to be effective for improving basic skills in both piano playing and singing. These results indicate that if video submission is to be used in conjunction with private training of simultaneous piano playing and singing, it is desirable to aim at improving basic skills.

## 3. Conclusions

In this trial, the students in a pre-school teacher training institute of simultaneous piano playing and singing were assisted by the submission of videos of practice sessions. We examined whether the video submissions had a positive effect on students' progress, and found that students who submitted videos a number of times showed a greater improvement. In particular, 4 to 5 submissions gave the best results. Some students who submitted videos 3 times did so for the purpose of adding to their grade points. The results of our trials indicated that the training of simultaneous piano playing and singing assisted by video submission is very useful in improving basic skills in both piano playing and singing.

## Acknowledgments

This research has been financially supported by the "Design and Development of e-Learning Course on Piano Playing for Teachers and Pre-school Teachers," a Research Subject under the Program of "Fiscal 2006 Grant-in-Aid for Scientific Research" (Research No.18500742).

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