

# The Survey of the Use of Video Cases in the Pre-service Teacher Education in China

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## ABSTRACT

Traditional teacher education overemphasizes know-what and know-about attributes of theories. There is always a disjuncture between theories and practicalities in teaching education. Video case is an effective tool for teacher education to bridge theory and practice. Video cases provide pre-service teachers with early scaffolding for pedagogical preparation in respect of understanding of curriculum, teaching skills, students, and pedagogical uses of course content. This research addressed the importance of video cases and the way of using it in teacher education through combing through literature review and investigated the attitudes of student teachers towards the use of video cases in pre-service teacher education in China. It is found that 37.5% of the respondents claimed that the lack of video cases is the biggest barrier in the development of teaching competence. And the lack of practice (84.4%) and the lack of guidance from the experts (50%) are comparatively more serious than the lack of video cases. Based on the student teachers' problems and suggestions, a new teacher training model—two cycle video-case based lesson study is proposed to connect theory with practice in the present research. Video-case based lesson study allows the practice to prepare student teachers to become confident and competent novice teachers in the future.

## Keywords

Video case; Lesson study; Video-case based instruction; Video-case based lesson study; Pre-service teacher education

## Introduction

The case method was originally used in the field of law at the Harvard Law School in 1870 (Merseeth, 1991). Then it was applied to the field of business, medicine, psychology, and management and proved to be very successful. Similarly, teacher education emphasizes the practical skill in presenting explanations and organizing activities in the classroom rather than mere memorization and understanding of the pedantic pedagogical theories (Wu, 2021). Cheng (2021) believes that schools and departments of education usually do not have a distinctive form of pedagogy with which to deliver training to their students. Much of the course work found in education resembles the academic course work found in the liberal arts even though education faculties frequently have the great expectation to train professional teachers for schools. Shulman (1992) recommends that the case study is an effective tool to connect principles with practice in an “engaging, more demanding, more intellectually exciting and stimulating ...” way. Trespalacios and Uribe-Florez (2020) contends that case-based instructional method offers student teachers an important constructivist strategy to be more engaged in the learning process and to apply their emerging knowledge to tackle instructional design (ID) problems in various authentic contexts.

Therefore, the situational problem-solving cases are of paramount importance to teacher education. Cases facilitate novices to obtain the ‘situational knowledge’ possessed by experienced and expert teachers (Sithamparam, 2014). However, it failed when Holmes and his colleagues made attempt to adopt case method in teacher education in 1920s (Merseeth, 1991). Merseeth (1991) analyzed the reasons of the failure and suggested that it was essential to use this method and longer period of time (35 years) of experimentation was needed to make it thrive and mature in the field of education.

For a long time in the history of the application of cases in law, medicine, business, psychology, and management, the cases are always in the form of written text (usually stories) because of the limit of technology. With the development of science and technology, linear video cases began to be widely used in the 1990s. Since the 21st century, the development of the Internet was soaring, hypermedia video cases became more convenient and user-friendly. Dozens or even hundreds of cases are collected and stored online that allow the users to have access to asynchronously to observe, analyze, reflect and mimick at any time, even anywhere on the smartphone, laptop, or tablet devices. Vu & Fisher (2021) aver that video cases are a powerful medium for bridging theory and practice and for the study of specific dimensions that are specially designed to develop pedagogical knowledge and for practice of reflection skills.

Although many normal university students in China have access to a lot of video cases in the self-access center or national websites (e.g., <https://moocs.unipus.cn>) and learn them in the autonomous way to construct understanding of teaching in contexts, “autonomous learning” is only equated with independent self-teaching or learning alone (Yang and Qu, 2011). There are no compulsory requirements and the majority of students are slack at self-directed video-case learning in China. So, it is essential to investigate the problems of using video cases among student teachers and their expectations in employing them to better develop their teaching competence.

## Literature Review

### Definition of Case and Case-based Instruction

A case is defined as a written, problem-based description of an on-the-job teaching dilemma. It consists of four components: intention, chance, judgment, and reflection and the real beauty of cases is their potential for reinterpretation and multiple explanations (Shulman, 1992). Student teachers are guided to analyze and evaluate the choices made by teachers, the consequences of the various interpretations and decisions, and the variety of contexts in which teachers’ work operates.

