

Using Video Annotation Tool to Enhance Student-teachers' Reflective Thinking and Communication Competence Through a Collaborative Learning Community

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Background

In Hong Kong context

- In addition to teaching, teachers are responsible for students' psychosocial development (e.g. well-being, interpersonal relationship, behavioral management)
- Provide **initial counselling** to students when necessary
- Conduct **consultation with parents annually** or when special issues emerged, e.g. student's emotional/behavioral problems
- ***Communication skills*** are essential

(Shek, 2013)



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Background

Reflective thinking becomes increasingly important for teachers

- **Critically analyze and reflect upon their practice** to better integrate theoretical concepts into teaching practices
- Carefully examine their **communication skills** (E.g. delivery of messages, implications of use of different microskills, particularly in *counselling/consultation*)
- **Key competence** for teachers

(Hatton & Smith, 1995; Korthagen & Vasalos, 2010; Moon, 2006)



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Literature Review

Reflection is...

- A **cognitive process** centered on the skills of **thinking and reasoning** (Dewey, 1904)
- **Challenging one's own assumptions**, being **open-minded** to different alternative perspectives, being **analytical, integrating knowledge**... (Davis, 2006)
- Two forms of reflective process (Schön, 1991):
Reflection-on-action, reflecting on an experience that one has already had
Reflection-in-action, reflecting on the actions as one is doing them
- There are **different levels of reflection** along a depth continuum, ranging **from descriptive accounts**, to different higher levels of cognitive processing, **to transformative or intensive reflection**. (Bain et al., 2002; Grossman, 2008; Ryan & Ryan, 2013)



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Literature Review

Development of video-based learning

1. Microteaching practices in classes

- Course instructors and classmates gave comments afterwards (Kong, 2010; Sherin, 2007)

2. Video-based platform

- Uploaded videos → peer watched them and gave comments collaboratively (Wu & Kao, 2008)

➤ *Criticisms: Difficult to observe, analyze and do reflection*

3. Video Annotation Tool (VAT)

- Mostly embedded in the video-based platform
- *Capturing specific segment from the whole video*
- *Attaching corresponding comments on the segment*
(Bryan & Recesso, 2006)



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Research objectives

Video-based Peer Learning platform



Video Annotation Tool



Enhance

1. Reflective thinking
2. Communication competence



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Research Questions

- Q.1 Would student-teachers using VAT during their collaborative learning on video-based platform have greater improvement in reflective thinking and communication competence in consultation practices?
- Q.2 How does video-based platform facilitate student-teachers' collaborative learning?
- Q.3 What is the advantage of VAT that facilitates student-teachers' learning?



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Methodology

Participants & Research Design

➤ Participants

- 80 student-teachers from two classes “Comprehensive School Guidance”
- Semester 2 of 2017/18
- Consented voluntarily

