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A Reflective Experience and Strategies of Video Recording Analysis for Improving Instructions in a University

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The purpose of this study was to reflect on the experiences of a video recording analysis program for a university level class and to provide some program improvement strategies. The video recorded class was one of the classes the researcher taught in a National University of Education in the southern part of Korea. The class was consisted of 40 senior students. The video recording took place twice in the regular classroom. The researcher analyzed the video by using two tools, the checklist and reflective worksheets with 34 questions within 5 different elements to review (procedure, contents, methods and materials, interaction, attitude and movement). The positive side of this video recording analysis experience was that it extended the instructional style information beyond students' evaluations. In general, course evaluation provides information of students' satisfaction, but the video recording analysis gives a lot more practical details for the effective and ineffective elements of the class. In the meantime, the analysis tools were too focused on the less significant external factors such as teaching skills and methods. Besides, recording merely twice was insufficient to understand the teaching styles and patterns in order to make practical improvement suggestions for the class. The specific suggestions for the problems were discussed.

Keywords: video recording, analysis of instruction, higher education

Introduction

Recently, improving instructional quality in higher education have become a major concern among most universities and colleges in Korea (Lee, M., 2011; Lee, S., 1997; Min, 2010; Son, 2003). The role of professors usually consists of three folds, education, research, and community service. It would be ideal that these three elements of the role are well balanced. However, this had not been the case and the efforts of professors' work were overly weighted toward the research part. That was because the performance evaluation was based too much on the research outcomes. As a result, satisfaction and performance levels of higher education students had been shown to be relatively low.

Luckily, from the recent years, people have come to reconsider the importance of teaching in higher education. Universities nowadays are striving to keep pace with improving instructional qualities. One of the major efforts they have made for this trend was to initiate a CTL (Center for Teaching and Learning) in many universities in order to assist teaching in more systematic ways. Around 150 universities among 250 have opened an institution or organization similar to the CTL within last 5-10 years. Then, the method of video recording analysis became a popular way of assisting professors to take a deeper, more insightful look into their teaching and obtain some improvement strategies.

The researcher teaches students as a professor in a National University of Education (GNUE) and also is in charge of the CTL in the school. The researcher is a user and a provider of the CTL programs, which improves teaching methods and quality. In particular, as a researcher myself, I tried to experience the video recording analysis program for one of the classes in the view of two sides, professor of a class and the provider of teaching improvement services. This study describes the researcher's actual reflection experiences for the video recording analysis and provides some improvement strategies and alternatives for the problems of the program in order to support teaching with more practical services.

Status of CTL and Video Analysis of Instruction

Service Status to Improve Instruction in Universities

In regular universities. Most of the universities in Korea have been providing and supporting a number of programs for professors' instructional improvement efforts by running the CTL. About 150 universities (60%) have set up the CTL within the last 5-10 years (Lee, 2011). Each school has 5-10 professional employees for various services and technical support. Figure 1 shows that many of the higher education organizations have made active investments and efforts so that faculties could improve their instruction in many ways.

