

**CREATE OF FEEDBACK VIDEOS WITH SCREENCAST TO
ENHANCE STUDENT LEARNING ACHIEVEMENT AND
SATISFACTION**



**A THESIS REPORT SUBMITTED IN PARTIAL FULFILLMENT OF THE
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KING MONGKUT'S INSTITUTE OF TECHNOLOGY LADKRABANG
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ABSTRACT

The objectives of this research were: 1) develop effective screencast feedback to improve student achievement, 2) Comparing the learning achievement of students in the experimental and control groups, 3) study the satisfaction of students in the experimental group with screencast feedback.

The study population was 97 undergraduate students at a public university in China. The research instruments included text feedback, screencast feedback, an achievement test, and student satisfaction questionnaire on screencast feedback. The statistical methods used for data analysis were percentages, means, standard deviations, and t-test correlations. The results showed that 1) students who used screencast feedback had higher grades than those who used text feedback, 2) students' satisfaction with screencast feedback was high, and 3) screencast feedback had a positive effect in reducing students' cognitive load, enhancing teacher-student affect, and providing personalized feedback.

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CHAPTER 1

INTRODUCTION

1.1 Research Background

The COVID-19 pandemic has affected every aspect of our lives. Teaching and learning went digital virtually overnight on a global scale, with higher education being one central area that experienced a fundamental shift. (Bilecen, 2020). Realizing that students can continue to learn in the face of an epidemic, humanity has embarked on the largest online education exercise. This has objectively contributed to the development of online education and online education technology. People are looking at online education in a whole new light. There are numerous forms of online education, including live classrooms, recorded classrooms, online self-directed learning, and a variety of different teaching methods. Regardless of format, video instruction is its basic form of instruction. Some people will have questions about these video classroom materials, including (MOOC, micro class, live, recorded, etc.); the lack of face-to-face communication, the lack of face-to-face classroom interaction, and the effectiveness of the class are worrying.

Homework feedback is a popular topic in China. The topic has received 160 million hits and 15,000 discussions on Weibo, a popular Chinese social networking site. A big reason is that many teachers in China have to teach 80-100 students at a time. Teachers complete their teaching tasks during the day and correct assignments late at night. Personalizing feedback is even more difficult.

Feedback is also a subject of great international interest. Particularly amid a pandemic, when many universities are under both human and physical strain, schools need to invest more in technology to ensure that teaching and learning run smoothly now. Teachers need to put more effort into completing their education. In such cases, face-to-face feedback becomes precious. This is why improved feedback methods have become necessary. With the proliferation of online courses, quality control has become a necessity. A survey of six sets of quality standards for online classes shows that all share a common theme: for an online course to be successful, there must be meaningful student and instructor interaction. Even in face-to-face lectures, higher education students report that feedback's nature, timeliness, and specificity are insufficient (Baldwin, Ching, & Hsu, 2018). Feedback is an essential component of learning in both online and offline courses.

One of undergraduate education's seven principles is providing timely feedback to students (Arthur W Chickering, 1987). Providing feedback is part of Gagne's (1977) nine teaching events. Scriven (1967) advocates using formative assessment in teaching and learning, and formative assessment includes providing feedback. Feedback is an essential component of effective learning. It helps students understand the subject being studied and provides clear guidance on improving their learning (Bellon et al., 1991). Assessment in tertiary education should cease to be only a summative measurement of student learning (Alharbi, 2017). Summative feedback merely reviews what students have learned and does little to improve the problems students have with their learning. At the same time, feedback is central to teaching and learning and a powerful tool in the classroom. In addition to being an assessment tool, feedback contributes to developing social relationships and accumulating formative information (Dowden et al., 2013).

As an integral part of classroom instruction, teacher feedback provides learners with valuable information on the strengths and weaknesses of meeting established learning objectives (Cheng & Li, 2020). The ability of feedback to work is a shared responsibility between the teacher and the student; the teacher's responsibility as an assessor is to provide accurate instructions on providing student performance and to provide specific comments and suggestions; the student's responsibility is to master the learning content and to use the teacher's feedback to acquire the necessary tacit knowledge (Sadler, 2010). Nicol and Macfarlane (2006) state that quality feedback should have the following qualities: a) helps to clarify instructional goals, standards, and expectations; b) exercises and develops self-reflective evaluation and learner self-regulation; c) provides frequent, regular feedback that promotes learner self-discipline; d) provides efficient feedback and encourages teacher and peer evaluation and dialogue around learning; e) provides positive motivation, encourages positive beliefs and self-esteem to promote proper self-assessment, f) provide opportunities to close the gap between current and desired performance; and g) provide teachers with information that can be used to help shape instruction. But the resource constraints of the traditional university have led to a reduction in the frequency of assignments, the quantity and quality of feedback, and the timeliness of feedback (Gibbs, 2005)

With the development of science and technology, computer-based feedback is more and more widely used in teaching. From the perspective of teachers, the outbreak of COVID-19 objectively forces some teachers who are not sensitive to technology to choose to teach and deliver feedback through the Internet. They chose to relearn the computer skills of the Web, and because of the proliferation of smartphones, a Screencast is an accessible option because it comes with most mobile phones. More powerful software designed specifically for Screencast is also easy to download. Screencast-o-Matic, Adobe Spark Video, Loom, etc. Screencast's early uses were mainly to explain product instructions. Software engineers created Screencast to showcase their work. With the development of the Internet and the rise of online education, many teachers use this way of teaching. Students also use Screencast to record learning feedback, so Screencast has become a medium for teachers and students to interact. Good interaction is essential to increase students' motivation to learn (Puspitarini & Hanif, 2019), and can be interpreted as the drive generated in the student that leads to learning activities, ensures the continuity of the learning process, and provides guidance in the learning process to achieve learning goals. Motivation for learning is one of the determining factors in achieving learning goals. Through learning motivation, students are motivated to pay attention to the ongoing learning process. According to the main findings of existing research on motivation in higher education, describe motivation as a) the amount of effort devoted to an activity and its goals; b) something that has some consistency but can change; c) something that affects, but is also influenced by, the level of performance; and d) something that appears in a contrasting manner. Increasing student motivation can also directly affect learning outcomes (Schoeffel, Ramos, Cechinel, & Wazlawick, 2022).

The existing common feedback methods can be summarized as face-to-face verbal feedback, text feedback, podcast feedback, and video feedback. Face-to-face verbal feedback and text feedback are often used in traditional teaching environments, and for assignment feedback, text feedback is applied more frequently. Of course, text-based feedback is also applicable to online teaching environments. Compared to podcasts and video feedback, text feedback is also the most widely used. It does not

require sophisticated computer skills, and instructors can adapt very quickly to move text feedback from offline to online. However, the disadvantages of text-based feedback are obvious. Because of the widespread use of text, it is also the easiest way for students to receive feedback. As a relatively new alternative to technological advances and epidemics, it is necessary to examine student satisfaction with the use of screencast feedback. Satisfaction is viewed as comparing the pleasure or displeasure between outcome expectations and perceived service (Oliver, 1980). Henning et al. (2001) found that both teaching quality and student learning satisfaction were important factors in maintaining student loyalty.

In writing English as a Second Language, students need guidance on grammar and structure, pronunciation, and listening. At the same time, improving language accuracy is also very important (Li, Link, & Hegelheimer, 2015). In this case, teachers should consider choosing more feedback methods. The knowledge provided by the myriad options and revelation technologies has teachers wondering which tools to adopt in their particular environment. It is also necessary to explore which tools are more effective (Cunningham, 2019). From the student's perspective, this paper will study the enthusiasm and satisfaction of college students' participation in feedback from Text and Screencast and promote teachers' guidance on selection tools through the study of the results.

1.2 Research Objectives

There are three main objectives of this study:

- a) To develop a screencast feedback video. To create student achievement and satisfaction.
- b) Post-test was used to comparing the students' learning achievement of the text feedback method and the screencast feedback method in the Public English Test System (PETS) level 3 English exam.
- c) To study the satisfaction of students in the experimental group with screencast feedback.

1.3 Research Questions

- RQ1 How to create a screencast feedback video with an appropriate quality level?
- RQ2 What are the differences in student achievement between the text feedback method and the Screencast feedback method?
- RQ3 How satisfied the students were with the feedback they received using the screencast?

1.4 Conceptual Framework

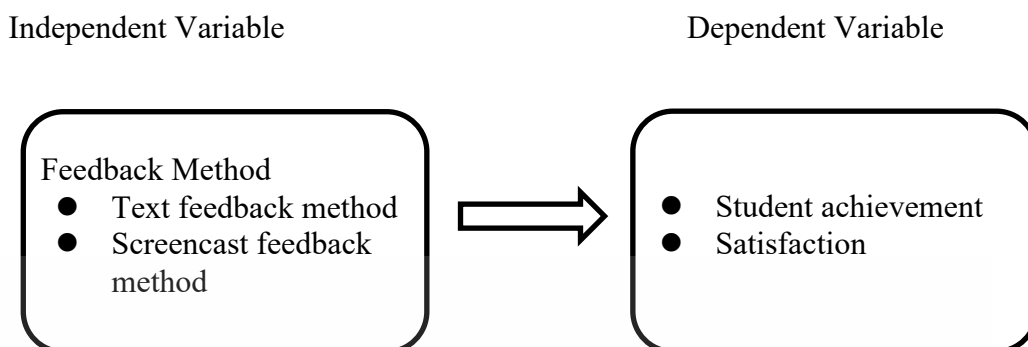


Figure 1.1 Conceptual Framework

1.5 Scope of the Study

1.5.1 The following three phases were designed for this study:

- a) develop screencast video feedback.
- b) Effectiveness of the feedback from the screencast.
- c) Use screencast as a feedback method for student satisfaction.

1.5.2 Study population and sample:

- a) The study population was 207 students who were not English majors studying English courses. The course is based on the textbook "Comprehensive English Course for the 21st Century University 3". Students will train their English skills.
- b) Sample size: The target population is a university in China, computer science and technology students in the class of 2020. The total number of students is 207, with 5 classes. Using Cluster random sampling method, 2 classes were selected from the 5 classes. These two classes had a total of 97 students. 97 students were divided into an experimental group and a control group. The experimental group, with 41 students, used the video feedback method. The control group had 56 students and used the traditional text-based feedback method.
- c) After the students in both groups completed the English achievement test, the experimental group filled out the satisfaction questionnaire.

1.5.3 Variables in the study:

- a) Independent variable: Traditional text feedback method and Screencast feedback videos method.
- b) Dependent variable: students learning achievement and satisfaction.

1.6 Limitation of the Study

The limitations of this paper were twofold: first, the selective nature of the sample means that it is not representative of the entire student population. Secondly to achieve this study, the authors consulted many teachers, but the number of those who expressed a positive response was small. Further research on teacher acceptance of use should be conducted in the future.

1.7 Definition of the Terms

Feedback theory is divided into formative and summative feedback. Formative feedback contains a variety of content and forms, such as interactive classroom activities, homework assignments, and surveys, and is given during the learning process. In contrast, summative feedback usually occurs at the end of a topic or semester. It provides an assessment of student and class learning, usually related to grades, in the form of scores. Formative feedback is increasingly valued and exploring effective feedback is mainly at this stage. It enables students to establish correct learning goals, correct errors, and guide improvement methods in a timely manner. Good feedback will promote deeper learning and feed forward. It will also directly affect the effectiveness of summative feedback.

Screencast feedback combined with computer technology brings multi-sensory stimulation to students, which can increase student motivation, promote teacher-student interaction, enhance the relationship, as well as easily achieve personalized feedback, and promote the realization of effective feedback in many ways. screencast feedback combines various technologies of image, text, and sound. It can also show the teacher's thinking process when creating the feedback, which is more conducive to student thinking and learning.

Text Feedback is where the teacher gives feedback in the form of text, adding comments and corrections in the margins or between lines of student work. This is easy for the teacher to do and requires no additional learning load. This approach also handles information that is suitable for complex and difficult to remember. Text-only feedback can also cause bias in student understanding and does not demonstrate the teacher's thought process.

Learning achievement performance is usually measured through exams or summative assessments. It can be used to detect learning outcomes. The Public English Test System (PETS) is used in this article to test students' English proficiency. This set of 24 questions contains tests of grammar, vocabulary, and reading-related skills. PETS is a national English proficiency test system designed and administered by the Examination Center of the Chinese Ministry of Education.

Student satisfaction is the process and result of the student's education with the A subjective evaluation of how well they feel about their experience at school. Factors that influence student satisfaction are educational outcomes, teacher-student interaction, and individualization.

In this paper, a Likert scale (5 levels) was used to quantify student satisfaction. For each question or statement, subjects choose from a range of answer options. The set options were as follows :

- Strongly agree
- Agree
- Neutral
- Disagree
- Strongly disagree

In studies where answer options are numerically coded, "strongly agree" would be rated as 1 or 5, increasing or decreasing for each response, for example, 5, 4, 3, 2, and 1 in the example above.

ADDIE model is a general teaching model, including Analysis, Design, Development, Implementation, Evaluation five cycles. Can be used for traditional and

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online teaching. In this paper, the ADDIE model was used to design the entire process of instruction to determine the learning objectives in a structured manner and to ensure learning outcomes. Ensure that the instructional plan is the same and standardized for the experimental and control groups. Differences in student performance in the same instructional setting are guaranteed only if the feedback methods differ.



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CHAPTER 2

LITERATURE REVIEW

In this chapter, the researcher compiles the relevant literature and analyzes the relevant theories to support the production of effective feedback. The pedagogical approach is also investigated to apply effective feedback in practical teaching.

2.1 Principle/Theory

2.1.1 Feedback theory

The idea of feedback began in the 18th century in English economic theory but was not considered a universal abstraction then and therefore was not defined by name (Mayr, 1989). When people are trying to learn new skills, they must get some information to know if their actions are correct. This is especially true when it comes to classroom learning. The primary purpose of feedback is to help learners adjust their thinking and behavior to produce better learning outcomes (Shute, 2008). In an educational context, feedback is a critical element of formative assessment, usually defined by the degree to which something has been or is being accomplished. Feedback is information about the gaps that show the actual and reference levels of learning (Ramaprasad, 1983). Helpful feedback is information given to students about these gaps and is designed to help them reduce or close them (Biggs, 2003). The process and outcome of feedback should be to help an actively engaged, energetic, and motivated person improve academic performance.

Feedback has long been recognized as a powerful tool for student learning and growth. Many studies (e.g. (Matcha, Gašević, Uzir, Jovanović, & Pardo, 2019) & (Zimbardi et al., 2016)) have concluded that providing meaningful feedback to students can significantly improve their learning and performance. In Gagne's feedback theory, learners are provided feedback on their performance immediately after demonstrating their knowledge to assess and facilitate learning. This is also an excellent time to reinforce the theory. This phase helps to reinforce the correct answer by guiding the extent to which the task is correct. If the response or behavior is incorrect, corrective feedback is provided. How to provide feedback, Gagne suggests being optimistic and objective, using first-hand attention to observation, improving the availability of targeted and concise feedback, and focusing on areas over which the student has control (Gagné, 1977). There are four aspects of how feedback can be used to support learning (Mory, 2004). First, feedback can be used as a motivational mechanism to increase response speed and/or accuracy. Second, feedback can be seen as a reinforcer that automatically relates responses to prior experience (this focuses primarily on correct responses). Third, feedback can facilitate feedforward, i.e., the learner validates or changes information about prior or previous responses by validating or changing them (focusing on incorrect responses). Finally, feedback can be seen as providing scaffolding to help students construct internal patterns and analyze their learning process (Mory, 2004).

How teachers provide effective feedback has been under research for decades. Effective feedback can help learners learn more deeply about the knowledge learned and skills acquired (Boud, 2007) and maintain permanent motivation for learners (Hatzipanagos & Warburton, 2009). Feedback, whether it is for mastery or provided by others, is effectively goal-related, specific and personalized, timely, meaningful, candid and transparent, actionable and consistent (Wiggins, 2012).

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Nelson (2008) proposed two types of feedback, namely, cognitive and affective. In cognitive feedback, more attention is given to set learning goals; strategies for implementing the goals; management of resources; description and explanation of the review; affective feedback focuses on the quality of the work, using affective language for praise ("good writing") and criticism ("bad writing"), or using nonverbal expressions such as facial expressions gestures and emotional tones.

In figure 2.1, Nelson maps the two types of feedback and the impact relationships. The solid line indicates a positive correlation; the dashed line indicates a negative correlation.