➤ Design: Experimental (VAT) V.S. Comparison (non-VAT) classes

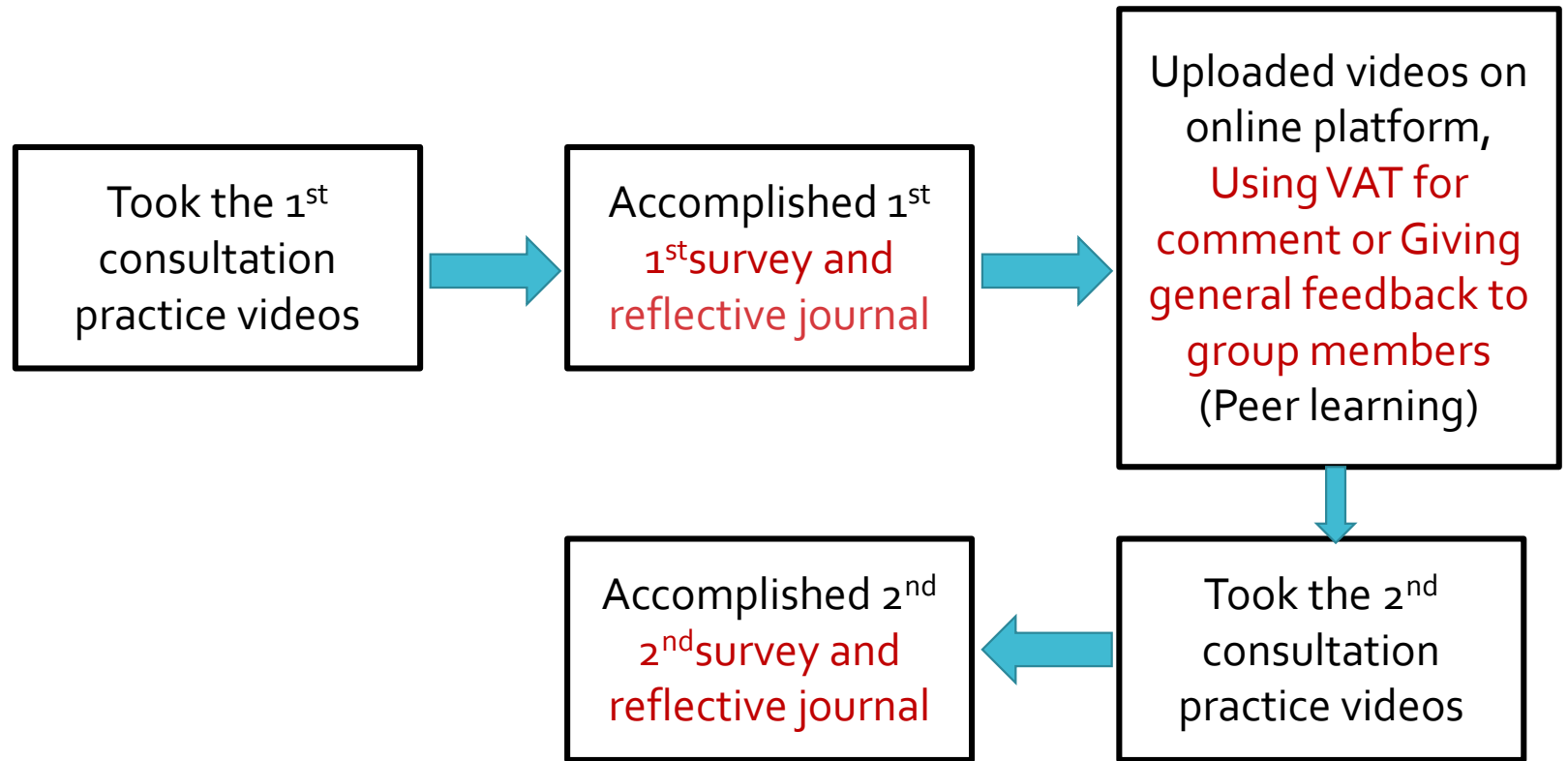
- Experimental → used VAT to give peer feedbacks mutually on the platform
- Control → Give peer feedbacks on platform mutually after browsing the videos



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Data collection process



*Two focus group interviews
4 student-teachers from each class*

- How the platform facilitates learning?
 - Advantage of using VAT?



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Welcome, Mr TO, Yee Lap

Manage

Edit

Community

My Community

Community Admin

Try to add one?

18S1_COU3008_A

18S1_COU3008_B

18S1_COU3008_C

18S1_COU3008_D

18S1_COU3008_E

18S1_COU3008_F

18S1_COU3008_G

18S2_C3008_2C_A

18S2_C3008_2C_B

18S2_C3008_2C_C

18S2_C3008_2C_D

18S2_C3008_2C_E

18S2_C3008_2C_F

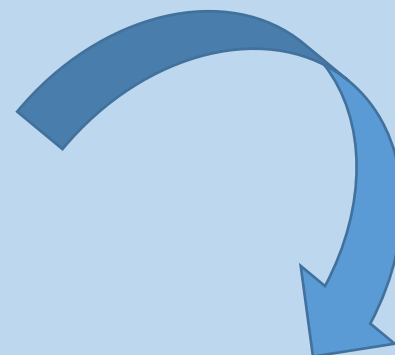
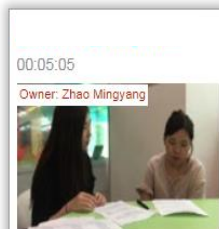
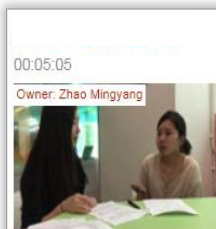
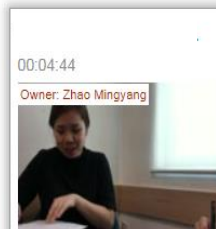
18S2_C3008_3C_A