In 1991, Merseeth claims that case writing entails the selection of the topic, collecting data, and presenting the results in written or videotape form. Thus, the case is not only written in nature but also in the form of videos. In the present research, the case is defined as the problem-based or specific theory-focused account of authentic classroom teaching practice in both written or video form. Cases can be used as a vehicle to explore and explicate a theory or concept presented through prior readings, lectures, or discussions. Doyle (1990) examined three images of teachers and epistemologies of practice to classify video cases into three categories. They are microlesson used to clarify precepts or to utilize teaching skills, problematic performances and sample lesson that serve as a prototype of a particular lesson.

Case-based instruction is an active-learning pedagogy designed for identifying complex problems, a variety of viewpoints through collaboration, and the reasons for classroom teaching practice and potential creative resolutions (Lyons and Bandura, 2020). Thus, the case study may be used to examine, practice, or develop specific teaching behaviors and actions before actual experience in the classroom and help student teachers refine decision-making and analytical skills. In the present research, we try to propose a model of using video cases to help students instantiate the theory or concept they have read or learned and imitate the prototype cases to develop their analyzing skills and decision-making abilities in specified contexts in education.

### Research on Case-based Instruction

As been mentioned above, the application of teaching cases in the training of teachers can be traced back to the 1920s at the Harvard School of Education. It did not gain widespread acceptance at that time and failed to resurface in education until the 1990s (Merseeth, 1991). Since the 1990s, more researchers began to introduce the case method, define the key concepts, and analyze the significance of this method in teacher education.

### Research to Popularize Text-case Based Instruction in Early 1990s

The early research focused on introducing the history of case-based research and preaching the importance of using text cases in education (Carter & Unklesbay, 1989; Doyle, 1990; Merseeth, 1991). Carter and Unklesbay (1989) investigated the prospects for case development and the application in teacher education in view of lessons that could be learned from the law. They found that there is no highly developed or organized way of compiling a corpus of cases

that could adequately represent teaching in different situations. Teachers had better find ways to obtain the cases that are in line with their original purposes and evaluate the case method implementation activities in both qualitative and quantitative ways to avoid the possible harm to teachers and schools brought about because of carelessness in writing of cases.

Merseth (1991) combed through the early history of the case method adopted in business and the professional education at Harvard University and provided some insights for those who are interested in case-based instruction in teacher education at present. He found three reasons of failure in school of education. First, teachers in education cannot get financial support like Business School which is sponsored by private industry. Second, Business School defines case development and writing as research through which the teachers can receive compensation for investment of time both in pay and rank. However, teachers in education treat case writing as side-lines with frustration and dwindling passion. Third, the case used in business education has clear and stable purpose to give coherence and cohesion to the use of cases. Whereas, the faculty in education have diverse attitudes towards the use of video cases and change courses in education frequently and dramatically. Thus, it is recommended to use cases to enable learners to observe, discuss and imitate to make decisions in various contexts on the basis of cases.

In short, the case research in the early 1990s defined the concepts, delineated the categories of cases, analyzed the advantages of using it in education, and put forward possible predicaments when teachers use it in education.

### **Linear Video-case Based Research**

The video case was adopted in teacher education by Stanford University in the 1960s with the appearance of portable video equipment (Sherin and Han, 2004). Video cases, with graphic and text-based support, can capture the complexity of classroom interactions and enable pre-service teachers to experience the ‘real’ teaching and learning strategies employed by the teacher (Cannings and Talley, 2002). They are superior to text-based cases which dramatize what happens in the classroom and distort the “noisy” reality of classroom activities (Bao, 2003). The linear video cases include videotapes or video cases played on a computer without the Internet. The case is the combination of videotape and background introduction of the lesson, after-class reflection, experts or peer review of the lesson, interview of the students, and animated diagram of the classroom activities. The components of the video are connected according to the timeline of the lesson (Bao, 2003).

