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The Effects of Short Video-Assisted Teaching Model on English Language Learners' Affect: Evidence from the Longitudinal Study

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Abstract

Although some studies have shown that the use of video social media can effectively assist language teaching and learning. However, limited literature sheds light on the use of Bilibili in English language education. The article constructs the Short Video-Assisted English Language Teaching Model based on the Bilibili platform for the course of *English Curriculum and Pedagogy in Secondary Schools*. The purpose of this study is to investigate the level of learners' satisfaction with the model and whether the model has any effect on learners' learning affect. A sixteen-week longitudinal study of 46 Chinese normal English major students revealed that learners' satisfaction with the model was high, among which, the highest levels were found in teaching platform satisfaction and teaching model satisfaction. In addition, the model significantly promoted learners' positive learning affect and significantly reduced learners' negative learning affect. The study provides implications for training English major students in universities.

Keywords

Short Video-Assisted Instruction, Satisfaction, Positive Affect, Negative Affect, Normal English Students

1. Introduction

In recent years, the tendency towards the use of technology and video and their integration into English education has gained great importance (Cakir, 2006),

and the benefits provided by technology advanced the teaching and learning process (Waluyo & Apridayani, 2021). Bilibili, a video platform and cultural community for young generations, has been reckoned as a continuous ecosystem with a great deal of quality content. In 2021, Chen Rui, CEO of Bilibili, proposed that half of youngsters in China are using Bilibili and 113 million users are learning on Bilibili. In this platform, popular science content with lower knowledge acquisition cost and easier interpretation is able to obtain good dissemination effect (Wang, 2022).

A large number of relevant studies show that using video social media, including Youtube (Wang & Chen, 2020) and TikTok (Yang, 2020), may bring positive influence on English teaching and learning. Therefore, the purposes of this study include two aspects: First, to explore students' learning satisfaction after the implementation of the short video-assisted English language teaching model based on Bilibili. In the second place, students' status quo of positive affect and negative affect before and after utilizing the model will be investigated.

In order to realize the above purposes, this study will be illustrated with the following aspects: the literature review, the short video-assisted English language teaching model, methodology, results and discussion, and conclusion.

2. Literature Review

2.1. Video in Education

Chalk and blackboard have been used for teaching for a long time, and the appearance of multimedia has gradually changed the way of education. The connection between video and education has lasted for many years, and a large number of examples and researches have proved the important role of video in education. In fact, video varies according to the type of course, the contents of the unit, the level of the students and the choice of the teachers.

When it comes to the influence of the video on education, different scholars have different views. Some hold that video technology supported the reform of teachers' education (Wang & Hartley, 2003), and some agree that video could be a very effective educational tool (Allen Moore & Russell Smith, 2012; Stockwell et al., 2015). However, there are also some different voices for the above viewpoints, holding that some videos have little contribution to students' learning (Guo et al., 2014; Machardy & Pardos, 2015).

Obviously, teachers should follow some rules and guidelines to maximize students' learning on the basis of the video content (Brame, 2016). He suggested that cognitive load, factors affecting participation and factors promoting active learning should be kept in mind. Judging from the comments above, it is very important for the teachers to choose the video correctly and make them the biggest advantage.

2.2. Learning Satisfaction

Satisfaction is regarded as a "spontaneous experience" that follows intrinsically

motivated behavior (Deci, Ryan, & Williams, 1996). It can also be seen as the result of a comparison between expectations and feelings of service with pleasure or displeasure (Oliver & Burke, 1999). Learning satisfaction began to be studied in 1966. It is expanded as a branch of satisfaction in the area of education. Keller (1983) considers learning satisfaction as students' overall positive evaluation of their learning experience.

Learning satisfaction is also considered to be an effect that occurs during the teaching and learning process in which students participate (Wu et al., 2015), it refers to the kinds of personal inner feelings of learner in learning process (Huang, 2021). Arbaugh (2000) believes that learning satisfaction includes personal feelings and attitudes towards the educational process and the perceived level of achievement related to learning desire. Some studies have found that everyone has different learning needs. They focus on different learning activities and acquisition, so they have different levels of learning satisfaction (Chang & Chang, 2012). Learning satisfaction can only be measured after learning activity (Nagy, 2018).