18S2_C3008_3C_B

18S1_COU3008_A

Community Dashboard

Teaching Community



Comment on the
bookmarked video
segment



Welcome, Mr TO, Yee Lap

Manage

Edit

Community

Back to Forum

Back to Community

Status...



In Point 00 : 00 : 00

Out Point 00 : 05 : 04

Subject Please enter subject for your comment

Comment Please Enter Comment

Privacy All Teachers Only

Add new comment



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The “Mark-in” and
“Mark-out” buttons for
creating a bookmarked
(annotated comment)



Kam Pui Yiu_First_1718Sem2 is contributed by KAM PUI YIU

Keyword Search [Search](#) [Remove](#)

Have a chat on this video with.... ▾

Privacy: [Teacher Only](#) [All](#)

[Retrieving data.....](#) [Bottom of the forum](#)

Posted by: TING, WING KEI on 2018-01-30 01:45:21
Subject: 1 [Segment : From 00:03:00 to 00:03:15] [Approx. 15 words]

[Play Segment](#) [Response](#) [Edit](#) [Delete](#)

asked follow up question about his situation at home after reporting the situation at school

Posted by: TING, WING KEI on 2018-01-30 01:49:51
Subject: 2 [Segment : From 00:03:22 to 00:04:17] [Approx. 21 words]

[Play Segment](#) [Response](#) [Edit](#) [Delete](#)

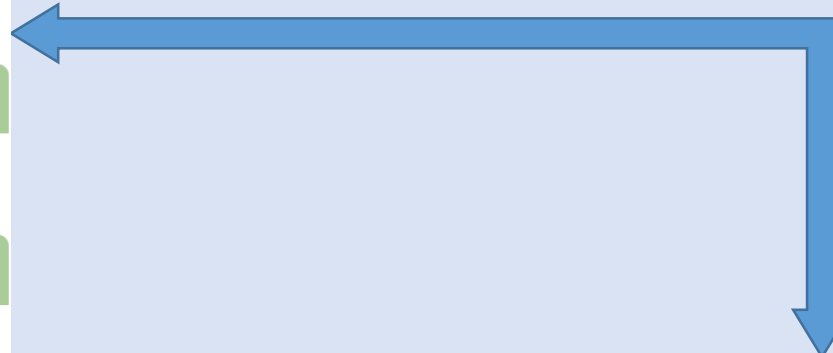
asked how the parent react after the student's misbehaviour and follow up after her response with her experience at school

Posted by: TING, WING KEI on 2018-01-30 01:52:23
Subject: 3 [Segment : From 00:05:08 to 00:05:40] [Approx. 28 words]

[Play Segment](#) [Response](#) [Edit](#) [Delete](#)

asked about his emotions at home, but i think it is better to ask with a be

Using VAT to provide feedback



TING, WING KEI posted on 2018-01-29 17:45:21
Time Code: 00:03:00 to 00:03:15

asked follow up question about his situation at home after reporting the situation at school

Comment will be shown while playing the selected segment

Methodology

Data Collection and Analysis

Surveys on communication competence – Quantitative Data

Using 2 x 2 Mixed ANOVA to analyze the differences between pre-test and post-test