In the 1990s, videotaped cases began to be utilized by teachers and researchers in the context of video clubs (Frederiksen et al, 1998; Sherin, 2003; Sherin and Han, 2004). The video club starts with a facilitator videotaping teachers’ classrooms and presenting it at the group meeting. In the video club, the participants watch the video or video excerpt and discuss those salient issues that appeared in the video. Within the video clubs, a teacher educator or researcher plays a role of a facilitator, or teachers take turns to perform the role of a facilitator.

Sherin and Han (2004) examined the use of video clubs in which groups of teachers watched and discussed videotapes of their classrooms as one model of professional development. They found that the focus of discussion switched from primarily on the teacher, then on students’ actions, ideas, thinking, and finally on pedagogical issues in terms of student thinking.

Although linear video cases, especially video-taped cases were popular in the 1990s. The cases have defects in nature. It is limited in terms of storage capacity and the difficulty in locating a particular node, traversing forward or backward and analyzing it at will. It is also difficult to integrate video with all the related teaching materials together. With the development of computers, the Internet, and video technology, the highly interconnected, integrated, and flexibly configured hypermedia video cases supplanted linear video cases since the commencement of the 21st century.

### **Hypermedia Video-case Based Research**

Bao (2003) defines hypermedia as a nonlinear computer and hypermedia editing system which combines video with all the related teaching materials, such as texts, graphs, pictures, slides, audio materials, and videos. Therefore, it is convenient for students to locate the nodes, bounce to and fro according to their needs and observe and analyze repeatedly. It also makes it possible to control and find the related materials through the hyperlink to recreate the real classroom.

Since the early 21st century, researchers began to have an interest in the new form of video-case research (Bao, 2005; Samuelson, Divaris and De Kok, 2018; Kerkhoff, 2020; Trespalacios and Uribe-Florez, 2020; Liu and Han, 2021; Qiao, 2022). The research did not only introduce the basic concepts and theories but did the in-depth research about the methods, advantages, contents, technology, and responses from both teachers and students, etc.

Trespalacios and Uribe-Florez (2020) investigate 34 adult students over the age of 21 years pursuing a master's degree in educational technology in the Pacific Northwest of the United States and compare text-based discussion with audio-based discussion when students are involved in online case studies communication and finds the reasons for their preferences. It is found that the majority of students preferred text-based discussions over audio-based discussions because of its convenience and speediness for them to scan comments in the discussion forums to grasp the interesting and main points. This research focuses on the students' preferences to two kinds of online communication formats to promote the use of technologies. Actually, the most important thing is the communication itself when students are involved in case analysis rather than the formats.

Kerkhoff (2020) studied how to use online course with video cases help in-service teachers develop professional competence on global learning so as to oppose xenophobia and promote global solidarity as the world fights the pandemic. It is found that video case studies provided a way and enhanced the possibility for teachers to get to know the new global teaching practices. Besides, it is also found that online self-reflection instruments (the Teaching for Global Readiness Scale and Global Competence Subscale) provided teachers with opportunities to analyse and reflect on their practices related to global learning.

Liu and Han (2021) studied how to use micro-lesson video case to train normal university students teaching competence via the network-based environment. They integrate micro-lesson video case, microteaching training, the review and reflection after microteaching training to form a teacher training model, which is proved to produce positive influence on the training of innovative talents for the students majoring in Education. However, how to choose the micro-lesson and how to make students observe, reflect and practice, especially how to connect the video-case observation with practice were not studied in depth in their research.

The research on online hypermedia video cases ranges from teaching methods, technology, contents to teacher educators' or student teachers' responses. However, the crux of pre-service teacher education is to bridge the gap between theory and practice. Thus, the operational procedures to combine video-case teaching, lesson analysis, and practice (implementation) are to be studied in depth to provide teacher educators with a feasible and practical method to conduct video-case based teaching in pre-service teacher education. The possible solution to this quandary is to establish a new teaching model which integrates the video-case study with lesson study to form a video-case based lesson study teaching mode, which will be analyzed in detail in the following part. Before the proposal of the possible teaching model, it is vital to know how the video cases are used in Normal University students' learning, their attitudes towards the video cases and the suggestions given by these students.