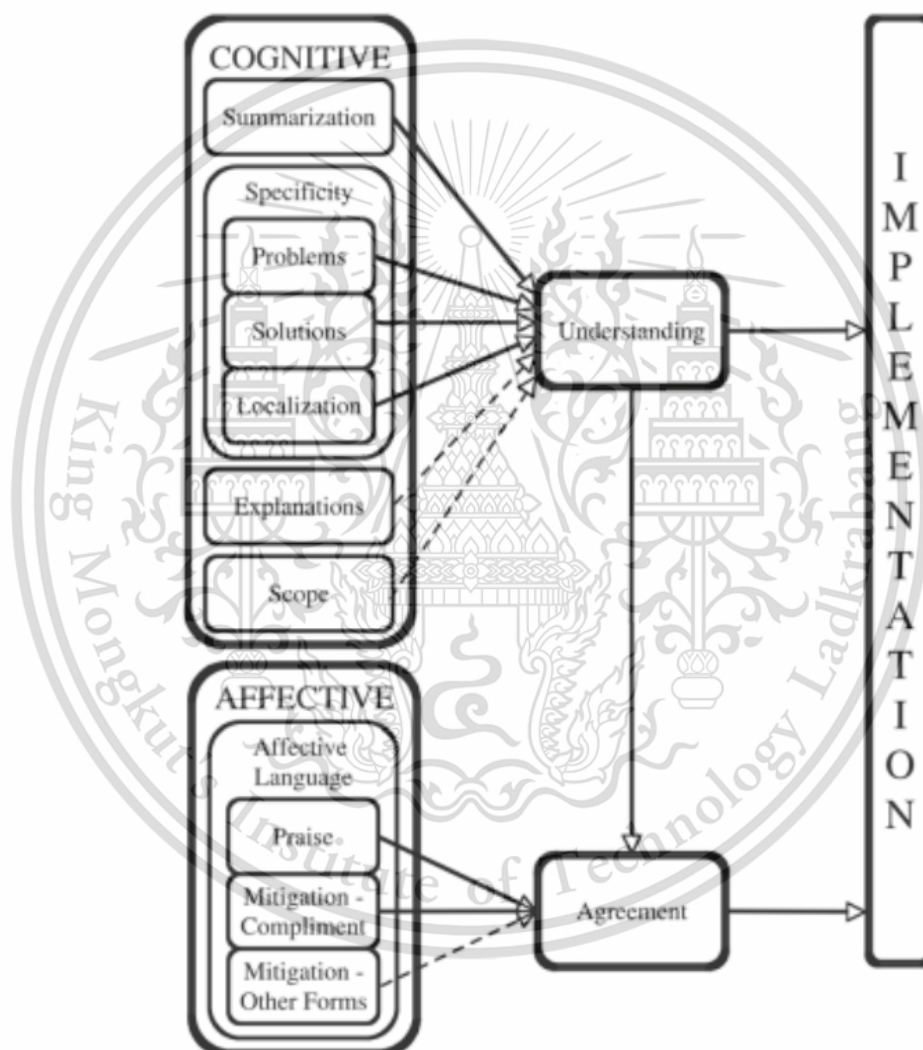


Figure 2.1 Feedback Model

Source: Nelson and Schunn (2008)

Formative assessment is a prelude to formal assessment, and thus teachers generally rely on it with increased reliance (Dixson & Worrell, 2016). It is also at the heart of effective teaching (Black & Wiliam, 2010). In this paper, the common forms of feedback I discuss focus on providing formative assessments for students. A common

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form of feedback is text feedback. In text feedback, the instructor gives feedback in the form of text, including handwritten annotations added between the lines or in the margins or suggestions for changes and comments in electronic document revision mode. The five feedback characteristics of textual feedback that influence the outcome of feedback implementation in the mediated relationship between problem-solving and solution understanding are: summarizing, identifying the problem, providing a solution, localizing, explaining, scoping, praising, and moderating language (Nelson & Schunn, 2008). The advantage of text feedback is that it is the most common form of feedback in teaching, which may form a habit for some students who are more comfortable and receptive to feedback. Text feedback is simple to use, concise feedback. Teachers do not need to learn to use other tools. The text feedback approach is suitable for expressing complex and difficult-to-remember information. Content can be viewed repeatedly. There are also many disadvantages to text feedback, the first of which is that it is more challenging to communicate with teachers (Morris & Chikwa, 2016). Too tricky to decipher or hard to understand was common feedback from students on the text, or the opinion is vague and cannot be understood correctly (Duncan, 2007).

Face-to-face feedback is used for one-on-one verbal feedback at specific times, which is more effective in interacting with students, promoting personalization, and encouraging dialogue. It is often used as an adjunct to text-based feedback. Compared to text-based feedback, students can more accurately understand the meaning conveyed by the teacher through the teacher's expressions and language; students feel the teacher's emotions by capturing the teacher's words and expressions and experience fewer negative emotions due to misunderstanding the teacher's emotions; and because feedback is given face-to-face, it is easier to empathize emotionally. In turn, students develop a sense of self-efficacy and promote feedback motivation (Johnson, Weerasuria, & Keating, 2020). Of course, this approach has obvious negatives; it is time-consuming and costly to coordinate, teachers need excellent communication skills, and students need to review feedback more frequently. For shy students, face-to-face feedback can be a burden.

Podcast feedback is used more often in low-collar children who are less literate. In other age groups, it is usually applied as a text supplement (especially for correcting pronunciation, etc.) environment. It performs well for students in reducing cognitive impairment and increasing motivation compared to text feedback (Cann, 2014). However, some students' podcast feedback is not accepted because audio feedback cannot be previewed compared to text and video feedback, increasing the difficulty of identifying specific issues (Morris & Chikwa, 2016).

2.1.2 Screencast theory

Screencast consists of placing recorded material (both screen and audio files) in a virtual learning environment accessible to students, recording what is on the instructor's screen while capturing the instructor's voice and commenting on and explaining the images. In addition, subtitles can be added to support the audio files (Morris & Chikwa, 2013). A screencast is a modern video version in which the author records a digital display of the process with a different voice. It is often used to create tutorials and can also offer the possibility of multi-modal feedback. The screencast approach provides audio commentary on student work and can also add on-screen video where the instructor can use gestures to point out and display the area of work being discussed (Cunningham, 2019). In practice, the role of technology as a mediator of feedback is becoming more widespread and prominent in facilitating teaching and learning, with technology supporting multiple modalities (e.g., audio, video, and text)

to provide feedback to students. Although many teachers have embraced the use of screen recording feedback due to technological developments and the impact of the epidemic, the use of screencasts remains a massive challenge for teachers who follow more than one teacher, as they need to complete each recording for their students within a specific time frame while meeting assessment criteria. Some teachers are concerned about the quality of their production feedback and the time it takes to produce these (Vincelette & Bostic, 2013). So first you need to understand the standard screencast tools.

With the development of computer technology, many programs are available to create screencast videos (Table 2.1), and they vary in size, functionality, ease of use, and cost. Screencast technology has been enriched with Jing and Screenr for laptops and desktop computers and BHO for mobile devices. The recording function that comes with the mobile device also provides excellent convenience.

The authors studied several popular screencast software on the market (table 2.1). Briefly, they compared the ease of downloading, using, etc., to facilitate teachers in choosing which software to work with at the initial stage.

Table 2.1 Popular screencast apps

Name	Company	Applicable platforms	Operation difficulty level	Description
Microsoft PowerPoint	Microsoft Corporation	PC/iPad/iPhone	Easy	Based mainly on the usage of PowerPoint, users who are accustomed to using PowerPoint can use the screencast function basically without additional learning.
WPS	Kingsoft Corporation	PC/iPad/iPhone	Easy	Based mainly on the usage of WPS, users who are used to using WPS can basically use the screencast function without additional learning. This feature is available for all software in the WPS software collection.
Canvas	Canva Pty Ltd	PC/iPad/iPhone	Easy	Like Microsoft and WPS, it is very easy to use.
Screencast-o-Matic	Screencast-o-Matic	PC/iPad/iPhone	Appropriate	Need to learn some recording skills to be able to support more demanding video screen productions. Support features such as picture-in-picture, automatic subtitles, etc.

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Table 2.1 (Continued)

Name	Company	Applicable platforms	Operation difficulty level	Description
Loom	Loom, Inc	PC/iPad/ iPhone	Appropriate	Some recording skills need to be learned to be able to support more demanding video screen production. Supports special features such as emoji reflection and audience insight.
Vidyard	Vidyard, Inc	PC/iPad/ iPhone	Appropriate	Need to learn some recording skills to be able to support more demanding video screen productions. Support features such as video tracking, automation technology, etc..

Some synchronous screencast software, such as Zoom, Cisco Webex meeting, etc., are commonly used in China and are Tencent meeting, DingTalk, Betc. Dedicated screencast software is relatively tricky for non-technical teachers at the beginning of use. However, after teachers' pay some learning costs, software based on AI, supported by big data, will significantly reduce production time, such as automatic text generation, automatic insertion of images, and other features. At the same time, video tracking and response feature help teachers receive instant feedback from students and interact with them. To a certain extent, it will facilitate the realization of effective feedback.

Because screencasts can combine text, sound, and graphics, they also make up for the lack of other feedback forms. Students can hear the teacher's voice and influence and grasp the expression and tone of voice, which is almost close to face-to-face feedback. Nevertheless, this type of feedback avoids the problems that face-to-face situations create and the social pressure it creates. In the study of Carabajal (2003), it was pointed out. Video can make students feel comfortable because of the perceived distance and the fact that the teacher is not facing the student. Here the teacher is less socially burdened. The teacher does not have to repeatedly deliberate on statements and can give feedback in clear and precise language; for the students, who will be more focused on the screen, this approach does not bring physical interaction stress.

When students use screencasts, they can choose what feedback to watch through the preview feature, which allows for more personalized feedback than podcast feedback. Students decide to watch full or partial videos based on their progress and can also choose which highlights to watch repeatedly based on their level of knowledge.

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Another advantage of the screencast is visual learning; this feedback allows for intuitive and straightforward understanding. Cordiner (2011) believes that feedback has clear auditory and visual elements that engage students, and screencast technology can do this. Teachers parsing problems in steps will give students a sense of clarity, especially in subjects such as math, physics, and computing. Visual aspects such as medicine, visual arts, and music also have substantial advantages.

When teachers produce text feedback, they usually are too brief or point out students' mistakes directly, and in some words of encouragement they will rarely or not appear in the input. The critical reason is that teachers are overburdened with text writing when producing text feedback. Even now, with the help of technological tools such as word, this habit or difficulty still exists. The text reading burden also acts on students, especially some dyslexic students. Students lack understanding of the content of the feedback and have difficulty communicating while developing negative feelings about the teacher's criticism. (Beach, 2006). Teachers can use various methods to convey information when giving screencast feedback, and students have more personalized options. Many students respond that this approach reduces cognitive load, increases confidence (Bissell, 2017), and can address apathy or lack of engagement in the feedback process (Marriott & Teoh, 2012).

Based on Nelson's (2008) feedback model, based on the characteristics of screencast technology. The screencast feedback model is evolved.

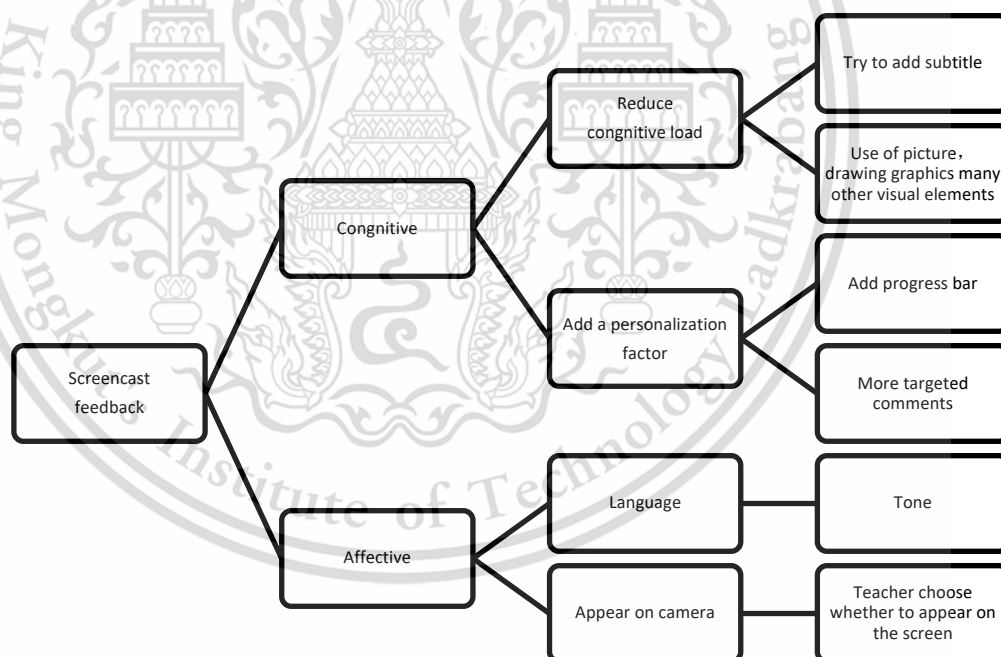


Figure 2.2 Screencast Feedback Model

2.1.3 Learning Achievement theory

Because learning is a process, it is impossible to talk about learning outcomes without the learning process. Proficiency tests are tests that examine the learning outcomes of learners, tests that measure the level of skills or knowledge that learners have achieved. Tests also clearly tell learners what their strengths and weaknesses are

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in terms of learning. Research in cognitive science and psychology has shown that testing is an effective way to learn, to motivate learners to learn, and to remember better and deepen understanding. Tests have a positive effect on activating active recall tasks (Endres & Renkl, 2015). The Quizlet uses a card-based approach to capture information, knowledge, and memory. They transform review, information, and knowledge efficiently to help learn this remembering and thinking.

From the feedback perspective, learning achievement can be understood as summary feedback. It is usually in the form of a score that assesses the student's learning. Summative assessments are summative learning assessment activities (Gardner, 2010). Both end-of-year tests can be used to summarize and shape student performance if they also become the focus of student reflection and self-assessment. Formative assessment is a systematic, diagnostic, small-scale assessment process that helps students determine what is working effectively, where it needs to be improved, and how (Fitzpatrick, 2011). Summative feedback will provide a more direct and precise picture of learning outcomes. The format tends to be formal, with higher assessment weights than formative evaluations.

2.1.4 Student Satisfaction theory

Student satisfaction is a competent evaluation of students' favorable perceptions of various outcomes and experiences related to their education (Shin, 2002). Higher education is widely considered a service industry, and as such, it should be more focused on meeting the expectations and needs of students (Cheong Cheng, 1997). Focusing on student satisfaction allows the University Design Office to organize to meet the needs of students but also helps teachers improve instruction and design programs to achieve success in both teaching and learning. In classroom satisfaction surveys, improving student affective outcomes correlates highly with the actual classroom environment and the classroom environment that students prefer. Students prefer classrooms with high levels of teacher-student interaction and personalization (Shin, 2002). In many business cases, high satisfaction means high repurchase rates. In an instructional setting, higher student satisfaction also means higher usage and impact on student achievement. It also means that faculty and students are generating effective feedback and that the fruits of their labor are being valued.

The study found that when it came to overall satisfaction, student satisfaction focused on faculty involvement in instructing and supporting the course materials and the feedback they received on assignments (Gallien, 2008). Lack of clarity and detail in the objectives given by the teacher, untimeliness, and lack of choice in the feedback process can reduce student satisfaction. Students expect good communication and interaction with the teacher, and a cordial teacher-student relationship will increase satisfaction (Scott, 2008).

In the modern era of constantly updated technology, people's ways of accessing information are also changing. It is easier to attract students' interest and motivation to learn and promote their academic performance by transmitting information and knowledge in various ways, such as visual, auditory, and textual. Ajzen (1980) argues that attitudes predict individual intentions and behaviors. Most students prefer video-based assessment feedback, indicating that they find this helpful approach. This is demonstrated by the fact that students feel that video feedback is more personalized and that students feel valued as individuals and as a student. The media provided a rich product of cues, and students enjoyed seeing human faces and being able to read and interpret visual signals and cues (Phillips, 2015). Students who receive individualized

feedback also perform better academically than those who receive group feedback (Gallien, 2008).

Good grades promote student satisfaction (Eom, 2006). Determining student satisfaction is a significant predictor of learning outcomes. Measuring student learning outcomes can be a way to assess student academic performance and instructional effectiveness and provide a measure of student satisfaction (Wanjohi, 2014). Terence (1989) argues that the main principle of good assessment is clearly articulating what you are measuring.

In this paper, the relationship between stage feedback, summative feedback, and student satisfaction is shown in Figure 2.3. Student satisfaction interacts with formative feedback (assignment feedback) and summative feedback (tests). Formative feedback affects summative feedback. That is, it affects the level of student achievement.

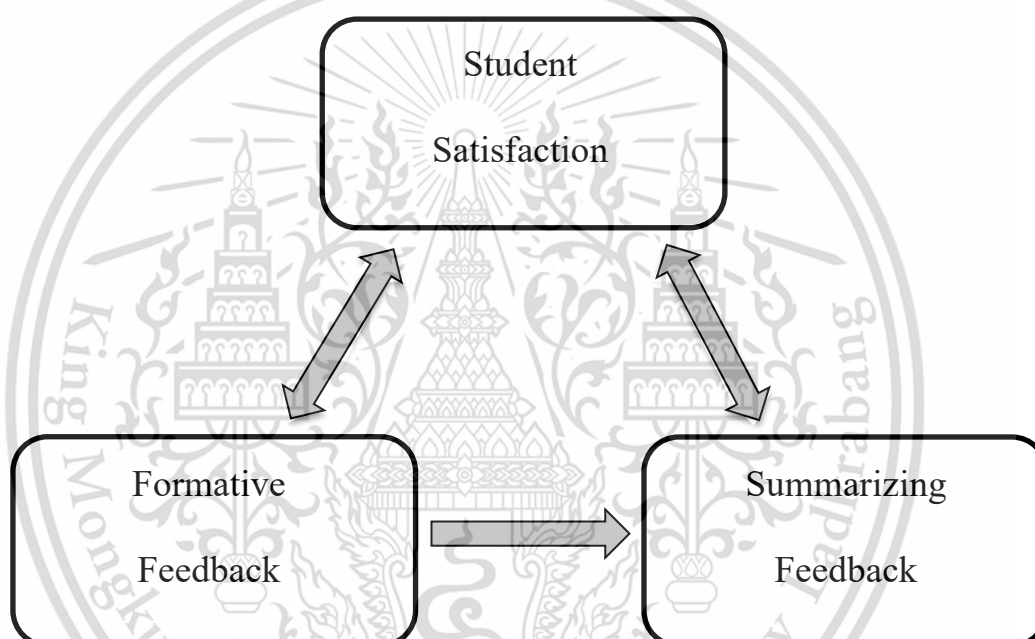


Figure 2.3 Feedback and satisfaction relationship chart

2.1.5 ADDIE Model theory

Instructional design is an instructional system. Teachers design instructional processes and methods, select instructional materials, and teachers are expected to think from the student's perspective, to think in student-centered ways about how to get students to learn and help them achieve their academic goals. Each instructional phase should be designed to be independent and interrelated. At the same time, for students to learn effectively, teachers should clarify the learning outcomes for the pedagogue at each stage and provide timely and practical guidelines. Influencing academic performance was associated with students' more robust endorsement of mastery goals. That is the positive impact of mastery goals.

The ADDIE model was developed by the Center for Educational Technology at Florida State University in the mid- 1970s and contained five areas: analysis, design, development, implementation, and evaluation. It is primarily used to formalize and

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design the processes inherent in ISD theory development. Many design models are based to some extent on the ADDIE model framework (Allen, 2017) (Figure 2.3). The model is based on instructional design theory, a streamlining instructional design theory. At the same time, it provides a way to visualize the process of teaching activities and has operability characteristics. ADDIE's applications in education mainly guide the optimal design of curriculum, the design and application of digital resources, and education and training. Rasiman (2020) combined the application of the ADDIE model with the development of digital resources and used the ADDIE model to guide the development of mathematical learning media in the form of learning videos to enhance the reasoning competencies of students in mathematics education learning programs. The ADDIE model has five parts, reflecting its systematicity and completeness as a universal instructional design model. It is a model for instructional design.