In terms of the factors affecting the learning satisfaction, some of the relevant literature in this area will be covered. Interaction is a further factor identified by some researchers (Abdous & Yen, 2010), and the results show that interaction is an important predictor of learning satisfaction in e-learning. Learning motivation is generated by personal learning needs, and learning needs are closely related to learning satisfaction (Topala & Tomozii, 2014). Nagy (2018) concludes that learning performance, perceived usefulness and perceived ease of use have a positive impact on learning satisfaction, and attitude has a significant positive impact on learning satisfaction. Perceived ease of use also affects perceived usefulness, and they have a positive effect on learning motivation. In addition, learning motivation has a positive effect on learning satisfaction (Huang, 2021). What's more, there are a lot of studies showing that higher satisfaction will be affected by students' attitude towards teachers, the learning materials, learning effectiveness, learning experience, etc.

2.3. Affect

Since the 1990s, affect, as an interdisciplinary research field, has appeared for the first time. It is best understood as a dynamic and intensive relationship between human actors in complex environmental settings, material composition, landscapes and design spaces, various artificial products, technologies and media (Slaby & Röttger-Rössler, 2018), which is a unique personal psychological state (Schutz & Pekrun, 2007). Affect could also be called "emotion" or "mood", it could be defined as a "sudden trouble, transient agitation caused by an acute experience of fear, surprise and joy, etc.", or a "mental feeling or affection (e.g. desire, hope, etc.) as distinct from cognition or positions according to different dictionaries. Schachter and Singer (1962) define emotion as "a state of physiological arousal and of cognition appropriate to this state of arousal."

To be more specific, affect could be divided into two dimensions, namely positive affect and negative affect. Positive affect is the emotions that are experienced as pleasant while negative affect that students are experienced as unpleasant. Positive affect occurs during emotional reactions that typically occur consciously as subjective experience (Nguyen et al., 2021). Watson et al. (1988) divide the affect into positive affect and negative affect according to affective structure; as for the positive affect, it includes "interested, excited, strong, proud etc, in terms of the negative affect; it comprises "distressed, upset, guilty, scared hostile, etc.".

Cabanac (2002) holds that emotion is any mental experience with high intensity and high hedonic content (pleasure/displeasure). When emotions happen in learning, there are four groups of emotions that are relevant to students' learning, such as achievement emotions, epistemic emotions, topic emotions and social emotions. Some researchers have studied academic emotions to highlight the importance of emotions in students' academic performance. Pekrun et al. (2002) define emotions as coordinated sets of interrelated psychological processes, including the components of affective, cognitive, physiological and motivational. There are nine kinds of emotions included here, namely enjoyment, hope, pride, relief, anger, anxiety, shame, hopelessness, and boredom.

With the development of the academic emotions, there are a body of researches and studies in this area. It is found that students' academic emotions are mainly impacted by students' individual cognition, achievement goal, cognitive competence and environment (Xu & Gong, 2009). In addition, students' affect can also be influenced by detailed aspects. For example, students might be interested in an activity designed by the teacher, feel proud of answering a question correctly, and they may feel surprised when they find a new solution. However, students may also have negative affect. For example, students may be distressed when they are confused about a question, etc.

3. The Short Video-Assisted English Language Teaching Model

Based on the Bilibili platform, we built the Short Video-Assisted English Language Teaching Model, which is described as follows.

3.1. Course Overview

English Curriculum and Pedagogy in Secondary Schools is a compulsory course for sophomores majoring in English education. The purpose of the course is to prepare students for the role of English teachers. Based on Bloom's taxonomy of educational objectives (Bloom et al., 1956), the textbook *Instructional Skill of English* (Zheng & Ying, 2015) and student needs, the course team designed teaching objectives in cognitive domain, affective domain and psychomotor domain for the videos. There are a total of six chapters, including a total of 100 short videos (1 - 5 minutes for each) for students to watch on the Bilibili platform, as shown in **Table 1**.

Table 1. Teaching objectives and corresponding video chapter.

Objectives Domains	Teaching Objectives	Video Chapters
Cognitive Domain	To comprehend, apply, analyze, synthesize, and evaluate English teaching skills	Chapter 1: English course teaching preparation
Psychomotor Domain	To acquire, adapt, and innovate English eaching skills	Chapter 2: English Classroom Implementation Skills Chapter 3: English Course Research Skills Chapter 4: Typical Lesson Design and Cases
Affective Domain	To accept the teaching profession, form teacher concepts of value	Chapter 6: Excellent Teacher Experiences

3.2. Model Construction

The model is based on flipped classroom teaching model, combined with online and offline teaching, and is divided into three stages, namely, pre-class, while-class, and post-class. The model is shown in **Figure 1**.

In the pre-class stage, learners are organized to watch short videos on the Bilibili platform to preview the content. The content of the videos covers an overview of the lessons to be learned which allows the learners to grasp the main points of the course in a short time. Afterwards, learners are free to participate in online discussions, e.g., they can ask questions about a certain point of knowledge. The purpose of this phase is to establish a framework of knowledge for the learners and to stimulate their interest.