## Methodology

To find out the student teachers' attitudes towards using video cases to develop their teaching competence at normal universities, the researcher used mixed method with questionnaire and open-ended questions to collect data concurrently in a survey. Quantitative research seeks to evaluate and quantify the behaviors of the chosen sample to infer the trend of a large population via well-structured data collection process and subsequent statistical analysis of the data (Almeida, 2018). In the present research, it is intended to reveal student teachers' views towards the use of video cases in teacher education. On the contrary, qualitative data aim at answering questions that are unpredictable in results (Creswell, 2012). In the present research, the qualitative data are used to disclose student teachers' difficulties and suggestions about innovations in the teacher education program in terms of video-case application. The qualitative data explain and corroborate the findings from quantitative data.

This research is the preliminary study of a PhD research, aiming at discovering the problems of video-case usage currently and the suggestions given by student teachers to innovate the present teacher education program. The convenience sampling is adopted rather than using krejcie and morgan's formula (Uakaran, Chaokromthong and Sintao, 2021). The research subjects are 64 sophomore students (4 male student teachers and 60 female student teachers) in the fourth semester who are from two classes (class 13 and class 14) chosen from the 278 students majoring in English Education in grade 2020 in China West Normal University. Student from class 8 to class 15 are majoring in English

education, with each natural class being divided according to the results of the national college entrance examination, gender ratio, and the proportion of minority students. Although there are only 4 male participants of student teachers, there is no bias against them, for the total number of male students are 22 in grade 2020.

The questionnaire used in the research is designed by the researcher. The questionnaire consists of 9 close-ended questions and 3 open-ended questions concerning their mastery of language teaching theories, the sources of influence on their conception of language teaching, their ability to teach language knowledge and skills, the attitudes towards the use of video cases and practice opportunities. 66 questionnaires were spread and 64 valid questionnaires were collected. Based on the data collected from the questionnaire, the following two questions are to be answered in the present research:

- What are the student teachers' attitudes towards the use of video cases in developing their teaching competence?
- What are student teachers' suggestions in the aspect of using video cases in developing their teaching competence?

## Results

### Reliability of Questionnaire

In order to examine the reliability of items, the Cronbach Alpha reliability analysis is often employed to test the reliability of a questionnaire (see Table 1).

**Table 1.** Reliability analysis-scale (Alpha) of the questionnaire

	Reliability Analysis-scale (Alpha)			
	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Alpha if Item Deleted
TK	26.1875	11.202	.224	.583
IFETS	25.4531	10.252	.145	.621
ITU	25.6406	10.012	.284	.568
ATT	26.0000	10.540	.343	.557
EKT	26.1875	9.964	.488	.524
EST	26.2188	10.459	.309	.562
LVC	25.9219	10.168	.248	.579
LP	25.0781	9.819	.395	.538
LG	25.5625	10.060	.260	.576
Reliability Coefficients N of cases=64				N of items=9
Alpha=0.596				

TK=Knowledge of teaching; IFETS=Influence from former English teachers in secondary school; ITU=Influence from teachers at university; ATT=Application of teaching theories; EKT=English Knowledge Teaching; EST=English Skills Teaching; LVC=lack of video case; LP=Lack of practice; LG=Lack of guidance

As is shown in the table above, it can be found that overall alpha is 0.596 ( $\alpha > 0.5$ ), which is acceptable in quantitative analysis and the data are reliable. But the alpha in each item is not satisfactory. The possible explanation is that these questions do not belong to the same category of questions and the items are also too few to guarantee high a level of reliability. However, overall alpha of item 4, 5 and 6 is 0.798 because of the adjacency in topic. Thus, the data from this questionnaire are reliable and can be used to predict the current situation of students' theory learning, teaching competence and expectation in the innovation of language teaching courses.

### The Problems of Video-case Application in the Present Teacher Education

According to the analysis of both quantitative and qualitative data, it is discovered that student teachers are badly in need of video cases in their practical courses to develop their ability of reflection and connecting theories with practicalities in classroom contexts (see Table 2).