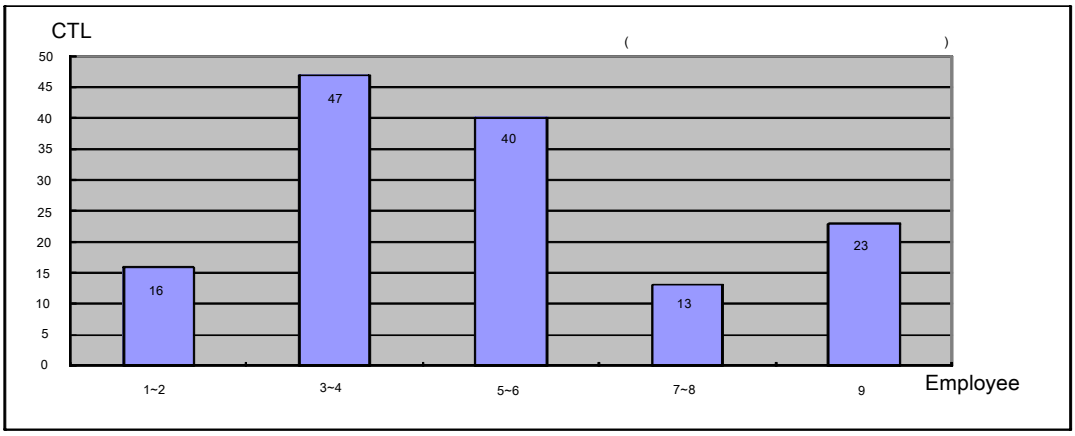

Figure 1. Number of CTL and employees as of 2010 (Lee, 2011)

Table 1 shows the common CTL services for faculties and students for improving instructional experience.

Table 1. *CTL Programs in Most Universities*

Services for professors	Services for students
● Training for instructional strategies ● Video recording for instruction analysis ● E-learning content development and operation. ● Training media uses ● Student Evaluation for classes	● Training for learning strategies (note taking, time management) ● Peer tutoring ● E-learning class management ● Training media uses

In elementary education universities. Unlike most other universities, 10 Elementary Education Universities began paying attention to faculties' teaching improvement in the recent years. Within the last two years, over 2009-2010, most of the elementary education universities had initiated the services for improving teaching strategies in ways similar with programs of the regular universities CTL.

According to Lee (2011), most of these universities provided very few programs and ran the programs without opening an official separate institution. Therefore, the service management condition was poor, leading to operation of the programs by the existing institution with unprofessional staff members. Only three elementary education universities ran CTL as of 2010 and the National University of Education where I work was one of the schools which opened the center as an official institution.

Table 2. *CTL Set Up Status among 10 National Universities of Elementary Education (2010. 11. 1)*

Universities	CTL programs are affiliated to	Official/Unofficial
S	Elementary Education Research Center	Unofficial
GI	Elementary Education Research Center	Unofficial
C	Elementary Education Research Center	Official (2010)
Ch	Elementary Education Research Center	Unofficial
K	The academic affairs office	Unofficial
J	Information and Computer Center	Unofficial
CU	Elementary Education Research Center	Unofficial
D	Information and Computer Center	Unofficial
B	An Independent Institution (CTL)	Official (2009)
G	An Independent Institution (CTL)	Official (2009)

Services to Improve Instruction in GNUE

Programs. The school's CTL has provided a number of programs and services to improve teaching strategies. The video recording analysis was one of the major services that many faculties wanted to receive the support in. Table 3 shows the services offered in details. Specific details about the service of video recording analysis were provided in the section 'Research Method' of this study.

Table 3. *CTL Programs*

Programs for faculties	Programs for students	Teaching Sources
● Training for teaching methods ● *Video recording for analysis* ● E-learning development and operation. ● Video recording for best lectures opening to the public	● Peer tutoring ● Training for learning strategies ● 3. Self-video recording and analysis for students teaching improvement	● Elementary school class video ● Student teaching class video ● Instructional strategies video & books

Numbers of participants. 35 faculties out of the total of 76 (except for the duplicate numbers) have participated in at least one program among the various ones provided. The total number of participants for different programs was 68 out of 72 professors (95%). Most participants who received the services tended to reapply for other programs. On the other hand, other faculties who had not participated in the programs were not interested in any of the other programs either.

Table 4. *Number of Participants for The CTL Programs (Total Faculties Are 72)*

Year	Teaching methods training	E-learning content development	Video recording and analysis	
			Self-analysis	Professional-analysis
2009-2	6			
2010-1	11	15	8	3
2010-2	15	6	5	2
Total	32	18	13	5

Incentives. Small funding and extra points for teaching ability evaluation were given to each participant as incentives to encourage participation. The teaching performance evaluation score is a major factor (50% out of 100%) that decide the bonus amount of each year.