Analysis

The analysis phase is the basis for all other instructional design phases. The teacher incorporates needs, work, and tasks through collection and analysis in this phase. Identify the target audience and understand the instructional objectives. Gain insight into the learners' levels and experiences to ensure that the instructional program is implemented and completed.

In Piskurich's (2018) research, the analysis phase of the ADDIE model is "the process of collecting data to identify specific needs: a reflection phase about who, what, where, when, and why. During this phase, the designer collects information about the learners, and during this phase, the actual situation and needs of the learners are identified.

Design

In the design phase, learning objectives are developed based on the analysis phase, the teaching plan implementation process is designed, and teaching methods, such as teaching software, are selected. The first is the course or unit designed to determine what the purpose of learning is. The second is what designs can be used to achieve this purpose and how to integrate these designs organically. Furthermore, finally, how to use evaluation to test whether the designs have achieved the original purpose. We gather information about the learners, determine the appropriate instructional approach based on learner characteristics, and use various instructional strategies to integrate each approach with the unit's content.

Development

This stage is the application of the content of the previous stages of mastery design. The teacher prepares the instructional materials and ensures that the students understand and master the materials according to the instructional objectives.

In this phase, the data and content of the preliminary analysis are transformed into a concrete design or instructional product. Once the designer has completed the design, he or she begins to build the actual instructional module. The instructional design phase incorporates the theories, and the development phase incorporates the theories into the practical expressions based on the technologies. The designer should have a deep understanding and knowledge of the material and then help the learners better understand the teaching content and material on this basis.

Implementation

This is the concrete implementation phase of the instructional program. The teacher should provide students with relevant instructional materials to ensure proper understanding and mastery of the objectives and content.

The course designer and the learners work together in the teaching and learning activities within the teaching and learning environment. This is the materialization session of the previous sessions. In this phase, the designer combines theories, determines instructional strategies, and sets up details to ensure that the In this stage, the designer should combine theories, determine teaching strategies, and set up details to ensure that the previous design can be implemented in the actual teaching environment.

Evaluation

Formative Evaluation focuses on the assessment of the learning process. Through the interactive feedback between the teacher and the students in this phase, which is an ongoing process, students can correct their mistakes and understand the teaching objectives through continuous feedback. Furthermore, influence the results of summative feedback.

Summative Evaluation focuses on the effectiveness of teaching and learning and, in this paper, is mainly a measure of student achievement using a test.

The final stage is the evaluation stage. In this phase, the designer assesses the effectiveness of the instruction by a pre-designed evaluation approach. The assessment approach is developed during the design phase and combines process and summative assessments to ultimately weigh the effectiveness of learning and the effectiveness of the participants' learning outcomes.

From Figure 2.4 is the interrelationship of ADDIE model, and from the figure, it can be seen that each stage has interaction with formative evaluation.

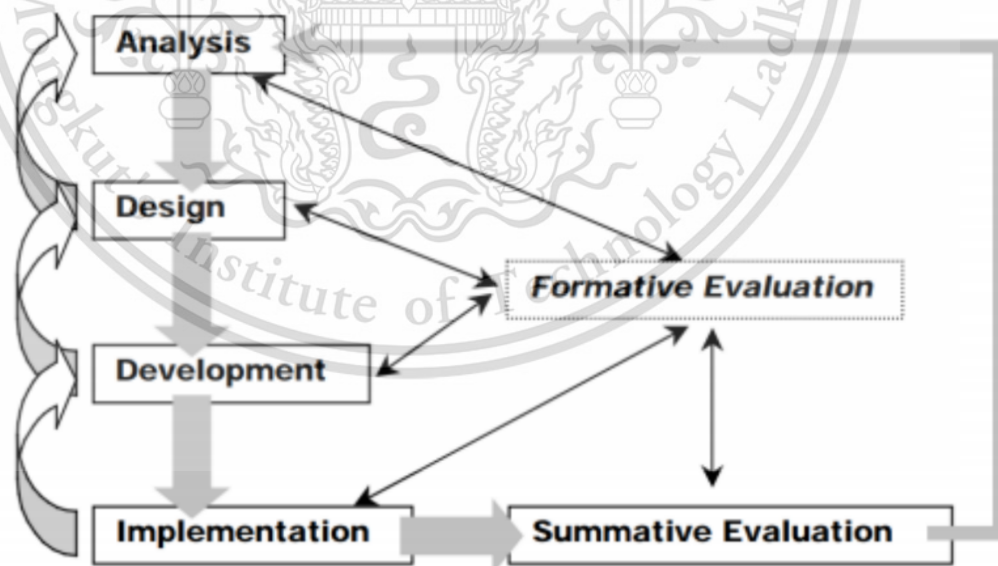


Figure 2.4 ADDIE Model

Source: Steven (2000) Instructional Systems,
College of Education, Penn State University

In this paper, the experimental and control groups are taught in the same way in the two phases of Analysis and Design. This is to ensure the standardization of the teaching plan under the same teaching objective. In the Formative Evaluation phase of the Implementation, two feedback methods were set up: the experimental group used a screencast feedback video, and the control group used text feedback. In the Summative Evaluation phase, both groups used the test method to obtain the results.

2.2 Related Work

This section focuses on compiling relevant literature on the impact of screencast feedback on student achievement and satisfaction.

There is not much research on screenshot feedback in China. In the full-text search with the keyword's "screencast" and "feedback" on China's largest paper search website "Zhi Wang", there are no articles related to this topic during the decade from 2011 to 2020. Internationally, there are many studies on screencast feedback and student achievement and satisfaction.

Screencast feedback in relation to student achievement: Ross (2019) studied the impact of two summary reports within a third-year engineering unit, where the grading criteria and nature of the coursework remained the same. After the introduction of screencast feedback, grades improved by 7%. In a three-group feedback survey from 43 Open University students taking elementary language coursework, at least one group associated the feedback with a sense of achievement (e.g., a good grade) (Furnborough, 2009). In Juwah's (2004) validated questionnaire survey of 382 staff and 418 students with assessment responsibilities at two Australian universities, one of the four purposes of feedback noted by participants was to demonstrate achievement. He also argued that elements of feedback design frequently cited by students were related to the form of feedback. These patterns were often related to the visibility of cognitive functions. Digital recordings were "easier to understand" or more numerous; face-to-face feedback was personalized and thorough. As a collection of digital recordings and face-to-face feedback, screencast feedback can simultaneously achieve these modalities' benefits.

Tekinarslan (2013) reported the study's results of 66-face undergraduate students. There was a significant difference between the mean scores of the experimental and control groups on multiple-choice and practical post-test scores in favor of the experimental group. In addition, students in the experimental group scored significantly higher on the multiple-choice and practical post-tests than on the pre-test stage. In addition, the mean achievement obtained scores on multiple-choice and practical pre, and post-tests were significantly higher than those of the experimental group. Performance was also demonstrated in students' revision of errors. In Cheng's (2020) study of 54 participants in a TESOL course, students in the experimental group who used screencast feedback were 70.65% and 51.30% more successful in revising content than those who used text feedback, respectively. Orlando (2016) concluded that there was an improvement in student work after receiving video feedback.

Mahoney (2019) argues that to date, screencast feedback research has focused on delivery and positive or negative student responses, with little or no demonstration of impact on learning and the ability to change student behavior. His study of a large body of related literature also shows that feedback changes do not necessarily translate into student learning outcomes. Findings on the impact of video feedback on students are limited and inconclusive.

Screencast feedback in relation to student Satisfaction: The relationship between screencast feedback and student satisfaction: Many students' favorable opinion of it stems from the fact that it allows for more detailed feedback. Many studies (Lamey, 2015; Elola, 2016) have proven this. Screencast feedback can be more detailed than written comments. This is because we can speak faster than we can type or write by hand. So, screencast feedback allows teachers to convey more detail and richness. And this does not necessarily take more time. (Mayhew, 2017) found that the video feedback corresponded to almost twice or more the number of words than the written feedback.

Another reason students love screencast feedback is that it's easy to personalize. Vincelette's (2013) survey of five composition teachers showed that teachers could tailor the screencast feedback system to their personal preferences, needs, and students. It is easy to teach to develop a speech pattern where the student is greeted by name at the beginning. This approach makes the student feel valued and that this is a unique feedback video made for him/her. Phillip's (2015) survey of 126 undergraduate and graduate students showed that what students liked about the video feedback was that it was very personal. Students felt like they were talking to the instructor, which made it feel intimate and personal. They experienced the video feedback as more from the heart.

In summary, previous research and teaching practices have validated the relationship between screencast feedback and achievement and student satisfaction. Screencast feedback both contributed to student achievement and satisfaction to some extent. Overall, students' attitudes toward screencast feedback were generally positive. But how can this feedback be incorporated into teaching practice or can feedback videos be designed to further impact student achievement and satisfaction. I will experimentally test this idea in the next sections.

CHAPTER 3

RESEARCH METHODOLOGY

In Chapter 3, specific teaching and experimental procedures were designed. Summarizing the previous literature studies, research approach and methodology about screencast production were developed.

3.1 Study Design

3.1.1 Experimental Method

Sampling: Cluster random sampling

3.1.2 Population and Sample

The population is the 2020 class of Computer Science and Technology students consisting of 5 classes with a total of 207 students.

The sample is 97 students who were enrolled in two classes of Computer Science and Technology. Two classes were randomly selected from the second-year undergraduate students as a sample.

Sample size: 2 classes were randomly selected from each of the 5 classes in the Class of 2020 by cluster random sampling. 97 people were divided into experimental and control groups. The experimental group had 41 people and used the screencast feedback method. The control group had 56 people and used the traditional text feedback method.

3.1.3 Instructional Design

Teachers designed the entire instructional program based on the ADDIE model. In Table 3.1, specific lesson plans are developed based on the model and the actual teaching situation. In general, the teaching objectives of the whole teaching plan and the teaching methods are basically the same. In the formative evaluation, the teachers' feedback methods are different, the experimental group uses screencast feedback, and the control group uses text feedback. In the summative evaluation, both groups use the Public English Test System (PETS) level 3 paper was used for the test. In Table 3.1 and Figure 3.2 and 3.3, the experimental procedures when using the two feedback methods are described specifically.

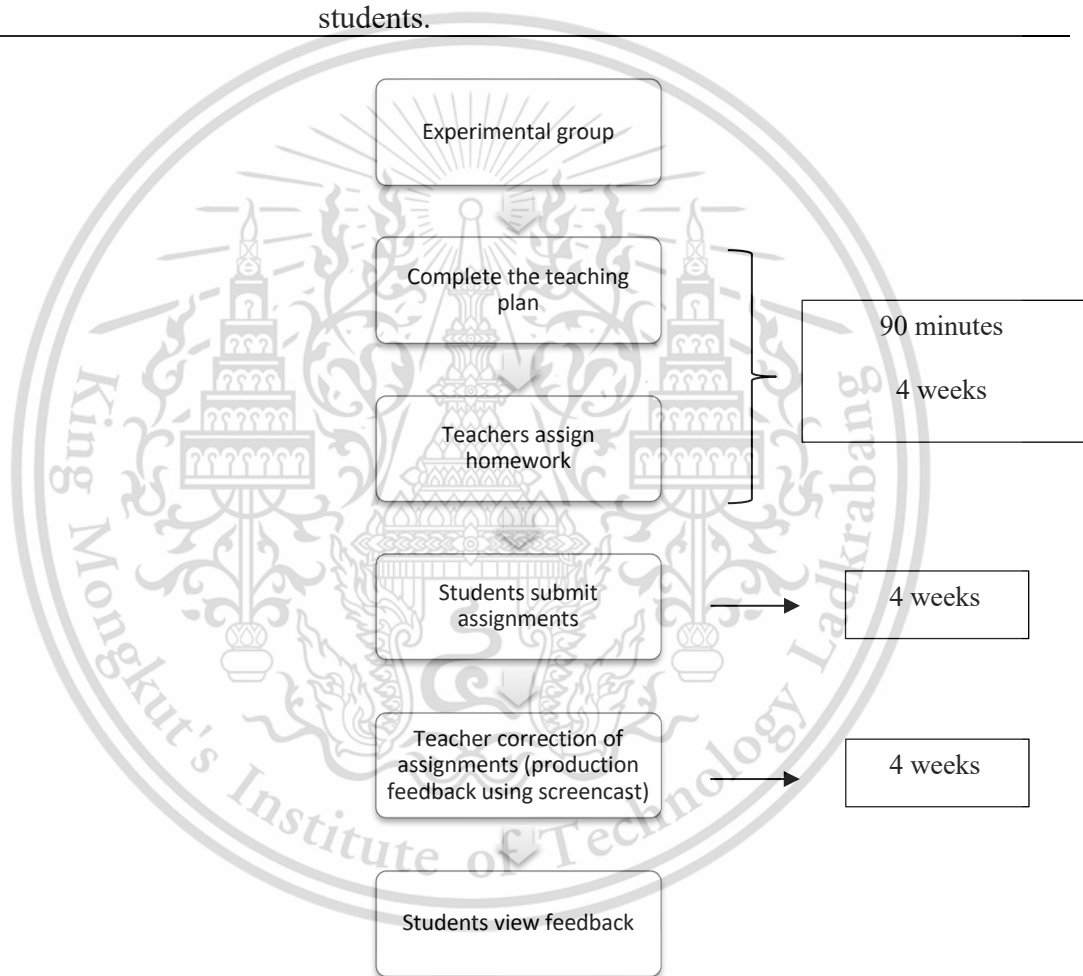
Both groups teach public university English courses. The textbook used is the Comprehensive English for the 21st Century University Course 3. The teaching content, methods, and assignments are the same. The difference is that the experimental group used the screencast feedback method. Students uploaded their assignments through the school assignment platform, and the teacher of the experimental group uploaded the recorded feedback videos to the class cloud. The control group uploaded the text feedback to the class cloud.

Table 3.1 Overall instructional program design

Step Name	Description
Analysis	In this phase, the teacher first sets the learning objectives and analyzes the basic situation of the two selected groups of students. The subjects of this paper were 97 non-English majors from a Chinese university. They all entered the university in the same year through a national examination in China. It shows that they have a similar level of knowledge and learning ability. Students can no longer provide proof of English language performance at graduation. This has led to their low motivation to learn English. Therefore, activities to enhance learning interest should be added to the curriculum.
Design	In this stage, teachers design the syllabus and teaching objectives based on the textbook "Comprehensive English Course 3 for the 21st Century University". What the teacher specifies are: a) The choice of production software and publishing platform; b) the skills of how students will use the instructional materials; c) the weekly class time and total class hours; and d) the expected learning outcomes for students.
Development	Different feedback strategies were designed for the two experimental groups; the experimental group used video screencast feedback and tools such as WPS and viamaker to create feedback videos. The control group used traditional text feedback, the teacher provides feedback by marking text on the text.
Implementation	According to the requirements of the Guide to Teaching English at University, different teaching methods are implemented in terms of grammar, reading, and translation according to the layout of the text. Improvements will be made in testing the teaching materials based on student feedback.
Evaluation Formative Evaluation	Formative assessment focuses on the evaluation of the learning process. At this stage, interactive feedback between the teacher and students, it is an ongoing process in which students can correct their mistakes and correctly understand the instructional objectives through continuous feedback. and influence the results of the summative feedback. This phase is the focus phase of this experiment, providing feedback to students in different ways and continuously adjusting strategies during implementation.

Table 3.1 (Continued)

Step Name	Description
Summative Evaluation	Summative assessment is concerned with the overall effectiveness of teaching and learning, and this paper focuses on measuring students' learning performance through tests. Therefore, in this phase, This paper uses the standardized test paper Public English Test System (PETS) level 3 to conduct summative assessments of students.

**Figure 3.1** Experimental group flow

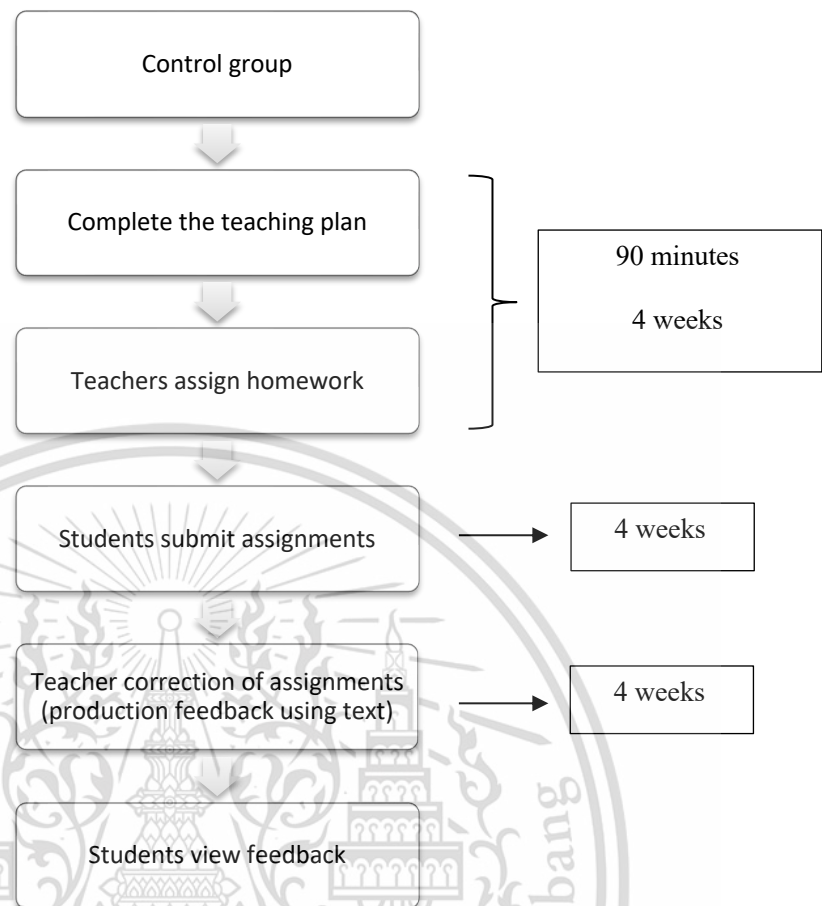


Figure 3.2 Control group flow

3.2 Participant

The population is the 2020 class of Computer Science and Technology students consisting of 5 classes with a total of 207 students.