	N	Minimum	Maximum	Mean	Std. Deviation
TK	64	2.00	4.00	2.8438	.56957
IFETS	64	1.00	5.00	3.5781	1.06614
ITU	64	1.00	5.00	3.3906	.88402
ATT	64	2.00	4.00	3.0313	.64164
EKT	64	2.00	4.00	2.8437	.64780
EST	64	1.00	4.00	2.8125	.70991
LVC	64	1.00	5.00	3.1094	.89296
LP	64	1.00	5.00	3.9531	.78538
LG	64	2.00	5.00	3.4688	.90797
N of cases	64				

**Table 2.** Descriptive statistics of student teachers' knowledge of English language teaching and attitudes towards problems in teacher education

From Table 2, it is obvious that the mean of understanding of Knowledge of Language Teaching is low (2.8438), which indicates that students are still incompetent in mastery of knowledge of language teaching and are diffident in conducting language teaching independently at present. Thus, to offer student teachers more courses pertaining to language teaching and get more training in practical knowledge is essential for student teachers at normal universities, especially to provide them with video cases to observe, reflect and imitate (see Table 3).

**Table 3.** Descriptive statistics of students' report of the lack of video cases

	Frequency	Percent	Cumulative percent
strongly disagree	1	1.6	1.6
disagree	17	26.6	28.1
neutral	22	34.4	62.5
agree	22	34.4	96.9
strongly agree	2	3.1	100.0
Total	64	100.0	

From the Table 2, it is discovered that the main obstacles for students are the lack of video cases, the lack of guidance from experts and a lack of practice, means of which are 3.1094, 3.4688, 3.9531 respectively. Actually, students can have access to a lot video cases online nowadays. So only 37.5% (see Table 3) of students report that the lack of the video cases is the biggest barrier in the development of teaching competence. The reality is that most students feel a lack of guidance (50%, see Table 4) is a more serious impediment. Thus, to provide students with the authentic video cases from different levels of schools and facilitate them to do lesson reflection and creative redesigning of the same lesson is of great benefit to the development of practical knowledge of pre-service teachers.

**Table 4.** Descriptive statistics of students' report of the lack of guidance from the experts

	Frequency	Percent	Cumulative percent
disagree	10	15.6	15.6
neutral	22	34.4	50.0
agree	24	37.5	87.5
strongly agree	8	12.5	100.0
Total	64	100.0	

Besides, student teachers are urgently in need of practice opportunities after video-case observation and reflection, for a large proportion of (84.4% in the total) feel they need to get more practices (see Table 5). This is in line with the

finding in qualitative data analysis, because 35.9% student teachers mentioned the necessity to practice more so that they make progress in teaching competence (see Table 6).

**Table 5.** Descriptive statistics of students' report of the lack of practice

	Frequency	Percent	Cumulative percent
strongly disagree	1	1.6	1.6
disagree	3	4.7	6.3
neutral	6	9.4	15.6
agree	42	65.6	81.3
strongly agree	12	18.8	100.0
Total	64	100.0	

**Table 6.** The percentage of difficulties in developing teaching competence faced by pre-service teachers from open-ended questions

Difficulty	Frequency	Percent
Lack of knowledge of students	17	26.5%
Poor command of English	3	4.7%
Lack of practice opportunities	23	35.9%
Lack of systematic learning of theories	25	39%
Inability to connect theories with practice	20	31%
Lack of learning resources	2	3%

As is shown in Table 6, student teachers have mainly four difficulties in developing teaching competence, namely, lack of systematic learning of theories, lack of practice opportunities, inability to connect theories with practice and lack of knowledge of students.

Among these four difficulties, lack of practice opportunities is the most serious problem, because the student teachers just began to learn Language Teaching Theories Course when the survey was conducted. Therefore, the problem of theories learning will be solved after they finish the course. However, they merely learn language knowledge and teaching theories for first two and half years without field educational observation and practice in authentic classrooms at schools at different levels. They feel clumsy and shocked when they are placed in front of students and pushed to start to teach middle school students in the sixth semester in the practicum stage. The students reported in the following excerpts in the open-ended questions.

- (1) "The theories and authentic classroom are totally different. Because of the lack of practice, I feel difficult to understand the language teaching theories."
- (2) "I am still diffident in teaching for the superficial understanding of the professional knowledge and the lack of practice."