During the while-class phase, the teacher, after explaining and answering questions about the course content, invites learners to demonstrate the teaching skills they have learned. The teacher then gives timely feedback and assessment of the demonstration by the students. The purpose of this phase is to clear barriers for the learners by demonstrating the teaching skills in detail.

In the post-class phase, learners are organized to review what they have learned by watching short videos on the Bilibili platform. In addition, students are encouraged to participate in in-depth discussions. The purpose of this phase is to develop the learners' ability to learn independently and think independently.

4. Research Design

4.1. Research Questions

The following research questions were examined.

RQ1: After implementing the short video-assisted English language teaching model for one semester, how satisfied are the learners with the model?

RQ2: How did the learners' affect change after implementing the short video-assisted English language teaching model for one semester?

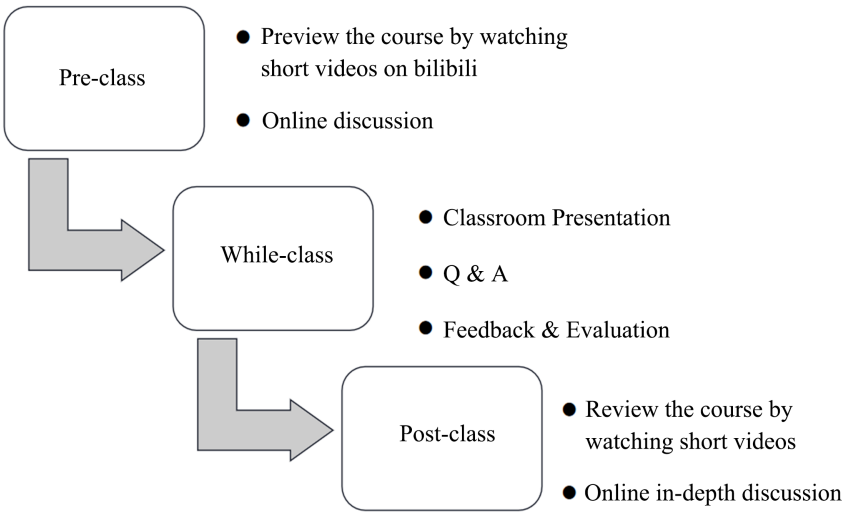

Figure 1. The short video-assisted English language teaching model.

4.2. Participants

The participants were 46 Chinese sophomore students, all of whom were normal English students (whose future career goal is to teach in all levels of schools or educational institutions). Their ages ranged from 19 to 20. The number of female students (N = 40, approximately 87%) outnumbered male students (N = 6, approximately 13%), reflecting the typical gender ratio of English education majors in the Chinese context. Thus, the sample situation with gender differences is representative of the Chinese context.

4.3. Procedures

Data were collected from September 2022 to March 2023 through an online questionnaire. The questionnaires were set to anonymous answers so that any student selections that attempted to please the teacher could be avoided (Dornyei, 2007). The students were informed that their participation was voluntary and that their answers would be kept confidential.

The research participants were involved in two tests. Initially, before the implementation of the model, the participants were organized to partake in the first test, i.e., the pre-test. Afterwards, 16 weeks (one semester) after the implementation of the model, the participants were administered a second test, i.e., the post-test. The questionnaire included not only the content covered in the pre-test but also the survey of satisfaction with the teaching model.

4.4. Instrument

Participants were asked to complete several sets of questions in two tests. In the pre-test, basic demographic variables and the *Positive Affect/Negative Affect Schedule* (*PANAS*) were covered. In the post-test, the questionnaire included not only the content covered in the pre-test but also the *Survey of Satisfaction with the Teaching Model*.

4.4.1. The Short Video-Assisted English Language Teaching Model Satisfaction Scale

In order to investigate learners' satisfaction with the model, this section is based on a self-developed scale, which includes a total of 9 items.

The sub-scales include *content satisfaction* (3 items, e.g. "The content is great, I am satisfied", "The content is very relevant to my profession, I like it", "The content is not difficult, I can digest it well"), *teaching platform satisfaction* (2 items, e.g. "The short videos resources on the Bilibili platform can meet my English learning needs", "I like the learning atmosphere of watching short videos on the Bilibili platform"), *online learning satisfaction* (2 items, e.g. "I am comfortable with watching short videos on the Bilibili platform for learning", "I prefer completing the English learning tasks set by my teachers on the Bilibili platform compared to traditional assignments") and *teaching model satisfaction* (2 items, e.g. "I like the teaching model", "It is necessary to continue using the model in the future").

