

Exploring the Effects of Screencast Feedback on Writing Performance and Perception of Chinese Secondary School Students

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Abstract

Feedback has a pivotal role in language and literacy learning. With the ubiquity and advancement of technology, screencast feedback (SF) has emerged as a novel mode of feedback in the context of English as a foreign language (EFL) writing classrooms. Yet, there remains a paucity of evidence on the effects of SF on enhancing students' English writing performance, particularly in Chinese secondary school settings. Thus, the current study aims to employ a mixed-method sequential explanatory design to investigate the impacts of SF on the writing performance of Chinese secondary school students and their perceptions toward SF. The sample consisted of 90 intermediate Grade 12 high school students from Southern China. While the experimental group received the SF, the control group received conventionally written feedback in their argumentative writings. Quantitative findings indicated that the posttest of the experimental group participants in terms of task achievement and coherence and cohesion in writing was higher than their pretest; however, there was no significant difference in enhancing lexical resources and grammatical range accuracy. Results also showed that the experimental group excelled over the control group regarding overall writing performance. Qualitative findings from semi-structured interviews in the experimental group revealed that most participants maintained positive perceptions of SF, as it strengthened student-teacher interaction, provided specific and longer feedback, and promoted students' confidence.

Keywords: screencast feedback, writing performance, perception, Chinese secondary school students

1. Introduction

Feedback, widely regarded as the cornerstone of learning cultivation and consolidation, facilitates language study and literacy development for diverse language learners (Biber et al., 2011; Hyland & Hyland, 2006; Yapp et al., 2021). While researchers have long recognized the benefits of feedback, implementing it is a complex and challenging task (Cunningham, 2019), particularly in the context of English as a Foreign Language (EFL) writing instructions (Ali, 2016; Kim, 2018). For example, instructors need to decide whether the written content or organization needs to be revised, the categories of errors to accentuate, and the delivery of feedback (Elola & Oskoz, 2016). Moreover, as Marriott and Teoh (2012) noted, feedback is rendered ineffective if it is not provided on time. Nevertheless, in China, instructors are normally under pressure to provide timely, sufficient feedback due to the constraints of excessive class size and limited class hours (Bao, 2019; Wang et al., 2019). As a result, they may not be able to effectively support students as they work through the writing process. Additionally, student disengagement and a lack of responsiveness to written feedback in classroom practice have also been emphasized previously (e.g., Boud & Molloy, 2012; Hattie et al., 2016; Kim, 2018), as learners may struggle with teachers' ambiguous or generic feedback (Thompson & Lee, 2012), further discouraging students' language

learning improvement.

To address these challenges and leverage the potential of feedback, researchers have investigated various innovative, technology-enhanced approaches in feedback practices, including audio (Merry & Orsmond, 2008), video (Henderson & Philips, 2015), and screencast feedback (SF) (Cunningham, 2019). Among these, the latest mode of delivering feedback in the EFL context is SF, which enables instructors to record their oral comments on learners' submitted work combined with on-screen actions (Elola & Oskoz, 2016; Marriott & Teoh, 2012). Previous studies have found many benefits to enhancing feedback through this technological approach, such as being tailored to address the needs of learners (Abdous & Yoshimura, 2010), reducing students' cognitive load (Edwards et al., 2012), strengthening the student-teacher interaction (Lee & Bailey, 2016), providing more timely, specific information (Ali, 2016), and cultivating a sense of social belonging (Li et al., 2020; Rybakova, 2020). Moreover, as indicated by Odo and Yi (2014), SF has the potential to help scaffold learners' academic writing development in the EFL context.

Although previous studies have been invaluable in supplying evidence exemplifying the benefits and advantages of SF, this particular line of research has been underdeveloped in several ways: It has predominantly focused on the tertiary level (e.g., Cheng & Li, 2020; Elola & Oskoz, 2016; Jiang & Yu, 2020). Furthermore, robust empirical research is limited in examining the effectiveness of SF on students' writing performance, with some studies appearing to rely on personal observations (e.g., Hynson, 2012) rather than robust statistical analyses, which might undermine the reliability of the results. To date, there is a dearth of studies examining the effects of SF on writing performance among Chinese secondary school students. Therefore, the purpose of this present study was twofold. First, it sought to understand the impact of SF on writing performance in Chinese secondary school students. Second, it aimed to understand Chinese secondary school students' perception of SF in their writings. Such knowledge can fill the aforementioned void and provide direct implications for teachers and curriculum designers pertaining to implementing effective SF to support and improve students' writing, as well as integrating SF into the writing curriculum to address students' needs. Specifically, the following research questions were formulated:

- (1) To what extent can screencast feedback improve English writing performance among Chinese secondary school students?
- (2) Is there any significant difference between students who received screencast feedback and those who utilized the conventional paper-based method of writing?
- (3) How do Chinese secondary school students perceive screencast feedback on writing?