The subjects of this paper were two cluster random sampling selected classes of undergraduate students in the class of 2020 with a total of 97 students. 41 students were assigned to the experimental group and 56 students were assigned to the control group. The experimental group used screencast as a feedback method for student assignments and the control group used text as a feedback method for student assignments. Subsequently, out of these 97 students, 41 experimental group participated in the satisfaction questionnaire.

3.3 Context of study

By combing through the relevant literature and studying different feedback methods. I gained a deeper understanding of students' needs and requirements for feedback. To study the two issues that students care most about regarding feedback, namely, grades and satisfaction. And the experimental design from the perspective of course design to respond to students' expectations.

Instructional program design:

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1. Course Name: College English III
2. Course Type: General Education Required Course
3. Using textbook: 21st Century College English Comprehensive Course 3
4. Teaching Objectives: a.) Through the study of this course, students will develop their English application skills and enhance their intercultural communication awareness and communication skills. b.) To improve students' comprehensive cultural literacy and enable them to use the English they have learned effectively in their study, life, social interactions and later study and work. c.) Through the study of English, students learn about foreign cultures and social history, enhance their understanding of different cultures, and broaden their horizons and broad-mindedness.

5. First of all, the textbook used is the "21st Century College English Application Series", which fully reflects the Ministry of Education's "Guidelines for Teaching College English" and improves students' overall literacy. The book includes 8 units, each unit includes: Introduction, Text A, Text B, Skill Enhancement, Reading Skills and Cultural Links; among them, the Text section includes listening, knowledge points, in-depth reading and translation, etc.; the Skill Enhancement section covers translation, writing and task points; the last part is about reading skills to help students understand the text faster and better, and the Cultural Links can help students to learn more and deeper about western culture. In the course of instruction, the teaching design ranges from chapter comprehension to vocabulary learning, then to oral interaction and writing practice, and at the same time, according to the foundation and learning ability of different students, the teaching is tailored to the students' needs, and the appropriate method is chosen to improve the students' overall English application skills.

3.4 Research Instrument

Both post-tests were conducted with test papers based on Public English Test System (PETS) level 3. China Education Examinations is the official website under the Chinese Ministry of Education, where students can register for the PETS level 3 exam and check their results. According to the website, it is explained that the total score of PETS level 3 paper is 100 points, and students who reach 60 points (including 60 points) are considered to have passed and can get a PETS level 3 pass certificate. So the criteria for student performance levels are as follows:

85-100 Excellent

60-85 Pass

Below 60 points is unqualified

The design of satisfaction questionnaire was based on Mayhew's (2017) questionnaire. It was measured using a 5-level Likert scale.

3.5 Procedure

The experiment was conducted over a period of 4 weeks, and the instructor was assigned homework at the end of each session. The assignments received by the experimental and control groups were similar for each week. The difference was that after students submitted their assignments, the teacher in the experimental group used screencast feedback comments and the control group used text feedback comments.

Part A: Select the popular screencast feedback software on the market.

For teachers who are new to screencast feedback, choosing a simple and practical tool will help build teachers' confidence in the tool and help them to use screencast feedback consistently and not abandon it because of the tool.

After a period of experimenting with various types of screenshot software, we summarized the advantages and disadvantages of several popular software, mainly in terms of ease of use, ease of downloading, fees, and feature settings. For more detailed information, please refer to Table 3.2. WPS was chosen as the main production tool, which was most convenient for teachers to experiment with.

Table 3.2 Analysis of the advantages and disadvantages of several popular screencast software

Name	Advantages	Disadvantages
Microsoft PowerPoint	<ul style="list-style-type: none"> a) There is a very high user base. b) Supports multiple text formats and conversions between multiple formats. c) No recording time limit. d) Support text annotation function when recording. There is a very high user base. e) Supports multiple text formats and conversions between multiple formats. f) No recording time limit. g) Support text annotation function when recording. 	<ul style="list-style-type: none"> a) Requires a paid account to use b) Lack of multi-purpose support compared to other professional screencast software.
WPS	<ul style="list-style-type: none"> a) It is a popular office software in China and has a high number of user's base. b) Free recording c) Supports multiple text formats and conversions between multiple formats. d) No recording time limit. e) Support text annotation function during recording. 	<ul style="list-style-type: none"> a) No cloud space support b) Cannot add subtitles c) Markers need to be within the limits of their own software.

Table 3.2 (Continued)

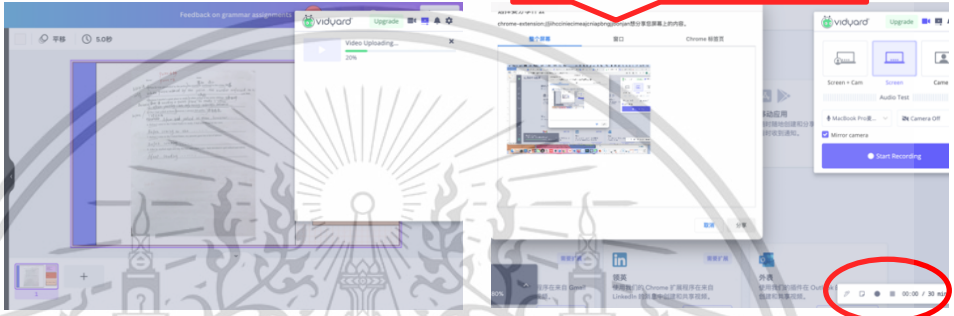
Name	Advantages	Disadvantages
Canva	<ul style="list-style-type: none"> a) Free recording. b) No time limit. c) Web operation, no need to download additional app. d) And a variety of design options to add fun lines to the video. e) The recording is finished in both linked and local formats. 	<ul style="list-style-type: none"> a) There is some difficulty in format conversion. b) Cannot mark randomly while recording, you can only input in fixed area. c) Cannot add subtitles directly.
Screencast-o-Matic	<ul style="list-style-type: none"> a) Professional Screencast software. b) There are multiple formats and settings to choose from. c) Marking can be done anywhere on the screen. d) Free use e) Supported by cloud space. 	<ul style="list-style-type: none"> a) The recording time is limited to 15 minutes. b) Additional fees apply if subtitles are added automatically. c) App download is required. d) Cloud space is limited to 25 videos, more than that you need to pay.
Loom	<ul style="list-style-type: none"> a) Professional screencast tool b) Available for cloud use c) Free to use d) The interface has a design sense, and you can change a variety of backgrounds, text, etc. e) Students can comment on the videos 	<ul style="list-style-type: none"> a) The recording time is limited to 5 minutes. b) The video needs to be uploaded to the cloud space before downloading, you cannot choose to download it directly. c) There are restrictions on the use of Chinese users.

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Table 3.2 (Continued)

Name	Advantages	Disadvantages
Vidyard	<ul style="list-style-type: none"> a) Professional screencast software b) Free to use c) Draw on the screen while recording or adding notes to a presentation. d) Know who is watching your video and for how long. e) With Cloud Space 	<ul style="list-style-type: none"> a) There are restrictions on the use of Chinese users. b) Time limit 30 minutes



The screenshot shows the Vidyard recording interface. On the left, there's a 'Video Uploading' window. In the center, a 'Screen + Cam' control panel is visible with options for 'Screen', 'Camera', 'Audio Test', and 'Start Recording'. On the right, there's a 'Minor camera' section. At the bottom right, a red circle highlights a timer showing '00:00 / 30:00'.

Part B: Screencast feedback video production guide method.

After teachers choose the production tools, how to produce a screencast feedback video with high quality is a concern. In this paper, we summarize the video production methods and combine Nelson's (2008) cognitive feedback and affective feedback types to generate feedback to guide the design of feedback video production. The elements affecting cognition and emotion are translated into the video language of screencast feedback. Refer to Table 3.3 for the practical operation.

Table 3.3 Design feedback operation guidance (Production time)

Design feedback operation guidance (Time)	
Feedback time	Determining the timing of feedback: As mentioned earlier, factors that affect effective feedback include the timing of feedback. So, to ensure the effectiveness of the experiment, the experimental and control groups had approximately the same feedback time. Also considering the actual situation of teachers, the feedback time was designed to be within 2 days of receiving the assignment.
Video production time	Duration 2-5, The study Vincelette (2013) concluded that videos longer than 5 minutes become lengthy and should be limited to 5 minutes.

Table 3.4 Design feedback operation guidance (Cognitive and emotional)

Feedback Type	Purpose	Operation
Cognitive	Reduce cognitive load	<p>Try to add subtitles: However, when students have trouble recognizing sound, adding captions reduces the overload of sound on students, and sometimes the text is more accessible and therefore more efficient (Phillips, 2015).</p> <p>Use of pictures, drawing graphics many other visual elements: teachers assist in solving problems in student work by inserting picture resources. Use the tools provided by the software to mark the key points that students need to pay attention to. The researchers found that students found the video feedback clearer and easier to understand because the steps to solve the math could be demonstrated. (Edwards, 2012)</p> <p>Adding a personalization factor</p> <p>Adding progress bar: After adding progress bar students can choose to watch that part of the video as priority according to their wish, and they can also watch that part of the video repeatedly according to their shortage. When students can choose, they will feel valued and will increase their individual satisfaction.</p> <p>More targeted comments: As opposed to just pointing out the problems in the assignment, ask targeted questions based on students' shortcomings, so that students can reflect on the strengths and weaknesses of the assignment; or through questions, so that students can follow exploration and research, think deeply, and promote forward feedback.</p>

Table 3.4 (Continued)

Feedback Type	Purpose	Operation
Affective	Language	<p>Tone: Be direct and praises students for their strengths. Boosts students' motivation to keep doing what they're doing. Students like positive feedback via screencasts and hearing the tone of the teacher's voice makes students feel more personalized (Lamey, A., 2015). Use a softer tone of voice and more encouraging words, such as "I expect you to do better next time" and "I believe you can do well. Cue more "I like you; the criticism is just to help correct your mistakes" comments to ease the student's negative attitude.</p>
	Appear on camera	<p>Teachers choose whether to appear on the screen: Appearing on Camera Teachers Appearing on Screen or No: Some researchers believe that it is important for the teacher to appear on screen. In time, when teachers cannot teach face-to-face, students also feel close when their faces appear in front of the screen, which can enhance the relationship between teachers and students. When students can capture the teacher's facial emotions, or the teacher's body movements, students are more likely to have a sense of interaction and better understand what the teacher is conveying. This increases students' interest and satisfaction in watching. The downside, of course, is that it can be distracting, and students cannot focus on the content of the feedback. Some students can become stressed about the teacher's presence due to their natural discomfort with the teacher. In this paper, I argue that the benefits of the teacher's presence in front of the camera outweigh the benefits of not being in front of the camera. Because many online courses can alienate the teacher-student relationship, teachers can increase communication opportunities by doing so.</p>

Part C: Two types of feedback production process.

The experimental group using screencast feedback and the control group using text feedback produced the feedback as shown in Table 3.5.

Table 3.5 Comparison of the experimental and control group production feedback

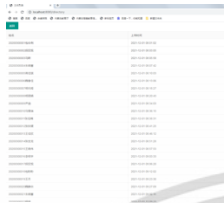
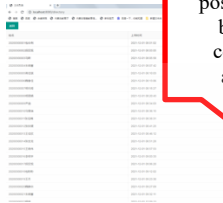
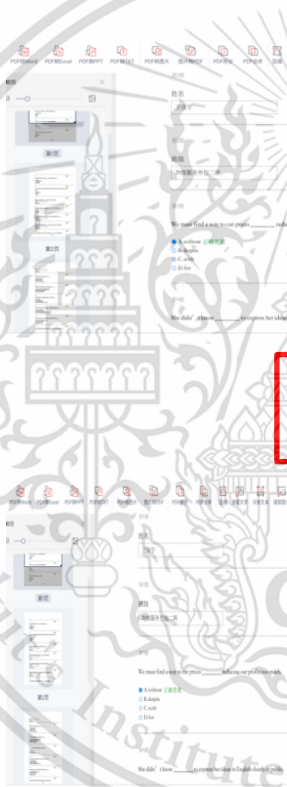


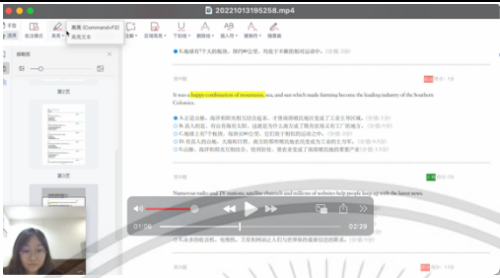
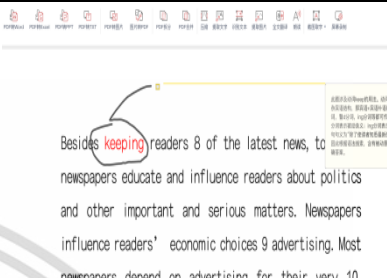
Content	Experimental group	Control group
Collection of assignments	 <p>Teachers choose the school intranet to post assignments based on the content of the assignment.</p>	 <p>Teachers choose the school intranet to post assignments based on the content of the assignment.</p>
Selection Tools Import Program	WPS	Modify directly on the uploader None
Production Feedback	 <p>Step 1: Click on the screen recording button</p>	 <p>Besides keeping newspapers' education and other important influence readers' newspapers depend</p> <p>Teachers can give feedback after collecting students' assignments and making text markers in the assignments.</p>
Production Feedback	 <p>Step 2: Select full screen recording or area recording</p>	None

Table 3.5 (Continued)

Content	Experimental group	Control group
Production Feedback	<p>Step 3: Teachers adjust the recording area, video size, sound and other options according to the actual situation.</p> 	None
Production Feedback	<p>Step 4: Teachers can choose from a variety of tools to annotate student work directly.</p> 	None
Add auxiliary elements such as subtitles and progress bars.	<p>Step 5: WPS cannot add elements such as subtitles, teachers need to choose other editing or subtitling software to create them.</p> 	None

Table 3.5 (Continued)

Content	Experimental group	Control group
Production completed		

3.6 Data Collection

A quantitative research method was used in this study. The experimental procedure is shown in Figure 3.1 and 3.2. The study population was divided into two groups, the experimental group and the control group. At the end of the instructional activity, students in both groups took a post-test. After the test was completed, students in the experimental group both completed a satisfaction questionnaire about using screen play to create feedback videos.

The test uses the National English Language Proficiency Test (PETS) level 3.

The authors prepared a questionnaire that asked participants about their age, gender, and years of computer use. This questionnaire was distributed to the participants at the end of the course along with the satisfaction questionnaire (Mayhew, 2017).

Table 3.6 Research questions and data sources

Research Question	Data source
RQ 1: How to create a screencast feedback video with appropriate quality level.	Three experts verified screencast feedback video quality with the Likert Scale.
RQ 2: What are the differences in student achievement between the text feedback method and the Screencast feedback approach?	English proficiency test on students in the experimental and control groups. Test scores were compared between the two groups. Using independent sample t-test.
RQ 3: How satisfied were the students in the experimental group with the screencast feedback?	Questionnaires were administered to students in the experimental group. Means and variances were tested.

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The post-test use scoring to demonstrate the differences in the experimental subjects. Achievement tests and satisfaction questionnaires were used to analyze the data using SPSS.

Independent sample t-test was used for the post- test. Comparison of achievement scores for two groups of students.

The mean and variance method were used to determine the satisfaction of students in the experimental group with the video feedback.

The average significance of each question was assessed using the Likert scale. There were 5 scales: highest, high, medium, low, and lowest. The scores were converted to 5, 4, 3, 2, and 1 to measure student satisfaction using screencast feedback according to the goodness-of-fit measurement criteria. In this paper, the levels of satisfaction are explained as follows.

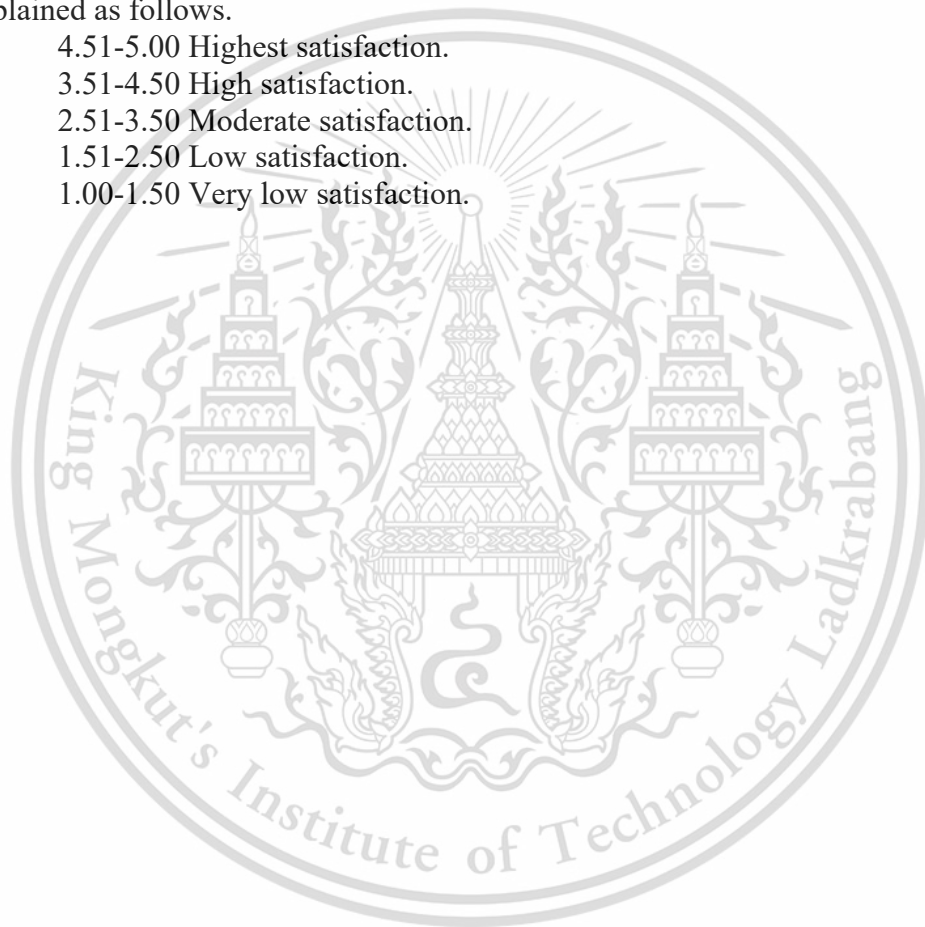
4.51-5.00 Highest satisfaction.