The present study confirmed the validity of this scale with a Cronbach's α of 0.89. Therefore, this scale is available to test learners' satisfaction with the model.

4.4.2. The Positive Affect/Negative Affect Schedule

The *Positive Affect/Negative Affect Schedule* (*PANAS*) was adopted from Watson et al. (1988) with 20 items. Participants were asked to select adjectives that expressed their affect before and after the implementation of the short video-assisted English language teaching model with a 5-point Likert-type scale (1 = "very slightly or not at all", 2 = "a little", 3 = "moderately", 4 = "quite a bit", 5 = "extremely"). The scale included *positive affects* (10 items, e.g. interested, excited, inspired, determined, attentive and active) and *negative affects* (10 items, e.g. distressed, upset, scared, hostile, irritable, nervous). Higher scores represent higher levels of positive affect or negative affect.

The reliability of this scale in the Chinese context has been confirmed, along with Cronbach's α being 0.82 in the study of Huang et al. (2003), Cronbach's α (for Positive affect) being 0.90 and Cronbach's α (for negative affect) being 0.87 in the study of Zhang et al. (2004).

5. Results and Discussion

5.1. Situation on the Satisfaction of the Model

To investigate the effect of the short video-assisted English language teaching model on learners' satisfaction, descriptive analysis was undertaken, as shown in Table 2.

As shown above, students' overall satisfaction with the model was high (M = 4.26, SD = 0.21), which showed that the model has been welcomed by the learners.

In more detail, students had the highest levels of *teaching model satisfaction* (M = 4.29, SD = 0.23) and *teaching platform satisfaction* (M = 4.29, SD = 0.28). Namely, on the one hand, most students liked the model and considered it ne-

cessary to continue using it in the future. On the other hand, most students thought that the short video resources on the Bilibili platform could meet their learning needs, and they liked the learning atmosphere of watching short videos on the Bilibili platform.

The level of *online learning satisfaction* was the lowest (M = 4.21, SD = 0.33). It implies that compared to traditional assignments, relatively fewer students are accustomed to watching short videos for learning on the Bilibili platform, and fewer students prefer completing English learning tasks on the Bilibili platform.

5.2. Situation on the Positive and Negative Affect of the Model

To investigate the effect of the short video-assisted English language teaching model on learners' affect, independent sample t-tests were conducted to analyze the differences between the pre-test and post-test, as shown in Table 3.

As evidenced by Table 3, the mean values of positive affect in pre-test and post-test were 30.09 and 36.54 respectively. In post-test, learners' *positive affect* levels were significantly higher than in pre-test ($p < 0.05$), along with Cohen's d being −0.97 (>0.80) implying an increase greater than the large effect size (Cohen, 1988). This shows that the implementation of the short video-assisted English language teaching model can significantly promote students' positive learning emotions (e.g. interested, excited, inspired, determined, attentive and active).

Besides, after the implementation of the short video-assisted English language teaching model, the level of *negative affect* was significantly lower in the post-test (M = 24.30) than in the pre-test (M = 28.35) ($p < 0.05$), along with a medium effect size (>0.50) (Cohen, 1988). This indicates that the model can significantly reduce learners' negative learning affects with medium effect.

Table 2. Situation on the satisfaction.

	Mean	SD
Content Satisfaction	4.25	0.37
Teaching Platform Satisfaction	4.29	0.28
Online Learning Satisfaction	4.21	0.33
Teaching Model Satisfaction	4.29	0.23
Overall Satisfaction with the Model	4.26	0.21

Table 3. The situation on positive and negative affect.

Scales	Pre-test		Post-test		t	Cohen's d
	Mean	SD	Mean	SD		
Positive Affect	30.09	6.53	36.54	6.75	−4.66*	−0.97
Negative Affect	28.35	5.42	24.30	8.05	2.83*	0.59

*$p < 0.05$.

6. Conclusion

This study constructed the short video-assisted English language teaching model and conducted a longitudinal study by using a self-developed *Model Satisfaction Scale* and *Positive Affect/Negative Affect Schedule*. The study found that learners' satisfaction with the model was high, among which, the highest levels were found in teaching platform satisfaction and teaching model satisfaction. In addition, the model significantly promoted learners' positive learning affects and significantly reduced learners' negative learning affects.

This study extends the previous flipped classroom teaching model, confirms the effectiveness the short video-assisted English language teaching model, and provides implications for training normal English students in universities.

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Conflicts of Interest

The authors declare no conflicts of interest regarding the publication of this paper.

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