DEVELOPMENT OF A SYSTEM TO IMPROVE CLASS CONTENT BY ALLOWING TEACHERS TO SHARE VIDEO DATA OF PE CLASSES

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ABSTRACT

The purpose of this study is to develop a system to improve class content by allowing multiple teachers to share video data of PE classes and discussing this online. Initiatives to improve class content in Japan where the main focus is the teacher are known as Kounaikenshukai (In-school training program), and is highly regarded overseas under the name “Kounaiken”. However, it involves a lot of work, including prior preparation and holding discussion sessions etc. To address this problem, we developed a system that can be used online, anytime and anywhere without significant burden on those involved and which allows teachers to improve their educational practices and have fun at the same time. Online system allows the teachers to view video data from their classes and post their observations on an online computer screen (identify areas that can be improved). In response to this post, several other teachers make comments identifying areas where the teacher could have done things differently (discussion of areas that could be improved). Following this discussion, the participants can then discuss and finalize improvement strategies. Each of the three teachers accurately identified areas of their own classes that could be improved. Teachers were able to identify scenes from the video which typified the areas which could be improved and discussions concerning these proved to be productive. The three teachers provided identical improvement strategies over the course of the discussions which provided specific steps to improve class content.

Keywords: PE classes, teacher training

INTRODUCTION

The purpose of this study is to develop a system and examine how efficient it is in improving class content by allowing multiple teachers to share video data of PE classes and discussing this online. Past methods used to increase the competence of teachers include reflection using photographs and interviews (Tsangaridou and O’Sullivan: 1994), structure analysis using feedback (Tan: 1996) and constant document comparison (Rovegno: 1997) etc. There have also been numerous methods trialed in Japan, including the analysis of teaching techniques focusing on the interaction between teacher and student (Takahashi: 1989, 1991) using video images to facilitate teacher stimulation (Nakai: 1999), methods to increase the competency of trainee teachers using mock classrooms and mentors (Kihara: 2002) (Matsuda: 2004) (Hino: 2004), research to increase teacher awareness through classroom incidents (Koto: 2004) and recognition methods to identify implicit knowledge through a process of self reflection using VTR images to prompt teachers to reflect on what they were thinking at certain points throughout the class (Nishihara: 2008). While each of these is used as methods to enhance the competency of teachers, this study focuses on a system to support the improvement of class content in distributed environments where all the teachers are not gathered in the one location. We believe that by adapting the above methods to incorporate video systems, we can expose implicit knowledge, take measures to improve class content through daily teaching activities and enhance the competency of teachers and their colleagues. Initiatives to improve class content in Japan where the main focus is the teacher are known as Kounaikenshukai (In-school training program), and is highly regarded overseas under the name “Kounaiken”. However, it involves a lot of work, including prior preparation, preparation of teaching aids and holding discussion sessions etc. and therefore is difficult to implement on a daily basis. As a result, more recently action research (McNiff & Whitehead: 1996) is being practiced in Japan. However, while action research can be implemented on a daily basis it requires considerable time and effort of teaching staff at the school and collaborative partners (university researchers). To address this problem, we developed a system that can be used online, anytime and anywhere without significant burden on those involved and which allows teachers to improve their educational practices and have fun at the same time.

METHODS

Study Participants

Elementary teacher A ([Male] with 3yrs teaching experience: participating in the study for the purpose of research into implementation into PE classes)

Elementary teacher B ([Male] with 12yrs teaching experience: participating in the study for the purpose of research into implementation into PE classes)

Elementary teacher C ([Female] with 15yrs teaching experience: participating in the study for the purpose of research into implementation into math classes)

Elementary teacher M ([Male] with 25yrs teaching experience: supervisor (management position responsible for the instruction of teaching staff) participating in the study for the purpose of research into implementation into PE classes).

Method

1. Teachers A, B and C took turns teaching the class (2 x 45min sessions each).
2. Teachers A, B and C uploaded the video data from their classes to a computer video system.
3. Teachers A, B, C and M discussed the video data and worked together to develop and finalize improvement strategies.

Video system to improve class content

1. Teachers create reports outlining issues they are aware of in their own classes.
2. In response to this report, the other teachers post their opinions and suggestions for improvements.

*When teachers are reading the reports, they are able to jump to the relevant section on the video (watch the relevant section on the video).