Table 5. *Incentives for Participants of CTL Programs*

Programs	Contents	Extra points for teaching evaluation	Funds
Training for teaching methods	On campus training	1 point	Enrollment fee
	Off campus training		
Video recording for instruction analysis	Method A: Self-analysis (2 times) Method B: Self-analysis (1 times) Professional analysis (1 times)	2 points	\1,500,000
Video recording for analysis + open class	Professional analysis + Upload the lecture at CTL homepage	3 points	\3,000,000

Note: Teaching evaluation full marks: 25 points

Video Analysis of Instruction

Two Ways of Video Analysis of Instruction

Microteaching Analysis. Microteaching is an organized and compressed practice teaching method. It gives instructors confidence, support, and feedback through allowing them to try out instructions with the smaller groups of people as well as shorter contents of what they plan to do with their actual students. Microteaching is usually videotaped for review, step by step, with experienced teachers and colleagues.

Video Recording Analysis. In this research, the video recording means to tape an actual lecture. It gives instructors confidence, support, and feedback through providing them with a chance to review instruction with real students and go over the full content of what they plan to do with their students. Actual instruction is videotaped in full context for reviewing with experienced teachers and colleagues.

Video recording analysis of instruction in university. Video analysis has been quite a common method for developing instructional abilities for pre-service and in-service teacher education. Microteaching, in particular, used to be implemented for student teaching and teacher education over many years (Ahn, 1989; Barreto, 2008; Burns et al., 2008; Goo, J., 2004; Kim, 2008; Kwan, 1996; Shin, 2007). This video analysis method, however, was hardly popular in college instruction improvements until very recently when most universities began to provide CTL services.

There were a number of papers introducing various programs for the improvement of college instructions (Lee, M., 2011; Lee, Y., 2001; Min, 2010), but only very few researches made publish directly related to video analysis for reviewing college instruction so far. It is assumed that there are differences between K-12 and college instruction settings, which means that the focus of video analysis of college instruction would be different in some degree. In this context, the researcher ran a case study to reflect her own experience participating in video recording and reviewing self–instruction in a university. It would be beneficial to produce preliminary research sources for developing more effective video analysis approaches for instructions in a university level.

Research Methods

Class and Subjects

The recording class was one of the classes the researcher taught. The class was about Educational Technology. The class was for senior students who were supposed to go on to student teaching in elementary schools. Students must take this course before proceeding to the schools. The class consisted of 40 senior students.

Place and Video Recording

The video recording took place two times and the recording was supported by the CTL staffs. The recording took place in a regular classroom and was taped for two hours over the full instruction for each class.

Procedures

There was a number of steps to follow in order to complete the full procedures for video recording and analysis. They took place over two academic semesters in year of 2010.

Table 6. *Procedures to Complete Video Recording and Analysis*

	Steps	Contents (methods & tools)	Date
1	Apply for the program	Submit the application at CTL	2010. 4
2	Self-reflect for instruction (before the recording)	Self-checklist, reflection work sheet	1st time: 2010. 5
			2nd time: 2010. 10
3	Video Recording (2 times)	Video recording at the actual classroom using two cameras by CTL employee.	1st time: 2010. 5
			2nd time: 2010. 10
4	Video Analysis (2 times)	Class structure, content, methods, interaction, Voice tone and body language, etc.	1st time: 2010. 5
			2nd time: 2010. 10
5	Self-reflect for instruction (after the video analysis)	Self-checklist, reflection work sheet	1st time: 2010. 5
			2nd time: 2010. 10
6	Submit the full report	Video CD, Self-checklist, work sheet	2010. 11

Tools for Analysis

The data was collected by using video recording, a self-checklist, and reflection worksheets provided by the CTL. These tools were developed by GNUE CTL referring to previous relevant researches and published books (Jo, B., 2002; Jo, Y., 1993; Min, 2010). The two reviewing tools assisted the researcher in reflecting on the actual instruction in various ways and views. The researcher analyzed her own instructions, step by step, using the two tools.

Self-checklist. The self-checklist consists of 34 questions within 5 different analysis areas, such as instructional structure, content, methods, interaction, and voice & movement. This checklist has steps 1 to 5 of the Lickertis scale. The number 5 is the highest score in the scale.