Self-reflective journals (200-300 words) – Qualitative Data

- Using ***content analysis*** method for data analysis
 - Divide each reflective journal into different segments
 - Analyze reflective segments in each journal by numbering the level of reflection adapted from the model of Ryan & Ryan (2013) and Bain et al. (2002) with members check
 - Average score of reflective thinking in each journal
- Members check to ensure reliability
 - Ensuring the inter-rater reliability (Cronbach's alpha) : 16 journals were co-rated by two independent raters
 - Discussed the discrepancy when it was numerically large and re-coded again
 - Journal segment: 0.836; Score assignment: 0.93



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Level	Name	Description	Example
1	Reporting and Responding	The reflective note includes description(s) of some scenarios or events, expression(s) of writer's feeling(s) and subjective judgement(s) or identification(s) of either knowledge understand, skills applied, one's strength or weakness pertinent to the professional practice.	...I found that I am too nervous when having the mock consultation, have too many pauses and always look downwards... (Student A)
2	Relating	The reflective note indicates writer's articulation of skill, knowledge applied (e.g. theoretical concept) or own strength and weakness, supplemented by description of corresponding scenario in the professional practice.	...I encouraged the parent to express his feelings and opinion by using some phrases such as "Yes, I understand that" . This can let the parent feel more comfortable and willing to have a deeper conversation with the teacher... (Student A)
3	Reasoning	The reflective note illustrates writer's identification and elaboration of implicit significant factor(s) underlying the scenarios that are crucial to the in-depth understanding of the whole process in the professional practice.	...I think that the skills of minimizing parent's emotions and normalizing the "problems" are crucial. I can let the parent know that student's misbehavior is not a shameful issue , which in turn increases the chance to co-operate with class teachers... (Student B)
4	Transformative	The reflective note discusses how the reasoning process can contribute to the writer's new insights or perspectives, which subsequently leads to writer's advancement and transformation in professional practice.	...It is undesirable to ask the parent "does your daughter have any friend in school?", since it may create a delusion that having no friend is a problematic issue and threaten the parent unnecessarily. In future, this question can be replaced by the question like "do you know any of your daughter's best friend(s) in school?" ... (Student C)



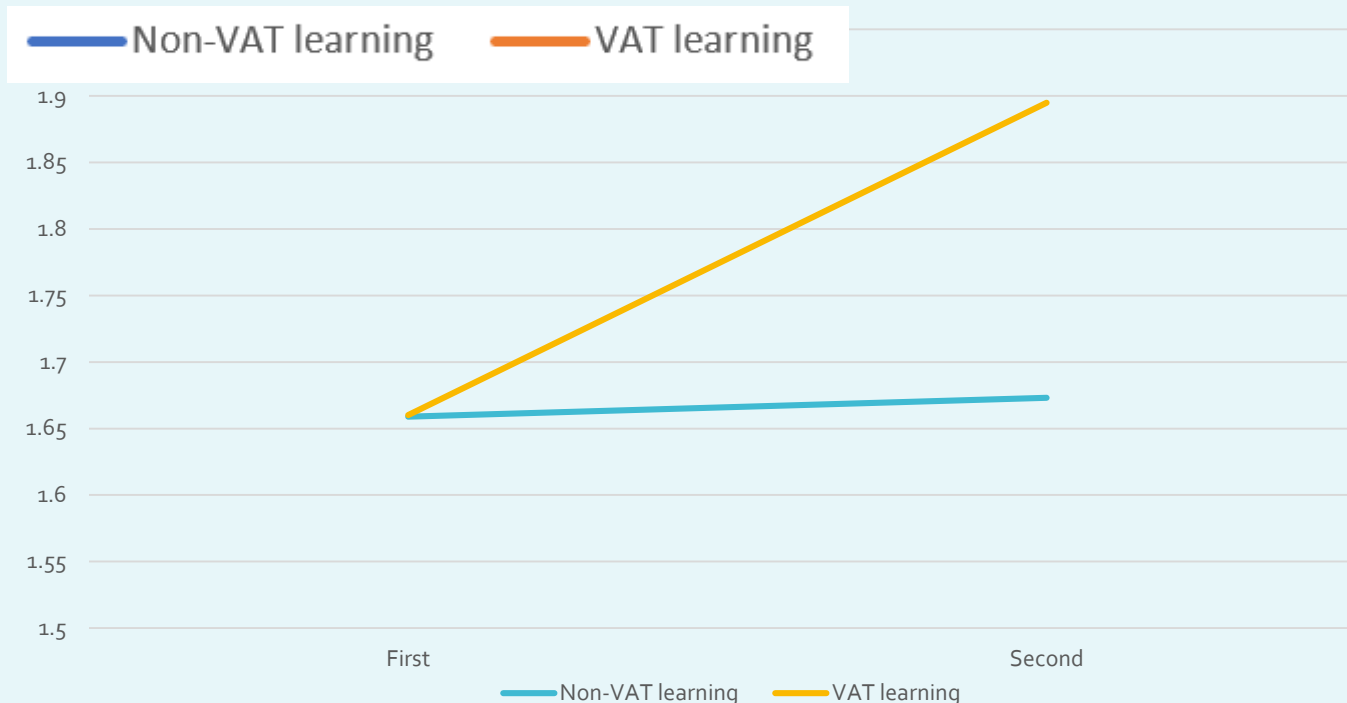
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The average score of reflective thinking = Total score summed up from all reflective segments ÷ number of reflective segments