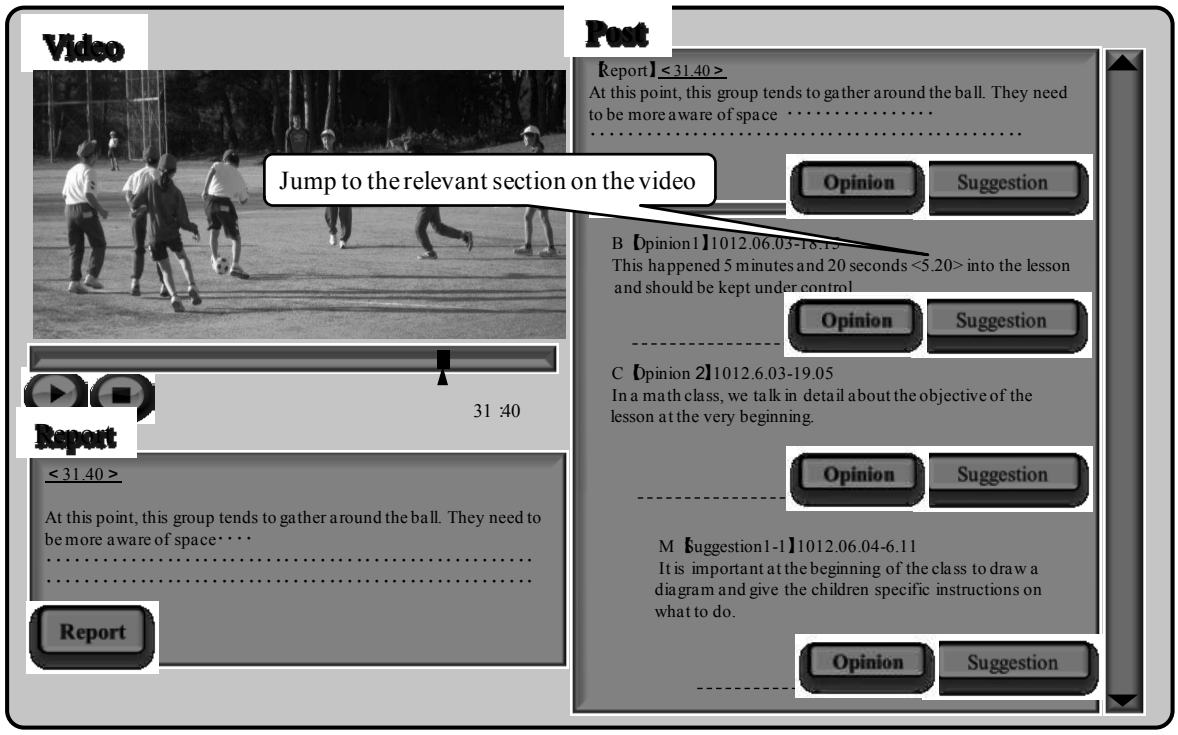

Fig.1. Video system to improve class content

RESULTS AND DISCUSSION

The number of areas reported totaled 5 (average per class) and the number of opinions and suggestions posted in response totaled 18 (average per class). Teachers M and B posted more opinions and suggestions in response to the classes taught by Teachers A and C. The content of these posts was diverse, covering topics from class management, teacher approaches, the relationship between the circumstances surrounding the children and attributes of the teaching material, maintaining a certain degree of exercise/activity, and the relationship between the objective of the class and the class content. Teacher A posted numerous comments on his own class and that of Teacher C with numerous opinions about class management and circumstances surrounding the children and attributes of the teaching material. Teacher C posted numerous opinions in response to Teacher B however these opinions did not concern the HPE class, but rather pointed out differences between math classes and personal impressions. Comments posted by Teacher M and Teacher B directed at Teacher C were largely comprised of posts concerning class objectives and content with suggestions made about how to correct the ambiguity of the objectives and how to improve class content. Comments directed at the class taught by Teacher A by Teacher M and Teacher B largely concerned teacher approaches and student involvement. Suggestions were made about how to interact with the children to facilitate cognitive activity by better planning classes. For example, the diagram illustrates the opinions and suggestions posted in response to Teacher A's class. In his report, Teacher A commented that "At this point, this group tends to gather around the ball. They need to be more aware of space…" In response to this report, Teacher B posted an opinion about the teaching approaching stating that "This happened 5 minutes and 20 seconds into the lesson and should be kept under control." Further, Teacher C also gave her opinions about the differences between HPE classes and math classes stating, "In a math class, we talk in detail about the objective of the lesson at the very beginning." In response to the opinions of these two teachers, Teacher M stated that "It is important at the beginning of the class to draw a diagram and give the children specific instructions on what to do. Another problem area that was identified was that some children seemed reluctant to participate in the game. In scenes from the video that demonstrated this, teachers identified particular scenes in which children should be given more time with ball, or scenes in which the children were lazy or reluctant to participate. As a result, the teachers devised specific steps to improve the class content which included, reducing the number of students in the groups to allow them more individual time with the ball.

As illustrated above, this system creates an environment where it is possible for teachers to post opinions and suggestions on how to improve class content in response to reports posted by other teachers and is functioning effectively.

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