Table 7. *Self-Checklist*

Analysis areas	Contents	Num. of questions
Structure	Integrity of introduction, body, and closing	10
Content	Consistency between lesson goal and content	6
Methods	The use of various media	5
Interaction	Interaction methods	6
Voice and movement	Attitude, voice, body movement	7

Self-reflection worksheet. The self-reflection worksheet also has 5 different analysis areas just like the self-checklist. However, this worksheet includes open ended questions and the researcher needs to answer them in descriptive ways rather than marking in checklist. This tool requires participants to review the instruction in a deeper manner and allows expression of their own opinions from experiences in various perspectives.

Table 8. *Self-Reflection Worksheet*

Time	Questions	Elements
Before recording	What are the strong points of your instruction?	● Structure ● Content ● Methods ● Interaction ● voice and movement
	What are the weak points of your instruction to change?	
after recording	What are the strong elements found after video recording analysis?	
	What are the weak elements found after video recording analysis?	
after completing	What are the benefits for instruction by video recording analysis?	
	What are suggestions for the program to improve?	

Research and Suggestions

Analysis Results

Results of checklist. There were no noticeable improvements or changes between the 1st and 2nd instruction analysis for 5 elements. The average scores for self-check for both times were the same as 3.96. This result might have been obtained because there were a total of 34 questions among 5 elements and so these questions are too many to show a relative change for each element. Besides, the teaching content of each lesson varied. Therefore, the procedures of the lessons were not similar. That's why it might be difficult to see a major difference for the same elements between two classes.

Results of reflection worksheet. The descriptive responses of the self-reflection worksheets (Table 8) indicated that the researcher considered the strongest point in her class the effective organization to objectives in the 'Structure'. The numeric score of the instructional structure in the checklist (Table 9) was also relatively higher than the other elements. The researcher also described that the lecture content was closely related to the actual elementary school education as another strong element. On the other hand, the weakest point of the strategies was the use of limited teaching methods. The researcher, however, made some improvement using various methods over the 4 times of video recording analysis.

Table 9. *Results of Checklist Analysis*

	Structure	Content	Methods	Interaction	Voice and movement	Average (maximum 5)
1st time (2010. 5)	4.3	4.0	3.6	4.2	3.7	3.96
2nd time (2010. 10)	4.0	3.8	3.8	4.3	3.9	3.96

Table 10. *Results of Self-Reflection Worksheet*

		Stronger points		Weaker points to improve		
		Structure	Content	Methods	Interaction	Voice and movement
1st time	Before recording	Organized effective to main objectives	Relate content to actual school	Use PPT only	limited interactions	Same voice tones
	After recording	Quite effective	Quite effective	-Fun elements -Projects	limited interactions	"
2nd time	Before recording	"	"	Use few limited methods	Much improved	"
	After recording	"	"	A bit improved	Much improved	A bit improved

Reflections and Suggestions (about Video Recording Analysis Program)

Positive Sides of Video Recording Analysis

A. Self-reflect without getting stressed. The most effective aspect of video recording analysis was, at least for the researcher, the opportunity to review her own instructions without getting stress opening the class to others for review. The self-checklist and self-worksheet allowed review about the instruction as many times as wished without any tension.

B. Review in detail. Another good side of video recording analysis was the fact that a researcher was able to see the various aspects of her own instruction beyond the checklist and worksheet questions. Generally, professors obtain students' evaluation results for instruction improvement at the end of each semester. The professors could use these feedbacks from students for finding elements to improve lectures. This method, however, has limitations in knowing various aspects of one's instruction in detail since the students usually evaluate in a rush without going enough thought to the questions.

Problems of Video Recording Program and Alternatives

A. Focusing too much on teaching methods and technics. The two tools given to review the instruction focused on teaching strategies and skills. The researcher felt that the more essential factor in improving my instructions would be certain services assisting the quality of the course as a whole rather than a number of teaching technics.