Results

(2 x 2 Mixed ANOVA
Reflective thinking)

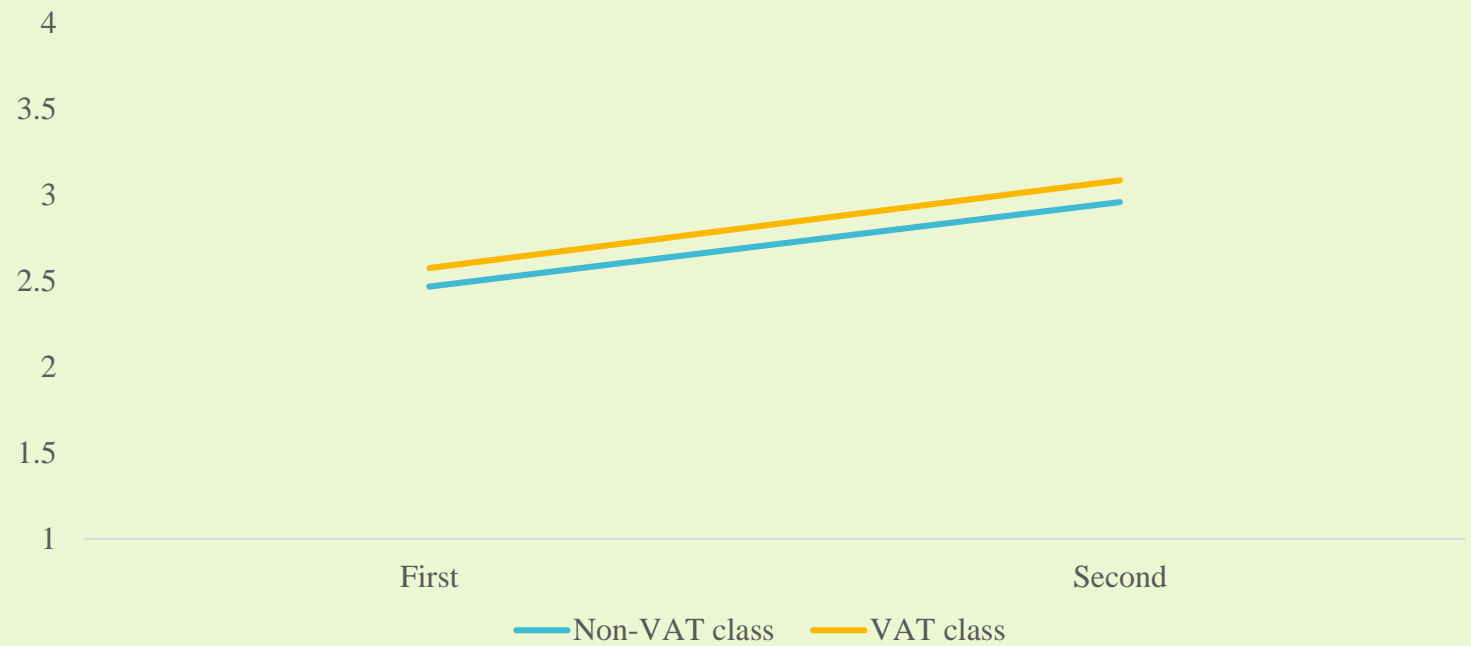


Learning type	VAT peer-learning		Non-VAT peer-learning	
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>
First reflective journal	1.660	.074	1.659	.072
Second reflective journal	1.895	.061	1.673	.060