Moreover, inability to connect theories with practice and a lack of knowledge of students are also the urgent items on the agenda that require resolution. Aiming at solving these three problems, combination between video cases with lesson study will offer student teachers chances to instantiate the theories they learnt, utilize theories to analyse the teachers' and students' behaviors in contexts and practice thereafter in the creative way based on the gains in the video case analysis.

### The Suggestions of Using Video Cases in Pre-service Teacher Education

According to the qualitative data from the open-ended questions, eight types of suggestions are proposed by student teachers to innovate teacher education courses, among which the use of cases and practice are the most urgent ones for the large proportion of students who are demanding for a change (see Table 7).

**Table 7.** The percentage of the suggestions given by student teachers on innovating teacher education courses from open-ended questions

Suggestions on innovation of teacher education courses	Frequency	Percent
The use of cases (especially video cases)	26	40.6%
Practice	31	48%
IT technology	2	3%
Ethics and knowledge of law	1	1.5%
Lectures from expert teachers to share experiences	3	4.6%
Practical teaching methods in China	4	6%
Interactive activities in classroom	4	6%

Although analytic coding is adopted in the present research, the researcher tries his best to adhere to emic analysis to maintain the representation of student teachers' original views instead of overload of researcher' subjective explanation (etic analysis) (Silverman, 1993). The following two major themes concerning student teachers' suggestions are derived from the data from the open-ended questions.

### **Theme 1: Student teachers are longing for cases (especially video cases) to develop teaching competence**

It seems that this is contradictory with the finding in the survey, in which 37.5% (see Table 3) of students claim that the lack of the video cases is the biggest barrier in the development of teaching competence. However, the video-case problem is not only the lack of video materials, but the lack of connection between video case with theories and detailed explanation given by the teacher educators and the guidance given to them about how to practice in their own teaching activities. Thus, this phenomenon can be demonstrated with the following examples.

(3) "I want to get some concrete examples of how English teachers deal with the problems of students at various levels successfully for reference and alert."

(4) "I hope that teacher can demonstrate with a richer supply of video cases and I want to experience real teaching through practice."

(5) "Teacher can increase the practice courses, e.g., play classic video cases and discuss among student teachers."

### **Theme 2: Practice is essential for the development of teaching competence**

This is in consistence with student teachers' concern mentioned above. Many students are bored with the pure language teaching theories inculcation. They prefer to practice and experience language teaching with the teacher's explanation of theories and video case observation as a priori and teacher's feedback and individualized guidance following behind. It can be proved through the following excerpts from student teachers' answers in the questionnaire.

(6) "It is better to analyze more real problems in details with the simple language rather than the pedantic style of language in the course book. Besides, more practice opportunities are badly in need."

(7) "To give student teachers more opportunities to simulate the real classroom contexts. Student teachers do the lesson planning, implement the lesson and do the reflection after the lesson."