Especially, I believe that university class instructions are different in terms of many conditions from those of elementary, middle, or high school. University students are adults. They choose courses by themselves for their own purposes. They are more interested in the content of courses and how well organized the course is overall. Instructors' teaching skills could be of their least concerns. Yoo (2009)'s research also showed that teaching abilities of university faculties were influenced by lesson plans, the systematic plans of the content, interactions with students, and fairness of evaluation.

CTL, therefore, needs to expand the teaching supporting program for professors beyond simple video recording analysis in more effective ways. The researcher suggests two major alternatives in this context. First, it is necessary to support instructional design plan for a whole semester. Supporting a program for instructional design for a course plan is much more beneficial for professors rather than training simple teaching techniques. Second, it might be more effective to provide differenty phased programs. New professors and experienced faculties need different supporting programs and/or tools to improve instructions based on teaching abilities and experiences. CTL needs to provide instruction analysis services or tools in different levels so that new or experienced professors could choose the right ones based on their needs.

B. Limiting to review the whole context of instruction for a course. Video recordings twice for each semester was not enough to review the instructions overall. This reviewing process could reveal a number of strong and weak teaching points momentarily rather than look over the whole context of the instructions over an adequate time frame. CTL needs to support video recording services more than two times in a semester, so that the participants could reflect their instruction based on sufficient number of instructions over a full semester instead of a few sample classes randomly.

C. Relying on external incentives. A relatively high percentage of professors (48%) in GNUE participated in different teaching improvement programs offered by CTL for the last two years. Providing external incentives was a way to encourage professors to get involved at the beginning of various new programs. Most participants, however, got motivated by the external incentives rather than the internal intentions for a making difference in students' learning quality. Similar situation are repeated in the cases of many other universities (Lee, 2011; Yoo, 2009). On the other hand, it is necessary to reduce the incentives gradually, so that faculties engage in various programs voluntary after all in order to teach through more effective ways.

In addition, participants pointed out a number of other problems and alternatives based on their experience going through the procedures from applying for the video recording analysis to submitting the final report paper in CTL. Table 11 shows the details.

Table 11. *Problems and Improvement Suggestions from Participants*

Areas	Problems and/or Alternatives	Number of faculties
Facilities & video recording	- Recorded video screens focused multiple times on the less important parts of the instruction - Voice of video recording tape is of very poor condition - Automatic recording system is not an effective way, therefore recording by trained staffs suggested	2
Training for teaching methods	- Provide on-campus training programs to save time and money to travel a long distance for off-campus training - Provide on-campus work-shop for effective teaching methods	3
Conference and professional analysis	- Set up a conference among participants for the video recording analysis in order to share the experiences. - Provide a workshop by an instruction analysis professional to obtain deeper insight after self-reflection.	2
Time length	- Recording twice was not enough to draw meaningful analysis results. It is necessary to record many more times over a full semester in order to reflect in better ways.	3

Conclusion

The purpose of this study was to reflect on the experience of a video recording analysis program for a university level class and to provide some practical program improvement strategies. Specifically, it was to obtain improvement strategies for the video recording analysis service for professors' teaching in a University CTL, in Korea. On the other hand, the results of this study could be beneficial for most other similar CTL programs ran by other universities.

The positive side of this video recording analysis experience was that it extended the teaching style information beyond student's evaluation. In general, course evaluation provides information of student's satisfaction, but the video recording analysis gives a lot more practical details for the effective and ineffective elements of the class. In the meantime, the analysis tools were too focused on the less important external factors such as teaching skills and methods. Besides, conducting recording only twice was not enough to understand the teaching patterns in order to make practical improvement suggestions for the class. Another major problem was that most participants' decisions were affected by incentives rather than internal motivation. These problems might be inevitable at the beginning of running various new faculties teaching improvement programs in CTL until more experiences build up over the years.

The problems and suggestions made by this self-reflection experience of video recording analysis program could be a meaningful step towards making a difference in CTL programs so that they could be more effective and efficient. Then, these would be beneficial for professors' teaching improvement after all.

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