3.51-4.50 High satisfaction.

2.51-3.50 Moderate satisfaction.

1.51-2.50 Low satisfaction.

1.00-1.50 Very low satisfaction.



CHAPTER 4

RESULTS

In this chapter, quantitative studies are mainly used to analyze student achievement and satisfaction, reporting the study results based on data and quantitative methods to achieve the study objectives. The results of this study were obtained from the post-test and questionnaire completed by students in two randomly selected classes out of five. Data obtained from the research instrument revealed the results of 3 research questions in this study:

RQ1: How to create a screencast feedback video with appropriate quality level.

RQ2: What is the difference between the post-test scores of the experimental group using screencast feedback and the control group using text feedback?

RQ3: How satisfied were the students in the experimental group with the use of screencast feedback?

The results of the study are presented in the form of tables and notes. The results of the data analysis are divided into three parts:

(1) Creating feedback videos. This part is mainly to validate the feedback tool of this test - screencast feedback. This paper uses tools such as WPS and viamaker.

(2) Test the high and low scores of students in both groups. At the end of the experimental phase, the academic level of both groups of students was tested.

(3) Student satisfaction analysis. At the end stage of the experiment, students in the experimental group fill out a satisfaction questionnaire on the use of screencast feedback.

4.1 Evaluation of video quality using screencast feedback

The tool used for this video feedback was WPS and viamaker, and in the teacher-recorded video, the teacher added 1-2 elements that reduced cognition or increased emotion. The screencast feedback video Quality had validated from 3 expert with Likert Scale in every content topic.

Table 4.1 Means, standard deviations, and levels of experts' score of the screencast feedback video quality

NO.	Question items	Mean	S.D.	Level
1.	The feedback video contains all the necessary elements.	4.33	0.47	High
2.	The feedback video content is appropriate for the student's level of understanding.	4.00	0.00	High
3.	The feedback video content is relevant to the topic.	5.00	0.00	Highest
4.	The feedback video is designed based on reducing cognitive barriers for students and enhancing teacher-student emotions.	4.67	0.47	Highest

Table 4.1 (Continued)

NO.	Question items	Mean	S.D.	Level
5.	The feedback video is adaptable to the level of the learner.	4.67	0.47	Highest
6.	The feedback video is adaptable to the level of the learner.	4.00	0.00	High
7.	The feedback video content is matched to the textbook.	4.00	0.00	High
8.	Digital tools used for activities are sufficient.	4.33	0.47	High
9.	The feedback video is easy to view.	4.00	0.00	High
10.	The tools are appropriate.	4.33	0.47	High
	Overall	4.33	0.24	High

4.2 Quantitative Analysis

4.2.1 Analysis of achievement test results

The participants in this study were 97 undergraduate students, 41 in the experimental group and 56 in the control group. Students in both groups were taught with the same textbook and in the same way. The difference was that the experimental group used the screencast feedback, and the control group used the test feedback. In the last week of the experiment, the test was administered to both groups of students, and Table 4.2 shows the test results.

Table 4.2 Analysis of the achievement of the experimental group and the control group

	Experimental group			Control group			Levene's test		t	df	Sig(one-tailed)
	N	\bar{x}	S.D.	N	\bar{x}	S.D.	F	sig			
Score	41	57.01	19.33	56	51.21	13.06	3.29	0.051	1.77	95	0.04

*Significant level at .05

From the Levin's homogeneity test of variance, the significant P value is equal to 0.051 and greater than 0.05, indicating homogeneity of variance. Therefore, through analysis, we found that the significance p value was 0.04 less than 0.05, indicating that the two group had different scores at the significance level of 0.05. By further

comparison, we found that the average scores of students in experimental group were higher than control group.

4.2.2 Analysis of questionnaire results

In the last week, 41 students in the experimental group filled out satisfaction questionnaires, which were analyzed as follows.

The scale questions were first analyzed for reliability validity validity, and 4.3 results were obtained.

Table 4.3 Reliability statistics

Number of items	Cronbach Alpha
8	0.95

In table 4.4. The subjects of the study were 41 students from an experimental group at a Chinese university. There were (12) male and (29) female students. The mean age was (21) years (SD= 1.27), and the mean time spent learning English was (6-10) years (SD=0.52). The average computer experience was (6-10) years (SD=0.69). The online learning experience was (1-5) years (SD=0.57). This indicates that all subjects in this study had similar English learning experience and online learning experience.

Table 4.4 Gender distribution of students in the experimental group

Gender	Number of people
Male	12
Female	29
Total	41

Table 4.5 Background analysis of the participants

Questionnaire title	\bar{x}	S.D.
Age	21.12	1.27
Q4_ How many years have you been studying English?	2.46	0.55
Q5_ How many years have you been using the computer?	1.78	0.69
Q6_ How many years have you been studying with a computer or online?	1.22	0.57

To further understand student satisfaction with the screencast feedback, the following results were obtained from a mean-variance analysis of the data in this paper. Design of satisfaction questionnaire was based on Mayhew's (2017) questionnaire. It

was measured using a 5-level Likert scale. Number the questionnaire options into rows: 5= Highly Satisfied, 4= Satisfied, 3= Undecided, 2= Unsatisfied, 1= Highly unsatisfied.

Table 4.6 Mean and standard Deviation on students' satisfaction from on screencast feedback video

Questionnaire title	Average	S. D	Level
Q7, I prefer video feedback to text feedback for the feedback I receive on assignments from my teacher?	4.10	0.97	High
Q8. I feel that there is less scope for misunderstanding using screencast feedback than text feedback, and screencasts are more helpful in clarifying things I don't understand.	4.37	0.83	High
Q9. I am using screencast feedback allows me to personalize my learning better than text feedback.	4.29	0.75	High
Q10. I feel that using screencast feedback allows for a better teacher-student relationship than text-based feedback.	4.17	0.92	High
Q11. I am using screencast feedback allows for more detailed and comprehensive feedback than text-based feedback.	4.29	0.78	High
Q12. Screencast feedback gives me more motivation to take action and review learning topics and questions.	4.15	0.91	High
Q13. screencast feedback gives me more motivation to take action and continue to learn more.	4.05	0.92	High
Total	4.20	0.87	High

From the data in table 4.6. Students are more likely to use screencast for feedback (\bar{x} is 4.10, S.D is 0.97); the highest satisfaction is that students think using screencast for feedback can reduce misunderstandings and help students understand unclear information (\bar{x} is 4.37, S.D is 0.83); students think using screencast for feedback is better for personalized feedback (\bar{x} is 4.29, S.D is 0.75); also students think that live feedback is more detailed and comprehensive (\bar{x} is 4.29, S.D is 0.75); in terms of teacher and student emotions, students think that screencast feedback can improve the teacher and student relationship (\bar{x} is 4.17, S.D is 0.92); screencast feedback enhances students' motivation to review (\bar{x} is 4.15, S.D is 0.91); screencast feedback increases students' motivation to continue learning (\bar{x} is 4.05, S.D is 0.92); overall, students' satisfaction with screencast feedback is high (\bar{x} is 4.20, S.D is 0.87) . This shows that most students

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have a positive attitude towards screencast feedback; it is essential to use the screencast feedback function in order for students to learn English better.



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CHAPTER 5

CONCLUSIONS, DISCUSSION AND RECOMMENDATIONS

This chapter summarizes the study and provides a summary of the findings, discussion, conclusions, and recommendations for further research.

5.1 Discussion

This research discusses the following three aspects:

RQ 1: How to develop an effective Screencast feedback video with appropriate quality level?

Creating feedback videos using screencast is a process that requires practice. Teachers may encounter considerable challenges in the initial stage of the software selection and production process. This is the reason why it is slow to develop. But after a period of training, Teachers will keep improving their proficiency to reduce production time. This paper summarizes the following lessons through practice to help users get through the initial challenges of using it.

First, this article lists the advantages and disadvantages of the leading popular screencast software on the market so that users can choose according to their needs. Second, the natural advantages of the screencast. The natural advantage of screencast feedback is the combination of recording and screencast Edwards (2012). The teacher can focus on the language rather than obsessing over the transfer of knowledge. One aspect of high-quality feedback is that it makes it easier for students to accept the teacher's comments and make changes. Marshall (2020) study found that video feedback helps build socialization between teachers and students and is a way to express emotions. However, the lack of teacher use of tone was also indicated in the findings. It is also mentioned in this paper that a friendly image and kind words of the teacher are more likely to increase students' trust. Teachers who have experience teaching face-to-face will apply their experience in teaching online, and teachers should be as friendly and approachable as possible to reduce student disruption and tension. Make it easier for students to accept the teacher's suggestions. Third, a proper understanding of high-quality video production. High-quality screencast feedback is not a video with a beautiful background and an exquisite image of the teacher. Teachers should make the video by making simple annotations on it, and this annotation process is also the process of making students think and less cognitive barriers. At the same time, the teacher can use a friendly tone, even in the middle pause part, which can show the teacher's thinking process to the students, and the students can receive the signal of thinking. Fourth, the correct use of screencast feedback factors. This paper lists various elements to add to screencast feedback to reduce students' cognitive barriers and increase teacher-student emotion. However, in the actual production, teachers can leave some elements in the video production. More elements can also distract students' attention. In the case of English language teaching, teachers should focus on the choice of voice. Adding subtitles, students with learning and reading disabilities need it more. For general students, it may only sometimes be needed. Ozdemir (2016) conducted a study of 109 second-year students randomly assigned to groups using captions and groups not using captions at a university in Turkey. After viewing the videos, researchers tested and surveyed the performance of both groups and found that students' motivation and achievement scores did not differ between those with and without captions. Teachers

should choose from one or two elements to add to the feedback videos, depending on the subject matter chosen and the content taught.

RQ 2: What are the differences in student achievement between the text feedback method and the Screencast feedback approach?

In this paper, In this paper, an independent sample t-test was used to analyze the scores of the experimental and control groups. The results showed that the significance p-value was 0.04 less than 0.05, indicating that the scores of the two classes were different at the 0.05 significance level, and further comparison of their means revealed that the mean scores of the students in the experimental group were higher than those in the control group.⁹

The results of many existing studies are similar to those in this paper. Screencast feedback makes a difference in student performance improvement, especially in language learning. For example, Ali's (2016) findings suggest that screencast feedback helps post-writing focus on higher-order issues of writing, as well as overall writing skill aspects. Inan-Karagul's (2021) study also demonstrated a significant increase in self-reported writing strategies among learners who used screencast feedback. These studies were similar to the results of the present study.

Feedback is the key to acquiring knowledge and skills (Moreno R,2004) , helps learners determine performance expectations, judges learners' level of understanding, makes learners aware of their mistakes (Attali,2010), helps reduce the distance between learners' current and expected learning outcomes (Hattie, J. 2007) and is one of the most effective means of improving student learning. (Hattie, J.2011). For feedback interventions to work, they must first make learners desire to learn actively. Secondly, they must provide different feedback information to meet individualized internal motivation needs for distinct differences of learners so that feedback thousand pre can improve learner performance levels. The results of this study demonstrate that the use of screencast feedback can intervene with feedback to influence learners and further promote their achievement levels.

RQ 3 : How satisfied the students were with the feedback they received using the screencast.

In this paper, the highest satisfaction features of screencast feedback were personalized, comprehensive, and detailed. This is the same as Cheng's (2020) study, where students prefer screencast feedback because it is personal and conversational and contains precise details. Also, feedback helps students understand the topic and guides how to improve their learning process. In Edwards' (2012) study, it was noted that students preferred screencast feedback because it provided visual cues and explanations that helped with comprehension.

Eighty-three percent of the students in this study felt that using screencast feedback contributed to a good student-teacher relationship and would further increase student-teacher emotion. In Harper's (2018) study, it was found that screencast feedback enhanced mentor presence and facilitated communication of feedback tone: hearing the mentor's voice on the screen explaining corrections or suggestions for improvement increased students' emotional engagement. Rahula (2022) stated that screencast feedback increased the teacher-student connection. Of course, there is some debate about whether this emotional advantage is necessary. In Borup's (2015) study, both students and instructors agreed that the text was more effective than the emotional advantage of the video.

This paper expanded on Nelson's (2008) two types of feedback to summarize the production of Screencast feedback videos. Among the cognitive types, the highest mean of student satisfaction was adding captions to screencast feedback, and many students reported that videos with captions looked more secure, clarified the meaning conveyed by the instructor, and did not create ambiguity. Also, adding captions to videos can help non-native viewers, D/deaf or hard of hearing (Morton, 2015). This is a great reminder of the quality and acceptability of the screenshot feedback. Teachers can use software (e.g., Screencast-O-Matic) to add subtitles automatically, and if the software does not have this function (e.g., WPS) they can use special subtitle creation software to create subtitles and then synthesize them, which can be done within one minute by skilled teachers.

5.2 Conclusions

This paper initially explored the use of screencast feedback in undergraduate teaching. Compared the performance of students who used text-based and screencast feedback and reported student satisfaction with screencast feedback. After analysis of the English test scores of the two groups of students who participated. The significance p-value of 0.04 was less than 0.05, indicating that the scores of the two classes differed at the 0.05 significance level and that the experimental group had higher mean scores than the control group. The advantage of screencast feedback is that it reduces cognitive impairment and allows the target language to be maintained without clarification. The delivery of audio and visuals also enhances teacher-student rapport and rapport, making students more receptive to feedback from the teacher.

From the data in table 4.6. Students are more likely to use screencast for feedback (\bar{x} is 4.10, S.D is 0.97); the highest satisfaction is that students think using screencast for feedback can reduce misunderstandings and help students understand unclear information (\bar{x} is 4.37, S.D is 0.83); students think using screencast for feedback is better for personalized feedback (\bar{x} is 4.29, S.D is 0.75); also students think that live feedback is more detailed and comprehensive (\bar{x} is 4.29, S.D is 0.75); in terms of teacher and student emotions, students think that screencast feedback can improve the teacher and student relationship (\bar{x} is 4.17, S.D is 0.92); screencast feedback enhances students' motivation to review (\bar{x} is 4.15, S.D is 0.91); screencast feedback increases students' motivation to continue learning (\bar{x} is 4.05, S.D is 0.92); overall, students' satisfaction with screencast feedback is high (\bar{x} is 4.20, S.D is 0.87). This shows that most students have a positive attitude towards screencast feedback; it is essential to use the screencast feedback function in order for students to learn English better.

Compared to screencast feedback personalized, detailed, error-free, etc., the satisfaction of promoting students to continue learning is the lowest. indicating that teachers cannot motivate students to continue and deepen their learning through verbal instruction alone and that teachers can motivate students and enhance student-teacher interaction by setting up advanced question responses and comments in the screencast software features. Because the extended resources in the videos often included attribution (25%), text feedback was almost absent, while this resource (1%) (Kelly, 2019). Teachers can choose more ways to motivate students to continue learning. Assessment should be embedded and integrated into the learning experience and knowledge building (Bahati, 2019).

5.3 Recommendations for Future Research

In future research, by selecting samples from different disciplines, it will be possible to analyze and compare the performance of screencast feedback across disciplines. In terms of enhancing students' motivation to continue learning, the magnitude of the effect of different features on student motivation was investigated. Multiple approaches help to address complex issues. Using Screencast to create feedback videos could offer possibilities for more thoughtful teachers. Future research will test the effectiveness of this vision and its acceptance by students and teachers. For teachers, when they realize that screencast feedback saves feedback time and can contribute to student achievement and satisfaction. They may enable new feedback programs. Or use a hybrid feedback approach. For students, being able to receive multiple forms of feedback can lead to a more rewarding learning experience. Also, quality feedback and the emotional connection between teacher and student will promote student motivation to learn.



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APPENDIX

Appendix A: University English III Exam-Level A

Appendix B: Satisfaction Questionnaire

Appendix C: Lesson plans

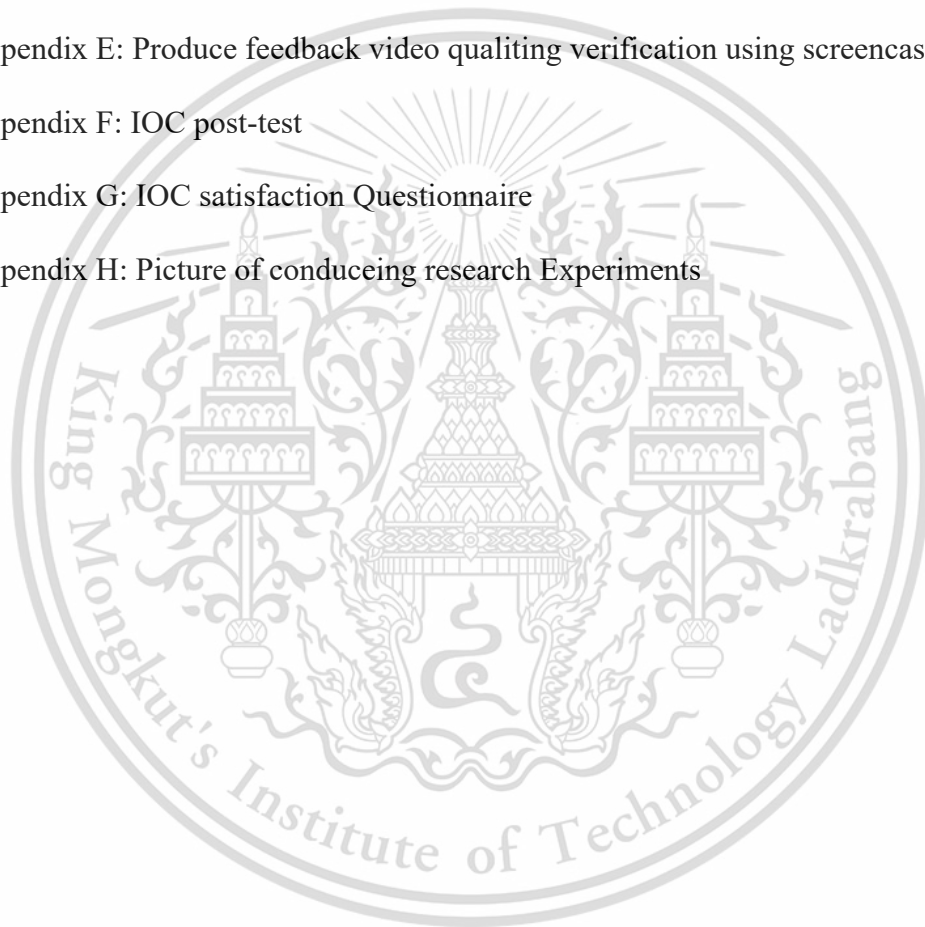
Appendix D: List of Experts

Appendix E: Produce feedback video qualiting verification using screencast

Appendix F: IOC post-test

Appendix G: IOC satisfaction Questionnaire

Appendix H: Picture of conducing research Experiments



APPENDIX A

University English III Exam - Level A

1、 Name

2、 Class

A: Directions: In this section, there are 5 incomplete sentences. You are required to complete each one by deciding on the most appropriate word or words from the 4 choices marked A), B), C) and D). Then you should mark the corresponding letter on the Answer Sheet with a single line through the center.