Students using VAT in peer-learning tended to increase their average reflective thinking more significantly over time, $F(1, 70) = 4.164, p = .045 < .05$, partial eta square = .052.

Results

(2 x 2 Mixed ANOVA
Communication
competence)



Learning type	VAT peer-learning		Non-VAT peer-learning	
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>
First questionnaire	2.575	.430	2.466	.340
Second questionnaire	3.083	.385	2.958	.424

- Student-teachers in both classes improved significantly over time, $F(1, 76) = 114.581, p < .001$, partial eta square = .601
- Those in VAT-class did not enjoy better improvement over time, $F(1, 76) = .027, p = .689 > .05$

Results

(Focus group interviews)

Benefits of video-based platform

Observational learning

Watching how others might perform in the similar scenarios

Inclusion of multiple peer feedbacks

Students' different perspectives on the same problems in the videos

Advantage of VAT learning

Peer comments were **"contextualized"**

Specific comments corresponded to **specific problems** occurred in the **specific time segment**



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Discussion

Video Annotation Tool and Communication Competence

Video Annotation Tool and Communication Competence

Creating a positive and supportive environment to enhance one's own communication competence

- Providing opportunities to **observe** how others would perform in similar scenarios that facilitate students to **be open to receive comment for improvement** and **model** others' practice. It created a positive and supportive learning environment
- **Comparing** ones' strengths and weaknesses with others that able to **learn from peers** by viewing and receiving specific feedback at the online platform and **boost their confidence** in communication

Sharpening communication skills by receiving multiple peer feedback

- Different perspectives and feedback will provide students with **various approach to a situation or scenario** which deepen their understanding in human interaction
- Feedback from a specific segment was **more objective/unbiased** that will facilitate student to **deepen their reflection** on one's skills

Improvement in communication competence might need to take more time.



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Discussions

Video Annotation Tool and Reflective Thinking

Video Annotation Tool and Reflective Thinking

- Easily matched the **feedback with specific video segments** that facilitated student to review one's own skills performance
- Made annotated feedback while browsing videos to lower the possibilities of memory decay and the **feedback would be more accurate**
- **Reduced cognitive loads** during video learning that would be an incentive for **engaging student in the self-directed learning process** (Chiu et al., 2016)
- **Multiple perspectives** to reflect on personal and others' communication skills through interacting with peers and by receiving diverse but specific feedback on specific segment of video
- **Deepen reflective thinking through observing, analyzing and reflecting** on one's own performance
- **Augmented Reflection-in-action** by Reflection-on-action



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Enhancement of Future Practice

- **Develop teacher's guidebook** to promote reflective learning in Higher Education
- Using **reflections frameworks/model** to teach students on reflective thinking to enhance the level of reflection
- **Apply blended learning mode to engage students in face-to-face professional dialogue** to discuss how to enhance their skills and reflection after making and receiving feedback from online peer learning platform
- **Establish an archive of skill practice video** for students' observe, analyse and reflect on the learned skills



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Conclusion and Future Study

Conclusion

The current study demonstrated...

- Benefits of video-based platform and VAT function on promoting learning effectiveness in communication skills

However...

- Not all students could improve to higher level of reflective thinking level over time (even those in VAT class)

Limitation and Further study

- To investigate the students' motivation in providing feedback to their peers, e.g. no. of feedback for each video and by individual interview
- To experiment lecturer's facilitation at online platform to study the effectiveness of learning
- Similar study can be replicated in other skill practice courses, e.g. microteaching, counselling skills training courses etc.



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