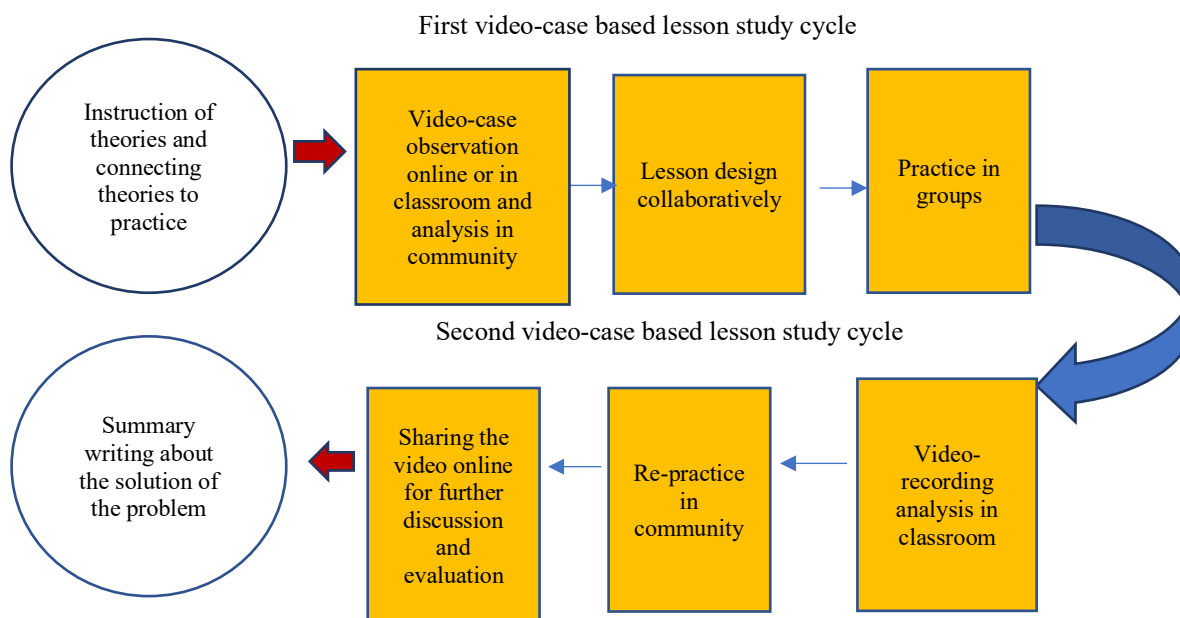
## **Discussion**

From the problems and suggestions of the use of video cases mentioned above, it is obvious that student teachers are not only in need of video cases to connect theories with practicalities, but are more urgently in need of detailed explanation to help them connect theories with practices and practice opportunities that follow the video-case observation and analysis with guidance given by expert teachers. Aiming at the integration between video case analysis with practice, we need to combine video case with lesson study to form a new teacher training model—video-case based lesson study, which will be explained in details in the following part.



Lesson study (LS) as a method to tackle problems faced by teachers and students in the classroom can be dated back to the 1900s in Japan (Takahashi and McDougal, 2016). LS is a classroom-based, lesson-specific, and collaborative reflective practice of teacher professional learning. The teachers often follow the following procedures: (1) goal setting; (2) lesson planning; (3) lesson teaching, observing, and enquiring; (4) revising and re-teaching; and (5) sharing and reflecting on results (Lee, 2019)

For the pre-service student teachers, they do not have the chance to practice in the real classrooms several times to familiarize themselves with the realities of teaching as the in-service teachers. Therefore, to use video cases as an alternative in pre-service teacher education is urgent. First, video-case based lesson study starts with instruction of basic theories and connecting theories to practice to remind student teachers of the problems of teaching prevalent in primary and secondary schools. Then, they observe video cases online before class or in the classroom together and analyse the video case to find out the merits of the practicing methods in the video case and the problems that still remain. Thirdly, they design their own lesson and practice in community after class. Fourthly, student teachers view their own practice in the video-recording and reflect in the classroom. Next, student teachers re-practice and discuss with all the members in the learning community. Then, the video-recording of the revised lesson performance will be presented online for discussion among the whole class. Finally, student teachers are required to write a summary of the solution to the problems identified at the very beginning (see Figure 1).



**Figure 1.** Video-case based lesson study in pre-service teacher education (Adapted from Dudley, 2013)

The novice teachers often encounter ‘practice shock’ when faced with the full responsibility and reality of the demands of the teaching profession (Stokking, Leenders, De Jong, & Van Tartwijk, 2003). The use of video-case based lesson study model in pre-service teacher education is to prepare students with multi-experiences and mimick and develop practical knowledge before they step into the classroom to have field experiences.

### Conclusion

In this research, the three stages of video-case application is expounded through literature review to illuminate the importance of video cases and the promising application prospect is addressed. The three stages of development of case instruction in teacher education also enlighten us about how to use video cases to prepare student teachers in pre-service teacher education to avoid “practice shock” and can transition them to become confident and competent novice teachers.

The questionnaire was also adopted in the present research to explore the student teachers’ views towards the use of video cases and the suggestions on how to innovate teacher education program. It is found that student teachers are longing for the use of video cases in teacher education, especially the detailed explanation from the expert teacher and then practice opportunities to imitate the video cases. Thus, two-cycle video-case based lesson study which connect

theories with practice is a possible effective model in developing student teachers' teaching competence. However, the details of the use of this model, such as the procedures of implementation, the responses from students, teachers, and the effect of this model need to be studied in depth in the future.

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