3、 We must find a way to cut prices _____ reducing our profits too much.

- A. whitout
- B. despite
- C. whit
- D. for

4、 She didn't know _____ to express her ideas in English clearly in public.

- A. which
- B. why
- C. what
- D. how

5、 Would you please pass me the book _____ cover is black?

- A. which
- B. whose
- C. that
- D. its

6、 Not until she arrived at the meeting room _____ she had forgotten to bring them .

- A. she realized
- B. did she realize
- C. she did realize
- D. does she realize

7、 _____ some students are able to find employment after graduation, others will have to return to school and earn an advanced degree.

- A. Since
- B. While

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- C. Because
D. If Section

B: Directions: There are 5 incomplete statements here. You should fill in each blank with the proper form of the word given in brackets. Write the word or words in the corresponding space on the Answer Sheet.

8、 Employees are not allowed (make) _____ personal phone calls in the office.

9、 The purpose of new technology is to make life (easy) _____, not to make it more difficult.

10、 Since we work in different sections of the company, we see each other only (occasional) _____.

11、 I shall appreciate your effort in (correct) _____ this error in my bank account as soon as possible.

12、 Measures should be taken to avoid the negative effect (bring) _____ about by unfair competition.

C: Directions: After reading the following passage, you will find 5 questions or unfinished statements, numbered 11 to 15. For each question or statement there are 4 choices marked A), B), C) and D). You should make the correct choice and mark the corresponding letter on the Answer Sheet with a single line through the center. Google, the Internet search-engine company, has announced it will give more than twenty-five million dollars in money and investments to help the poor. The company says the effort involves using the power of information and technology to help people improve their lives. Aleem Walji works for Google.org -- the part of the company that gives money to good causes. He said the company's first project will help identify where infectious (传染性的) diseases are developing. In Southeast Asia and Africa, for example, Google.org will work with partners to strengthen early-warning systems and take action against growing health threats. Google.org's second project will invest in ways to help small and medium-sized businesses grow. Walji says microfinance (小额信贷) is generally small, short-term loans that create few jobs. Instead, he says Google.org wants to develop ways to bring investors and business owners together to create jobs and improve economic growth. Google.org will also give money to help two climate-change programs announced earlier this year. One of these programs studies ways to make

renewable (再生的) energy less costly than coal-based energy. The other is examining the efforts being made to increase the use of electric cars. The creators of Google have promised to give Google.org about one percent of company profits and one percent of its total stock value every year. Aleem Walji says this amount may increase in the future.

- 13、 The purpose of Google’s investments is to _____.
- A. help poor people
 - B. develop new technology
 - C. expand its own business
 - D. increase the power of information
- 14、 According to Aleem Walji, the company’s first project is to _____.
- A. set up a new system to warn people of infectious diseases
 - B. find out where infectious diseases develop
 - C. identify the causes of infectious diseases
 - D. cure patients of infectious diseases
- 15、 What kind of businesses will benefit from Google.org’s second project?
- A. large enterprises
 - B. cross-national companies
 - C. foreign-funded corporations
 - D. small and medium-sized businesses
- 16、 From the fourth paragraph, we learn that Google’s money is also invested to help _____.
- A. start more research programs
 - B. make more advanced electric cars
 - C. develop renewable and coal-based energy
 - D. conduct studies related to climate changes
- 17、 From the last paragraph we learn that the investments by Google.org come from _____.
- A. Google’s profits and stock value
 - B. some international IT companies
 - C. the company’s own interests
 - D. local commercial banks

Translation from English into Chinese (Score Grades : 2/1.5/1/0.5/0)

18、 There are 7 major crustal plates on earth, about 80 km thick, all in constant motion relative to one another.

- A.地球上共有 7 种地壳结构，范围约 80 公里，它们的运动彼此相似。(There are seven crustal structures on Earth, ranging about 80 km, which move similarly to each other.)

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B. 地球由 7 个大的板块构成，厚度约为 80 公里，并且不断地运动。(The Earth is made up of seven large plates, about 80 km thick, and is in constant motion.)

C. 地球上有 7 个板块，每块长 80 公里，它们处于相似的运动之中。(There are seven plates on Earth, each 80 km long, which are in similar motion.)

D. 地球有 7 个大的板块，厚度约为 80 公里，它们的运动方式相关。(The Earth has seven large plates, about 80 km thick, which move in related ways.)

E. 地球有 7 个大的板块，厚约 80 公里，均处于不断的相对运动中。(The Earth has seven large plates, about 80 km thick, all in constant relative motion.)

19、 It was a happy combination of mountains, sea, and sun which made farming become the leading industry of the Southern Colonies.

A. 正是山脉、海洋和阳光相互结合起来，才使南部殖民地区变成了工业主导区域。(It was the combination of the mountains, the sea and the sun that turned the southern colonies into an industrially dominant region.)

B. 喜人的是，有山有海有太阳，这就是为什么南方成了既有农场又有工厂的地方。(Happily, there are mountains, sea and sun, which is why the South became a place with both farms and factories.)

C. 地球上有 7 个板块，每块长 80 公里，它们处于相似的运动之中。(There are seven plates on Earth, each 80 km long, which are in similar motion.)

D. 有喜人的山地、大海和日照，南方的那些殖民地农民变成为工业的主力军。(With delightful mountains, sea and sunshine, those colonial farmers in the south became the mainstay of industry.)

E. 山脉、海洋和阳光互相结合，恰到好处，使农业变成了南部殖民地的重要产业。(The mountains, the sea and the sun combined with each other in just the right way to turn agriculture into an important industry for the southern colonies.)

20、 Numerous radio and TV stations, satellite channels and millions of websites help people keep up with the latest news.

A. 众多的收音机、电视机、卫星频道和数百万网站帮助人们获取最新信息。(Numerous radios, televisions, satellite channels and millions of websites help people get the latest information.)

B. 众多的电台、电视台、卫星频道以及千百万网站帮助人们及时了解新闻。(Numerous radio, TV and satellite channels and millions of websites help people keep up with the news.)

C. 众多的收音机、电视机、卫星频道和网站帮助人们适时地获取最新消息。(Numerous radios, televisions, satellite channels and websites help people get the latest news at the right time.)

D. 众多的收音机、电视台、卫星和数百万网站帮助人们适时获取最新消息。(Numerous radio stations, TV stations, satellites and millions of websites help people get the latest news at the right time.)

E.众多的收音机、电视机、卫星和网站让人们与世界保持最新信息的联系。
(Numerous radios, televisions, satellites and websites keep people connected to the world with the latest information.)

21、 There is no place in the whole country which is more than three hours journey by car from the sea.

A. 从海滨出发，驱车去全国任何地方，路程都不超过三个小时。(From the waterfront, the drive to any part of the country takes less than three hours.)

B. 到全国各地，开车的话，要不了三个小时，便可以无处不到。(It takes less than three hours by car to get to all parts of the country, and you can get nowhere.)

C.从海边开车到国内任何地方，用不了三个小时就足可以到达。(It takes less than three hours to drive from the beach to any place in the country.)

D. 从海上到全国各地，没有一个地方乘车可在三小时以内到达。(There is no place in the country that can be reached by car in less than three hours from the sea.)

E.即使从海上起程，三个多小时，便可驱车赶到国内任何地方。(Even if you start from the sea, you can drive anywhere in the country in just over three hours.)

22、 The leaves, which are green now, will not turn red until the weather becomes frosty in late autumn.

A. 树现在是绿叶的，晚秋天冷了就要变红。(The tree is now green leaves, late autumn cold will turn red.)

B. 现在的这些绿叶，到秋天就变成红叶了。(These green leaves now turn into red leaves in autumn.)

C.现在这些树叶不等到秋天就由绿变红了。(Now these leaves do not wait until autumn to turn from green to red.)

D.树叶现在是绿色的，直到晚秋天气变冷才会变红。(The leaves are green now and will not turn red until the weather gets colder in late fall.)

E.现在的这些绿叶即使到秋天也不会变红。(These green leaves now will not turn red even in autumn.)

Directions: The following is an announcement. After reading it, you are required to complete the outline below it (No.16 to No.20). You should write your answers briefly (in no more than three words) on the Answer Sheet correspondingly. Parking Ticket(罚单) Payment System Parking tickets issued by the City of Toronto can be paid online. All you have to do is: 1. Enter your Parking Ticket Infraction (:5) number (Top right of the ticket) 2. Enter your credit card number (SA, Mastercard or American Express) and expiry date 3. Print a confirmation for your records If you have difficulties paying your ticket online, you may call our customer service staff at 416-397-8247, Monday to Friday, between the hours of 8: 30 a.m. and 4: 30 p.m. for assistance or contact us by email. To protect the secured exchange of information between you and this secure site

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you may be asked to download and install the latest version of your browser(浏览器)Please note that your payment session will end automatically if your computer is left idle(空闲状态) for more than 2 minutes. We suggest that you have your parking ticket and credit card ready before you begin the payment session. Parking Ticket Payment System

23、 Steps to pay: Step 1: enter your Parking Ticket Information number

Step 2: enter your 21. _____

Step 3. print a 22. _____ of your records _____

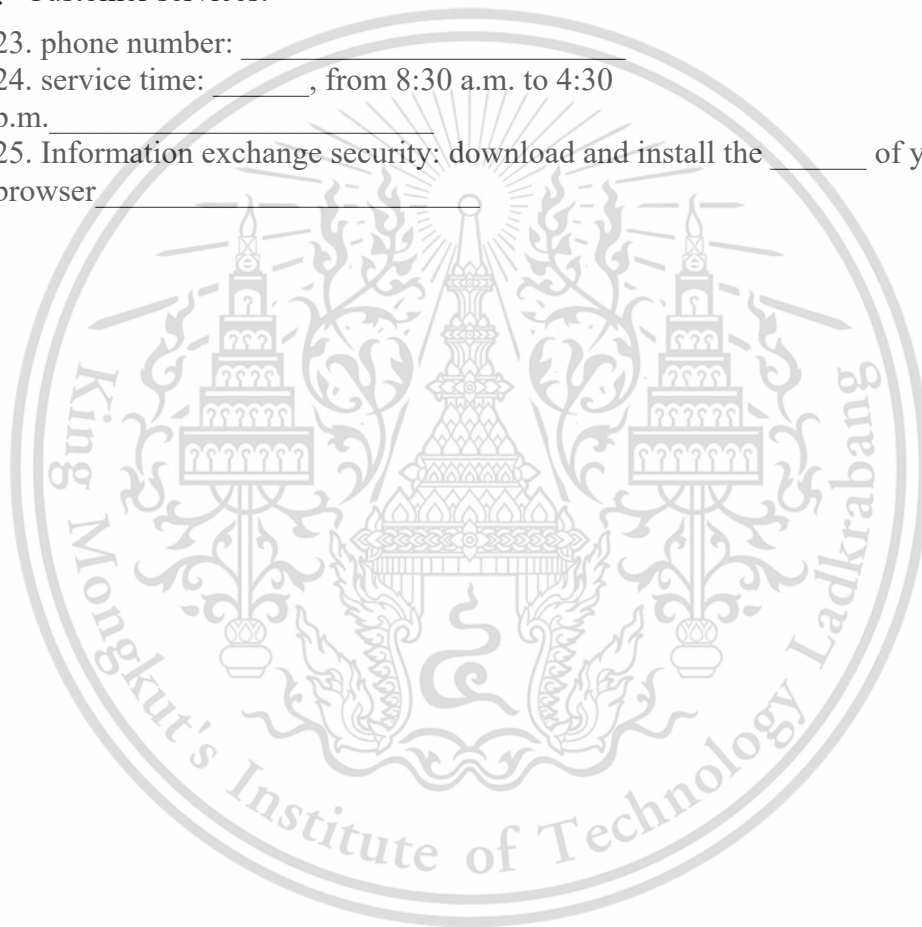
24、 Customer services:

23. phone number: _____

24. service time: _____, from 8:30 a.m. to 4:30

p.m. _____

25. Information exchange security: download and install the _____ of your browser _____



APPENDIX B

SATISFACTION QUESTIONNAIRE

Basic information survey, please fill in the following questions according to your actual situation. This data collection is anonymous and confidential, and will not be used for other purposes, so please feel free to fill in.

Table B.1 Basic information about the participants

1. Class	1	2		
2. Gender	Male	Female		
3. Age				
4. How many years have you been studying English?	1-5 years	6-10 years	11-15 years	16-20 years
5. How many years have you been using computers?	1-5 years	6-10 years	11-15 years	16-20 years
6. How many years have you been studying on a computer or online?	1-5 years	6-10 years	11-15 years	16-20 years

Table B.2 Participant satisfaction with screencast feedback

Items	Highly Satisfied-Highly unsatisfied				
	5	4	3	2	1
7. I prefer video feedback to text feedback for the feedback I receive on assignments from my teacher?					

Table B.2 (Continued)

Items	Highly Satisfied-Highly unsatisfied				
	5	4	3	2	1
8. I feel that there is less scope for misunderstanding using screencast feedback than text feedback, and screencasts are more helpful in clarifying things I don't understand.					
9. I am using screencast feedback allows me to personalize my learning better than text feedback.					
10. I feel that using screencast feedback allows for a better teacher-student relationship than text-based feedback.					
11. I am using screencast feedback allows for more detailed and comprehensive feedback than text-based feedback.					
12. Screencast feedback gives me more motivation to take action and review learning topics and questions.					
13. screencast feedback gives me more motivation to take action and continue to learn more.					

APPENDIX C

LESSON PLANS

Time: Once a week, 90 minutes at a time.

Period: 4 weeks

Target students: Non-English major undergraduate students

Textbook : Comprehensive English Course for the 21st Century University III

Objectives:

1. Improve English skills
2. Applied English Skills

Week 1:

Subject/Course:	Grammar		
Level:	Grade 3	Lesson Duration:	90 minutes

Lesson Objective:

The use of relational pronouns and relational adverbs in definite clauses. The focus is on the difference between relational pronouns and relational adverbs in the definite article.

Learning Activities:

- 1) Taking questions as the starting point, the classroom teaching process becomes a process in which students independently process information, construct the meaning of knowledge, and develop their inductive skills.
- 2) The presentation method of showing students the created courseware and students' essays facilitates students' grasp of knowledge and inspiration.
- 3) Study in groups:
The teacher intervenes in the teaching process, guiding, inspiring, organizing, helping and facilitating. The teacher also provides group guidance, participates in students' discussions, and gives them individual counseling to help them solve problems in the learning process.
- 4) Teacher asks questions of students.

Materials / Tools:

Powerpoint

Teaching process:

Step 1 Lead-in start.

A few minutes before class, play Jay Chou's song "Celadon", which students are very familiar with. Ask students if they know this song and Jay Chou to motivate them to learn. Also introduce the purpose of the lesson's topic. At the same time, show the relevant sentences on the screen.

- 1) The song is sung by Jay Chou.
- 2) Jay Chou is a famous singer.

Introduce the definite article: The song is sung by Jay Chou who/that is a famous singer.

Step 2 Review and Presentation

Have students analyze the antecedents, relative pronouns, etc. in that definite article and have them review what is related to the definite article, focusing at this point on the relative pronouns and relative adverbs, which will be written on the board. Then use pictures to help students review the usage of relational pronouns and relational adverbs. This is done by showing students familiar people, objects and places on the screen and giving related sentences under the pictures for students to fill in the blanks appropriately using relational pronouns or relational adverbs.

For example: person - Yao Ming. Sentence: Yao Ming is a basketball player who/that is very popular.

Object - computer, sentence: This is a computer which/that I often use to surf the Internet.

Location - Bird's Nest, Sentence: Do you know the reason why/for which people call it the Bird's Nest?

When describing the pictures with the definite article, help students analyze the components of the relative pronouns and the relative adverbs in the clauses, and prepare for the next step of summarizing when to use the relative pronouns and the relative adverbs in the definite article.



Step3: Consolidation

Let students discuss and analyze in groups and give their answers at the end.

- a. 1. This is the house he visited last year.
2. This is the house he was born.
- b. 1. Do you believe the reason he has explained to you?
2. Do you believe the reason he came late?

Step 3 Play a game

Students already know that they can use definite clauses to describe people, objects or places. To further consolidate what they have learned and to emphasize the pragmatic function of grammar, I set up this game session. In this game, I divided the questions into three groups: people, things and places; asked three different students to choose different questions; then let the students discuss and help each other in groups, and then sent one student to describe the

<p>content of the pictures with definite clauses and asked the three students to guess and name the people, things or places in the pictures.</p> <p>Step 4 Summary Usage and difference of relative pronouns and relative adverbs in definite clauses.</p> <p>Step 5 Posting assignments.</p>
--

Week 2:

Subject/Course:	Reading Training I		
Level:	Grade 3	Lesson Duration:	90 minutes

Lesson Objective:

This is a reading lesson, which focuses on anecdotes about lost amber houses in Russia. Students will learn about the world's cultural heritage and learn to describe their origins, development and conservation. The teacher uses different forms based on the content of the text to allow students to summarize it themselves and improve their reading skills. Since this lesson is about foreign cultural heritage, students will feel unfamiliar with it, so in order to resonate with it, Chinese and foreign cultural heritage should be discussed together. The purpose of this lesson is to enable students to learn how to talk about cultural heritage and eventually develop an awareness of how to protect it

Learning Activities:

- 1) Look at the pictures and listen to the recording to introduce the topic of cultural heritage.
- 2) Showing pictures of the amber house to students to distinguish the old from the new amber house gives them sensory stimulation and is good for helping them to understand the article. (Some vocabulary words are written on the board)



- 3) Students read the text and then complete the intensive reading exercise.
- 4) The two designed a small dialogue around the Amber House.
- 5) Language learning - difficult sentences explained.
- 6) To summarize the article, one is to find the key clues, and the other is the writing style.
- 7) Group discussion, including the retelling of the text, to deepen the understanding of the text.

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Materials / Tools:

Recordings and pictures

Teaching process:

Step 1 warming-up start.

The teacher uses PowerPoint to show each of the three pictures and to play the three introductory audio clips.

- a) The Pyramids in Egypt
- b) Machu Picchu in Peru
- c) The Great Wall of China

Step 2 Ask a question:

what do you think of them?

They represent the culture of their countries, so they are called) .

Step 3 Reading enables students to understand the formation and development of the Amber Room through several stages.

- a) Have students explain the title of the article.
- b) Start with a series of questions and ask students to read the text with the questions (scanning). Reading with a purpose is a technique for reading training and reminds students not to spend too much attention on names of people and places, but to assume they are reading a detective novel and concentrate on what is happening.
- c) On the basis of understanding the details, read again (skimming). The class was divided into 5 groups and the task was assigned to each group. There were 5 paragraphs in the article and each group was required to summarize the main idea of one paragraph, and no more than 3 words were required to summarize, which not only reduced the difficulty but also improved the students' inductive ability.

Step 4 Find out 4 difficult sentences separately and let students explain, one by one, what subordinate clauses they belong to (object subordinate, gerund subordinate, definite subordinate and subject subordinate respectively) (subordinate clauses are the weak point of students), so as to clear the reading obstacles for students.

- a) Frederic William I, the king of Prussia could never have imagined that his greatest gift to Russian people would have such a strange history.
- B) Once it is heated, the amber can be made into any shape.
- c) This was a time when the two countries were at war.
- d) There is no doubt that the boxes were then put on a train for Konigsberg.

Step 5 Summing-up

To retell the text, the teacher gives a paragraph with a number of spaces in the middle, and students fill in the spaces according to the content of the text (learn how to talk about cultural relics)

Fill in the blanks:

The Amber Room was made _____. Frederick William I _____. It soon became part of the Czar's winter palace in St. Petersburg. Later, Catherine II _____ and she

told her artists to _____. In September 1941, the Nazi Germany army secretly _____. After that, what happened to the Amber Room _____. Now Russians and Germans have _____ much like the old one.

Step 6 Posting assignments.

Week 3:

Subject/Course:	Vocabulary / Grammar		
Level:	Grade 3	Lesson Duration:	90 minutes

Lesson Objective:

- 1) Master the forms of homophoric clauses and their special usage.
- 2) To be able to use the cognate clause in sentences skillfully.
- 3) accumulate vocabulary.

Learning Activities:

- 1) Use a task-based language teaching model to train students in the integrated use of language.
- 2) The teacher plays the role of "designer, researcher, facilitator and coordinator".
- 3) In the teaching, the communicative aspect is emphasized, the practicality of reading and writing is emphasized, and emotional and strategic adjustments are made to develop positive learning attitudes and to promote the improvement of practical language skills.

Materials / Tools:

Recordings and pictures

Teaching process:**Step 1 Lead in**

T: As is known to us, the sports meet is on the way, are you excited about it? Will you take part in it? What about others' feelings? Now let's listen to a dialogue.

Ask: Do they feel happy about the news that the sports meet will be held? Will they take part in it? Look at the sentences from the dialogue.

1. I have no idea what makes you in such high spirits.
2. Oh, the news that our school is going to hold a sports meet next month is really encouraging.
3. The fact that I'm not good at P.E disappoints me a lot.
4. But there's still doubt whether our class will be able to do well in the relay race.

5. We can't settle the problem when and where we'll train ourselves for the race.



Step 2 Grammer

1) Definition: A subordinate clause used to explain the specific content implied by a noun.

2) Usage: The cognate clause is usually guided by that, and is often placed after abstract nouns such as fact, news, doubt, opinion, idea, thought, question, order, possibility, promise, suggestion, etc. to explain the concrete content of the noun. In other words, the cognate clause and the noun it modifies are in the same relationship in terms of content, giving further explanation of its content. The subordinating conjunction is used for most of the correlatives.

3) Conjunctions:

Fill in the blanks with the appropriate connecting words.

1) I have no idea _____ we can do with these waste materials. what

2) The question _____ should do the work requires consideration. who

3) We haven't yet settled the question _____ we are going to spend our summer vacation.

The choice of guiding words for homonym clauses

1) that: No sense. The meaning of the cognate clause is complete. (i.e. that doesn't act as any component, only as a link)

2) whether: "whether". The meaning of the cognate clause is incomplete. (if cannot lead the homonym clause)

3) wh-: "what", "who", "when", "where", "how", etc. "what way" and other meanings. The meaning of the homonym clause is incomplete.

Position of cognate clauses.

1) Usually immediately after the abstract noun

2) Postposition of the homonym clause: When the predicate is short and the predicate of the main clause is short and the homonym clause is long, the homonym clause is often postpositioned in order to avoid the sentence being top-heavy.

Step3 Explanation

What is the difference between a definite clause and a homophone clause?

	Syntactically functional	Significance
That-guided adjective clauses	that only serves as a link to the subordinate clause and has no meaning. It does not act as a sentence component in the subordinate clause. It cannot be omitted.	The subordinate clause is the content of the noun being modified.
The definite clause guided by that	that replaces the antecedent in the subordinate clause not only as a linker, but also as a sentence element. It also acts as a sentence component. If the verb is used as an object in a subordinate clause The verb can be omitted when it is the object of the clause.	The subordinate clause plays a qualifying role and is the definite article

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Step 4 Exercise

- 1) The news that the plane would take off on time made everybody happy.
- 2) The news that is spreading around the airport is that a heavy storm is coming.
- 3) The suggestion that students should learn something practical is worth considering.
- 4) The suggestion that they are considering is that students should learn something practical.

Step 5 Posting assignments.**Week 4:**

Subject/Course:	Reading Training II		
Level:	Grade 3	Lesson Duration:	90 minutes

Lesson Objective:

This is a reading-based lesson, which focuses on reading materials for students to grasp the main points and obtain information.

Learning Activities:

- 1) Capture students' attention with a question-and-answer session.
- 2) Use pictures and music to show the theme of the lesson.
- 3) Familiarize and master the usage of some new words and phrases.
- 4) Practice in class to train students' practical skills. Develop students' reading skills of finding details of articles quickly, summarizing and concluding.

Materials / Tools:

Recordings and pictures

Teaching process:**Step 1 Lead-in**

The classroom atmosphere is enlivened with pictures (the opening ceremony of the 2008 Beijing Olympic Games, the championship) and songs familiar to the students, and the students can easily enter the theme of the lesson.



Step 2 Pre-reading

To further familiarize students with the topic, which leads to reading the article.

Step 3 Skimming: Let's skim the passage quickly and answer 3 questions.

- What are they mainly talking about?
- When he hears that women are allowed to join in, how about his feeling?
- When he hears the Olympics are also about being able to run faster, jump higher and throw further, how does he feel?

Step 4 Scanning: Let's read the passage once more and fill in the blanks of the chart. What do you think of them?

Items	The ancient Olympic Games	The modern Olympic Games
Frequency	1. Every ____ years	2. Every ____ years
Types	Only Summer Olympic Games	Summer and 3. ____ Olympic Games
Events	Fewer	4. more
Athletes	Only men from 5. ____ city	From 6. ____ including 7. ____
Places	Greece	8. ____
Prize	9. ____	10. ____

(4. four 5. Winter 6. more 7. Greek 8. all over the world 9. women 10. Every country is possible 11. an olive wreath 12. medal)

Step 5 Summary of the interview

The Olympic Games are the biggest sports meeting in the world, which include two kinds, the ____ and the ____ Olympics. Both of them are ____ every _____. All countries can take part if their athletes reached the _____ to the games. Women are not only _____ to join in but play a very _____ role. (Summer/Winter/held/four years/standard/allowed/important)

A _____ is built for the competitors to live in, a _____ for competitions, a large swimming pool, a _____ as well as seats for those who watch the games. It's a great _____ to host the Olympic Games.

The Olive wreath has been _____ by medals. But it's still about being able to run _____, jump _____ and throw _____. (special village/stadium/gymnasium/honor/replaced/faster/higher/further)

Step 6 Discussion

Work in pairs.

Why do many countries want to host the Olympic Games while others do not?

Give your ideas and reasons.

Step 7 Posting assignments.

APPENDIX D

LIST OF EXPERTS

Verify the quality of feedback videos produced using screencast likert scale (5 level) expert list.

1. English expertise
Zhao Yang
Associate Dean, School of Foreign Languages, Public University.
2. Educational Technology expertise
Song Xiaomei
Director of the Lab at the Public University.
3. Educational Technology expertise
Dr. Ning Dean
Associate Director, Center for Public Instruction, Public University



Validate the lesson plan before implementing screencast feedback and text feedback

Description:

This lesson plan is part of the experimental activities of my dissertation to develop a standardized curriculum in order to provide effective feedback to students. Your responses are valuable and are considered highly confidential.

Direction:

Read through the test questions in this form. Please indicate the degree to which each item is congruent with the objective of this study. If you have any comments on the congruence of each question, please record them in the space provided. Tick (✓) to rate the congruence according to the scale below.

The interpretation of each number is described as follows:

5 = strongly agree

4 = agree

3 = undecided

2 = disagree

1 = strongly disagree

Table D.1 Expert grades of lesson plan Mean, SD, and level

NO.	Question items	Mean	S.D.	Level
1.	The lesson plan contains all of the necessary elements.	4.67	0.47	Highest
2.	The content is suited for the students' level of understanding.	4.00	0.00	High
3.	The learning activities are relevant to the subject matter.	4.67	0.47	Highest
4.	Learning activities designed according to the teaching objectives.	4.67	0.47	Highest
5.	Learning activities are difficult and also easy to suit the level of learners.	5.00	0.00	Highest
6.	The timing of the activities is appropriate.	4.33	0.47	High
7.	The teaching materials applied to the activities are appropriate.	4.67	0.47	Highest

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Table D.1 (Continued)

NO.	Question items	Mean	S.D.	Level
8.	Digital tools used for activities are sufficient.	5.00	0.00	Highest
9.	Assessment methodologies are appropriate.	4.67	0.47	Highest
10.	Assessment methodologies are accurate and fair.	4.67	0.47	Highest
	Overall	4.64	0.33	Highest



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APPENDIX E

Produce feedback video quality verification using screencast

Description:

The quality of the feedback videos created using screencast as an important part of this study (creating feedback videos using screencast to discuss students' learning achievement and satisfaction). Your responses are valuable and considered highly confidential.

Direction:

Read through the test questions in this form. Please indicate the degree to which each item is congruent with the objective of this study. If you have any comments on the congruence of each question, please record them in the space provided. Tick (✓) to rate the congruence according to the scale below.

The interpretation of each number is described as follows:

- 5 = strongly agree
- 4 = agree
- 3 = undecided
- 2 = disagree
- 1 = strongly disagree

Table E.1 Experts evaluate the screencast feedback video scoring questionnaire

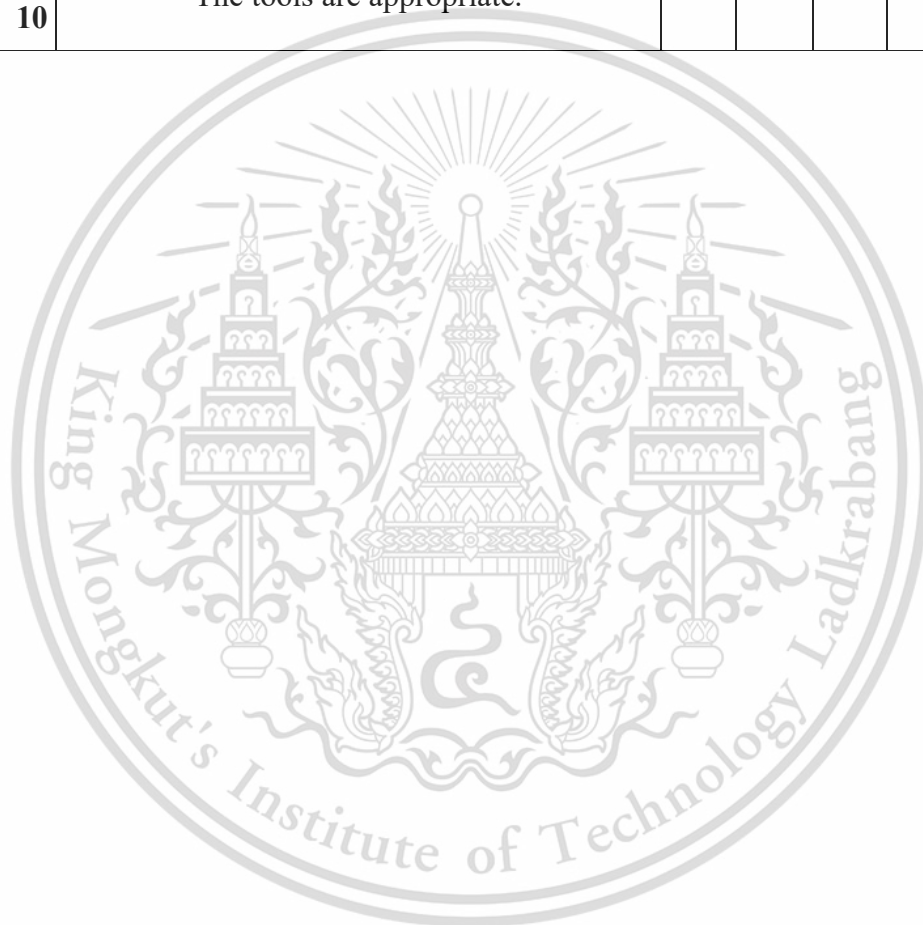
No.	Question items	5	4	3	2	1
1.	The feedback video contains all the necessary elements.					
2.	The feedback video content is appropriate for the student's level of understanding.					
3.	The feedback video content is relevant to the topic.					
4.	The feedback video is designed based on reducing cognitive barriers for students and enhancing teacher-student emotions.					
5.	The feedback video is adaptable to the level of the learner.					
6	The length of the feedback video is appropriate.					

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Table E.1 (Continued)

No.	Question items	5	4	3	2	1
7	The feedback video content is matched to the textbook.					
8	Digital tools used for activities are sufficient.					
9	The feedback video is easy to view.					
10	The tools are appropriate.					



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APPENDIX F

IOC Post-test

Description:

This test is part of a screenshot feedback validity study. Your answers are valuable and highly confidential.

Direction:

Read through the test questions in this form. Please indicate the degree to which each item is congruent with the objective of this study. If you have any comments on the congruence of each question, please record them in the space provided. Tick (✓) to rate the congruence according to the scale below.

+1 = certain that the question is consistent with the test English learning effectiveness theme.

0 = uncertain that the question is consistent with the test English learning.

-1 = certain that the question is consistent with the test English learning effectiveness theme

-1 = certain that the question is consistent with the test English learning effectiveness theme

Table F.1 IOC results of student achievement papers

No.	Question items				Expert			Σ R	IOC	Result
					1	2	3			
A: Directions: In this section, there are 5 incomplete sentences. You are required to complete each one by deciding on the most appropriate word or words from the 4 choices marked A), B), C) and D). Then you should mark the corresponding letter on the Answer Sheet with a single line through the center.										
1	We must find a way to cut prices _____ reducing our profits too much.				+1	+1	+1	3	1.00	Used
	A. whitout	B. despi te	C. whit	D. for						
2	She didn't know _____ to express her ideas in English clearly in public.				+1	+1	+1	3	1.00	Used
	A. which	B. why	C. what	D. how						
3	Would you please pass me the book _____ cover is black?				+1	+1	+1	3	1.00	Used
	A. which	B. whos e	C. that	D. its						

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Table F.1 (Continued)

No	Question items	Expert			Σ R	IOC	Result
		1	2	3			
4	Not until she arrived at the meeting room _____ she had forgotten to bring them .	+1	+1	+1	3	1.00	Used
	A. she realized						
5	_____ some students are able to find employment after graduation, others will have to return to school and earn an advanced degree.	+1	+1	+1	3	1.00	Used
	A. Since						
B: Directions: There are 5 incomplete statements here. You should fill in each blank with the proper form of the word given in brackets. Write the word or words in the corresponding space on the Answer Sheet.							
6	Employees are not allowed (make) _____ personal phone calls in the office.	+1	+1	+1	3	1.00	Used
7	The purpose of new technology is to make life (easy) _____, not to make it more difficult.	+1	+1	+1	3	1.00	Used
8	Since we work in different sections of the company, we see each other only (occasional) _____.	+1	+1	+1	3	1.00	Used
9	I shall appreciate your effort in (correct) _____ this error in my bank account as soon as possible.	+1	+1	+1	3	1.00	Used
10	Measures should be taken to avoid the negative effect (bring) _____ about by unfair competition.	+1	+1	+1	3	1.00	Used

Table F.1 (Continued)

No	Question items	Expert			Σ R	IOC	Result
		1	2	3			
<p>Directions: After reading the following passage, you will find 5 questions or unfinished statements, numbered 11 to 15. For each question or statement there are 4 choices marked A), B), C) and D). You should make the correct choice and mark the corresponding letter on the Answer Sheet with a single line through the center. Google, the Internet search-engine company, has announced it will give more than twenty-five million dollars in money and investments to help the poor. The company says the effort involves using the power of information and technology to help people improve their lives. Aleem Walji works for Google.org -- the part of the company that gives money to good causes. He said the company's first project will help identify where infectious (传染性的) diseases are developing. In Southeast Asia and Africa, for example, Google.org will work with partners to strengthen early-warning systems and take action against growing health threats. Google.org's second project will invest in ways to help small and medium-sized businesses grow. Walji says microfinance (小额信贷) is generally small, short-term loans that create few jobs. Instead, he says Google.org wants to develop ways to bring investors and business owners together to create jobs and improve economic growth. Google.org will also give money to help two climate-change programs announced earlier this year. One of these programs studies ways to make renewable (再生的) energy less costly than coal-based energy. The other is examining the efforts being made to increase the use of electric cars. The creators of Google have promised to give Google.org about one percent of company profits and one percent of its total stock value every year. Aleem Walji says this amount may increase in the future.</p>							
11	<p>The purpose of Google's investments is to .</p> <p>A. help poor people</p> <p>B. develop new technology</p> <p>C. expand its own business</p> <p>D. increase the power of information</p>	+1	+1	+1	3	1.00	Used
12	<p>According to Aleem Walji, the company's first project is to .</p> <p>A. set up a new system to warn people of infectious diseases</p> <p>B. find out where infectious diseases develop</p> <p>C. identify the causes of infectious diseases</p> <p>D. increase the power of information</p>	+1	+1	+1	3	1.00	Used

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Table F.1 (Continued)

No.	Question items				Expert			Σ R	IOC	Result
					1	2	3			
13	What kind of businesses will benefit from Google.org's second project?				+1	+1	+1	3	1.00	Used
	A. large enterprises	B. cross-national companies	C. foreign-funded corporations	D. small and medium-sized businesses						
14	From the fourth paragraph, we learn that Google's money is also invested to help				+1	+1	+1	3	1.00	Used
	A. start more research programs	B. make more advanced electric cars	C. develop renewable and coal-based energy	D. conduct studies related to climate changes						
15	From the last paragraph we learn that the investments by Google.org come from				+1	+1	+1	3	1.00	Used
	A. Google's profits and stock value	B. some international IT companies	C. the company's own interests	D. local commercial banks						
Translation from English into Chinese (Score Grades: 2/1.5/1/0.5/0)										

Table F.1 (Continued)

No.	Question items					Expert			Σ R	IOC	Result
						1	2	3			
16	There are 7 major crustal plates on earth, about 80 km thick, all in constant motion relative to one another.					+	+1	+	3	1.00	Used
	A.地球上有7种地壳结构,范围约80公里,它们的运动彼此相似。 (There are seven crustal structures on Earth, ranging about 80 km, which move similarly to each other.)	B.地球由7个大的板块构成,厚度约为80公里,并且不断地运动。(The Earth is made up of seven large plates, about 80 km thick, and is in constant motion.)	C.地球上7个板块,每块长80公里,它们处于相似的运动之中。(There are seven plates on Earth, each 80 km long, which are in similar motion.)	D.地球有7个大的板块,厚度约为80公里,它们的运动方式相关。(The Earth has seven large plates, about 80 km thick, which move in related ways.)	E.地球有7个大的板块,厚约80公里,均处于不断的相对运动中。(The Earth has seven large plates, about 80 km thick, all in constant relative motion.)						

Table F.1 (Continued)

No	Question items					Expert			Σ R	IO C	Re sul t
						1	2	3			
17	It was a happy combination of mountains, sea, and sun which made farming become the leading industry of the Southern Colonies.					+	+	+	3	1.0	Us ed
	A.正是山脉、海洋和阳光相互结合起来,才使南部殖民地变成了工业主导区域。(It was the combination of the mountains, the sea and the sun that turned the southern colonies into an industrially dominant region.)	B. 喜人的是,有山有海有太阳,这就是为什么南方成了既有农场又有工厂的地方。(Happily, there are mountains, sea and sun, which is why the South became a place with both farms and factories.)	C.地球上 有7个板块,每块长80公里,它们处于相似的运动之中。(There are seven plates on Earth, each 80 km long, which are in similar motion.)	D. 有喜人的山地、大海和日照,南方的那些殖民地农民变成为工业的主力军。(With delightful mountains, sea and sunshine, those colonial farmers in the south became the mainstay of industry.)	E.山脉、海洋和阳光互相结合,恰到好处,使农业变成了南部殖民地的重 要产业。(The mountains, the sea and the sun combined with each other in just the right way to turn agriculture into an important industry for the southern colonies.)						

Table F.1 (Continued)

No	Question items					Expert			Σ R	IO C	Re sul t
						1	2	3			
18	Numerous radio and TV stations, satellite channels and millions of websites help people keep up with the latest news.					+	+	+	3	1.0	Us ed
	A. 众多的收音机、电视机、卫星频道和数百万网站帮助人们获取最新信息。 (Numerous radios, televisions, satellite channels and millions of websites help people get the latest information.)	B. 众多的电台、电视台、卫星频道以及千百万网站帮助人们及时了解新闻。 (Numerous radio, TV and satellite channels and millions of websites help people keep up with the news.)	C. 众多的收音机、电视机、卫星频道和网站帮助人们适时地获取最新消息。 (Numerous radios, televisions, satellite channels and websites help people get the latest news at the right time.)	D. 众多的收音机、电视台、卫星和数百万网站帮助人们适时获取最新消息。 (Numerous radio stations, TV stations, satellite stations and millions of websites help people get the latest news at the right time.)	E. 众多的收音机、电视机、卫星和网站让人们与世界保持最新信息的联系。 (Numerous radios, televisions, satellite stations and websites keep people connected to the world with the latest information.)						

Table F.1 (Continued)

No	Question items					Expert			Σ R	IO C	Re sul t
						1	2	3			
19	There is no place in the whole country which is more than three hours journey by car from the sea.					+	+	+	3	1.0	Us ed
	A. 从海 滨出 发, 驱 车去全 国任何 地方, 路程都 不超过 三个小 时。 (From the waterfr ont, the drive to any part of the country takes less than three hours.)	B. 到全 国各 地, 开 车的 话, 要 不了三 个小 时, 便 可以无 处不 到。 (It takes less than three hours by car to get to all parts of the country , and you can get nowher e.)	C.从海 边开车 到国内 任何地 方, 用 不了三 个小时 就足可 以到 达。 (It takes less than three hours to drive from the beach to any place in the country .)	D. 从海 上到全 国各 地, 没 有一个 地方乘 车可在 三小时 以内到 达。 (Ther e is no place in the country that can be reached by car in less than three hours from the sea.)	E.即使 从海上 起程, 三个多 小时, 便可驱 车赶到 国内任 何地 方。 (Even if you start from the sea, you can drive anywhe re in the country in just over three hours.)						

Table F.1 (Continued)

No	Question items	Expert			Σ R	IO C	Re sul t
		1	2	3			
20	<p>The leaves, which are green now, will not turn red until the weather becomes frosty in late autumn.</p> <p>A. 树现在是绿叶的, 晚秋天冷了就要变红。 (The tree is now green leaves, late autumn cold will turn red.)</p> <p>B. 现在的这些绿叶, 到秋天就变成红叶了。 (The green leaves now turn into red leaves in autumn.)</p> <p>C. 现在这些树叶不等到秋天就由绿变红了。 (Now these leaves do not wait until autumn to turn from green to red.)</p> <p>D. 树叶现在是绿色的, 直到晚秋天变冷才会变红。 (The leaves are green now and will not turn red until the weather gets colder in late fall.)</p> <p>E. 现在的这些绿叶即使到秋天也不会变红。 (These green leaves now will not turn red even in autumn.)</p>	+1	+1	+1	3	1.00	Used

Table F.1 (Continued)

No.	Question items	Expert			Σ R	IO C	Re sul t
		1	2	3			
<p>Directions: The following is an announcement. After reading it, you are required to complete the outline below it (No.16 to No.20). You should write your answers briefly (in no more than three words) on the Answer Sheet correspondingly. Parking Ticket(罚单) Payment System Parking tickets issued by the City of Toronto can be paid online. All you have to do is: 1. Enter your Parking Ticket Infraction (:5) number (Top right of the ticket) 2. Enter your credit card number (SA, Mastercard or American Express) and expiry date 3. Print a confirmation for your records If you have difficulties paying your ticket online, you may call our customer service staff at 416-397-8247, Monday to Friday, between the hours of 8: 30 a.m. and 4: 30 p.m. for assistance or contact us by email. To protect the secured exchange of information between you and this secure site you may be asked to download and install the latest version of your browser(浏览器)Please note that your payment session will end automatically if your computer isleft idle(空闲状态) for more than2 minutes. We suggest that you have your parking ticket and credit card ready before you begin the payment session. Parking Ticket Payment System Steps to pay: Step 1: enter your Parking Ticket Information number</p>							
21	Step 2: enter _____ your _____	+	+1	+1	3	1.00	Use d
22	Step 3. print a _____ of your _____ records	+	+1	+1	3	1.00	Use d
23	phone number: _____	+	+1	+1	3	1.00	Use d
24	service time: _____, from 8:30 a.m. to 4:30 p.m.	+	+1	+1	3	1.00	Use d
25	Information exchange security: download and install the _____ of your browser	+	+1	+1	3	1.00	Use d

APPENDIX G

IOC Satisfaction Questionnaire

Description:

This questionnaire is part of the screencast feedback satisfaction study. Your responses are valuable and highly confidential.

Direction:

Read through the test questions in this form. Please indicate the degree to which each item is congruent with the objective of this study. If you have any comments on the congruence of each question, please record them in the space provided. Tick (✓) to rate the congruence according to the scale below.

+1 = certain that the question is congruent with themes of Satisfaction with screencast feedback.

0 = uncertain that the question is congruent with themes of Satisfaction with screencast feedback.

-1 = certain that the question is NOT congruent with themes of Satisfaction with screencast feedback.

Table G.1 Basic information about the participants

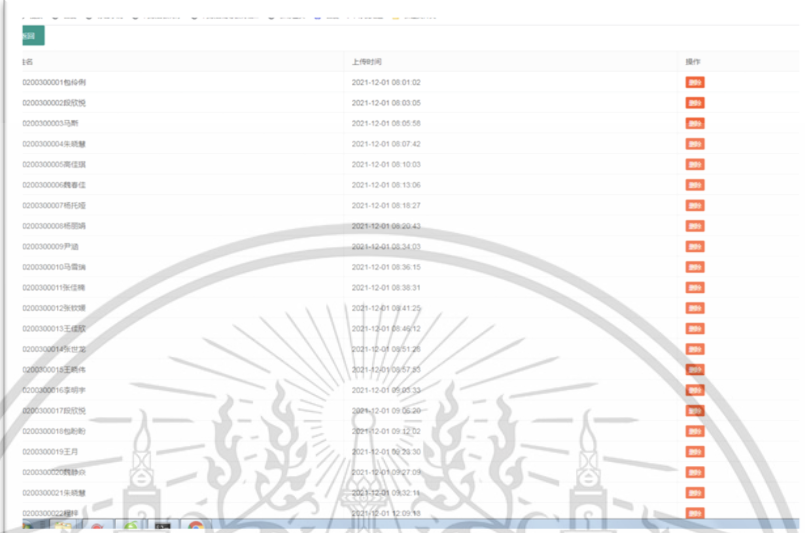
No.	Question items				Expert			Σ R	IOC	Res ult
					1	2	3			
1	How many years have you been studying English?				+1	+1	+1	3	1.00	Use d
	1-5 years	6-10 years	11-15 years	16-20 years						
2	How many years have you been using computers?				+1	+1	+1	3	1.00	Use d
	1-5 years	6-10 years	11-15 years	16-20 years						
3	How many years have you been studying on a computer or online?				+1	+1	+1	3	1.00	Use d
	1-5 years	6-10 years	11-15 years	16-20 years						

Table G.2 Participant satisfaction with screencast feedback

No.	Question items	Expert			Σ R	IOC	Result
		1	2	3			
1	I prefer video feedback to text feedback for the feedback I receive on assignments from my teacher?	+1	+1	+1	3	1.00	Used
2	I feel that there is less scope for misunderstanding using screencast feedback than text feedback, and screencasts are more helpful in clarifying things I don't understand.	+1	+1	+1	3	1.00	Used
3	I am using screencast feedback allows me to personalize my learning better than text feedback.	+1	+1	+1	3	1.00	Used
4	I feel that using screencast feedback allows for a better teacher-student relationship than text-based feedback.	+1	+1	+1	3	1.00	Used
5	I am using screencast feedback allows for more detailed and comprehensive feedback than text-based feedback.	+1	+1	+1	3	1.00	Used
6	Screencast feedback gives me more motivation to take action and review learning topics and questions.	+1	+1	+1	3	1.00	Used
7	screencast feedback gives me more motivation to take action and continue to learn more.	+1	+1	+1	3	1.00	Used

APPENDIX H

Pictures of Conducting Research Experiments



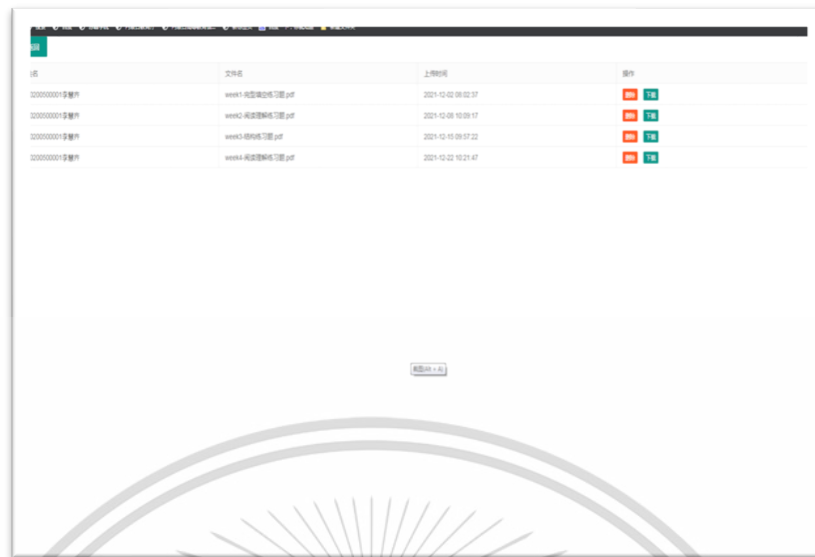
学号	上传时间	操作
020000001包舒桐	2021-12-01 08:01:02	删除
020000002张昕悦	2021-12-01 08:03:05	删除
020000003马新	2021-12-01 08:05:58	删除
020000004朱晓慧	2021-12-01 08:07:42	删除
020000005高廷琪	2021-12-01 08:10:03	删除
020000006魏睿佳	2021-12-01 08:13:06	删除
020000007杨彤彤	2021-12-01 08:18:27	删除
020000008杨阳博	2021-12-01 08:20:43	删除
020000009尹迪	2021-12-01 08:24:03	删除
020000010马露露	2021-12-01 08:36:15	删除
020000011张佳博	2021-12-01 08:38:31	删除
020000012张舒博	2021-12-01 09:41:25	删除
020000013王婧欣	2021-12-01 09:49:12	删除
020000014陈世宏	2021-12-01 09:51:25	删除
020000018王奕博	2021-12-01 09:57:35	删除
020000016李朝宇	2021-12-01 09:58:33	删除
020000017张昕悦	2021-12-01 09:58:29	删除
020000019包舒桐	2021-12-01 09:52:02	删除
020000019王月	2021-12-01 09:29:30	删除
020000020魏静怡	2021-12-01 09:27:08	删除
020000021朱晓慧	2021-12-01 09:32:14	删除
020000022张彤	2021-12-01 12:02:13	删除

Figure H.1 Collection of students' assignments



学号	文件名	上传时间	操作
0200019王月	week4-电路分析习题.pdf	2021-12-01 22:40:14	删除
0200019王月	week1-电路分析习题19.mp4	2021-12-02 12:16:11	删除
0200019王月	week2-电路分析习题.pdf	2021-12-06 18:03:11	删除
0200019王月	week3-电路分析习题19.mp4	2021-12-08 21:04:02	删除
0200019王月	week4-电路分析习题19.pdf	2021-12-15 19:02:29	删除
0200019王月	电路week3-电路分析习题19.mp4	2021-12-15 22:18:23	删除
0200019王月	week4-电路分析习题19.pdf	2021-12-22 20:18:21	删除
0200019王月	反馈week4-电路分析19.mp4	2021-12-22 23:16:53	删除

Figure H.2 Teacher feedback to students' screencast feedback video



ID	文件名	上传时间	操作
320000001	week1-托福听力练习.pdf	2021-12-02 08:02:37	删除 下载
320000002	week2-托福听力练习.pdf	2021-12-03 10:09:17	删除 下载
320000003	week3-托福听力练习.pdf	2021-12-10 09:57:22	删除 下载
320000004	week4-托福听力练习.pdf	2021-12-22 10:21:47	删除 下载

Figure H.3 Teacher feedback to students' text feedback



Figure H.4 Screencast feedback demo

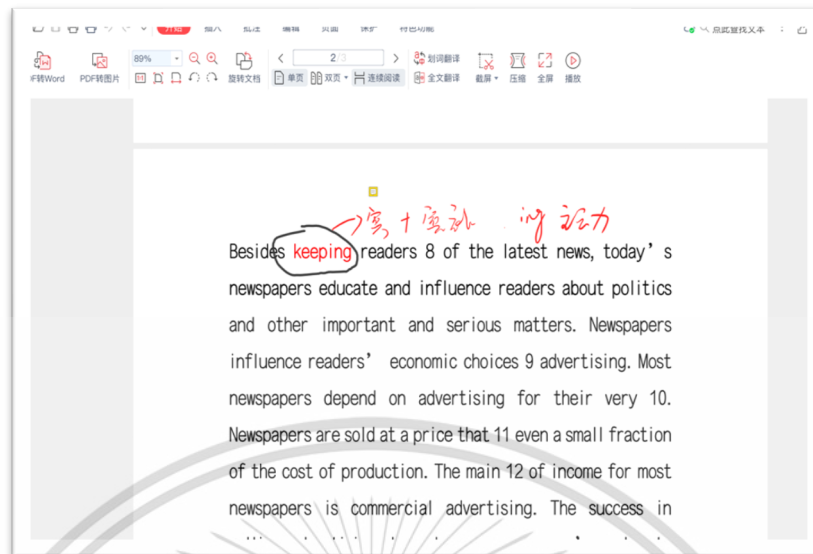


Figure H.5 Text feedback demo



Figure H.6 Teacher shows screencast feedback video

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Jingyi Li and Jirarat Sitthiworachart (2022). Create feedback video with screencast to enhance student learning achievement and satisfaction. The 3th national and international conference on humanities and social sciences. 8 July 2022.