2. Literature Review

2.1 Feedback and Technology Affordances

From the perspective of sociocultural theories, which highlight the shared construction of knowledge through interaction, feedback is thus considered a dialogic process (Lantolf, 2006) by which learners are provided valuable information about their performance to achieve learning objectives. Furthermore, feedback provides the necessary scaffolding for learners through the interaction between experts and novices and allows them to interact within their zone of proximal development (Vygotsky, 1978). Not only does it enable learners to decrease the language discrepancy between current and targeted performance levels, but it also can support them to higher levels (Bloxham & Boyd, 2007; Hattie & Timperley, 2007; Lantolf & Thorne, 2007). In addition, instructor feedback will create motivational changes for learners and enhance self-regulation learning, facilitating students in achieving their ultimate learning objectives (Alharbi, 2017; Mahoney et al., 2019).

By the 21st century, electronic feedback caught the attention of scholars as technology advanced, and the introduction of audiovisual components and multimodal feedback became important milestones in feedback research (Huang, 2000). Consequently, scholars began further research on SF (Ball, 2010). Regarding the definition of SF, it is a voice-narrated digital recording combined with the user's computer screen that will be submitted via electronic formats, such as a word document, text file, PowerPoint presentation, Excel spreadsheet, website, or video. Thus, SF allows students to view their work, listen to video captures of recorded comments, watch cursor movement, and pre-create annotations (Abdrahman et al., 2014).

Numerous studies have concluded that SF has a plethora of advantages, such as accommodating different learning styles, counteracting the single learning style of written feedback, and increasing student-teacher interaction and intimacy. For example, studies have shown that students prefer SF not only because it is effective in improving their writing but also because it creates a greater sense of rapport with the instructor and generates a general sense of belonging (Anson et al., 2016; Crews & Wilkinson, 2010; Mathieson, 2012). In addition, SF is easier to understand than handwritten comments from teachers (McGarrell & Alvira, 2013; O'Malley, 2011), given that narratives not only provide written feedback but also provide insight into why the teacher made comments and corrections. In a recent study by Ghosn-Chelala and Aichibani (2018), Arabic-L1 ELLs reported

that receiving multimodal feedback met their preferences and, in turn, increased their engagement. They also found the feedback to be more transparent and valuable.

Nevertheless, while previous studies have shown that most findings regarding SF are promising, there are still challenges and conflicting findings that require further investigation to determine the effectiveness of SF. For example, Mathieson (2012) found that screencasts took almost twice as long as written feedback and concluded that they could not be implemented in larger classes. In contrast, Rotherham (2009) claimed that SF was a quick and easy method to deliver feedback, and similar results were shown in Lee's (2017) and Cunningham (2019)'s studies, indicating it reduced the time spent on providing written feedback and teachers focused more on feedback quality. Another issue is a poor internet connection, which has been shown to cause significant delays for instructors using SF (Seror, 2012). McCarthy (2015) reported that SF was time-consuming to code the word files and prepare for upload.

2.2 Writing Performance and Perceptions in Screencast Feedback

Previous studies have investigated the effect of SF on students' writing. In a study conducted by Cranny (2016) using a small sample of undergraduates in Ireland who received SF from teachers, it was found that SF was an accessible and effective revision strategy for their portfolio writing. Many students viewed SF multiple times during the revision process, paused and replayed the video when necessary, and incorporated the instructor's feedback into their final revisions. Elola and Oskoz (2016) reported on SF in an advanced writing course in Spain. They found that Spanish instructors gave longer, effective feedback when adopting SF. When providing feedback using the screencasting tool, instructors focused more on the global aspects (i.e., content and organization) of writing. Furthermore, participants favored SF, where the instructor appeared to engage in dialogue with them, increasing their motivation. In Silva's (2017) study, students could focus on writing regarding content, audience, and purpose rather than the micro-level of grammar and spelling when using SF.

More recently, Cavaleri et al. (2019) compared the effects of text-based feedback and SF on junior ESL students' revisions of academic assignments, which indicated that SF elicited more successful revisions. Cunningham (2019) explored the use of SF compared to text-based feedback for intermediate ESL writers in the United States. Results noted that students preferred SF over written feedback, given its efficiency, clarity, ease of use, and enhanced comprehension. Furthermore, Bush (2020) surveyed 44 freshmen from a private university in Istanbul on the impact of SF on the academic writing, from which results indicated that students overwhelmingly found SF more enjoyable and effective than written corrective feedback alone, showing its appropriateness for the 21st-century classroom and modern student learning styles. Thus, it is recommended that such a technology-enhanced tool be adopted in academic writing classes. Cheng and Li (2020) compared instructor feedback in an online TESOL course on two types of technological media (i.e., Microsoft Word and SF). Their findings showed that despite screencast videos leading to more comments on content, while Microsoft Word comments were more specific to grammar and language use, the two types of feedback did not lead to statistically significant differences in teacher comments within each comment category. However, they also found more students preferred SF due to its personal and conversational traits and specifically given details, and concluded usefulness and efficiency of SF in the revision process, as well as its contribution to their professional development.

With respect to learners' perception, as it is essential contributors to their language learning process and ultimate success (Bernat & Gvozdenko, 2005), research has also been conducted to examine learners' perceptions towards the role of feedback, including SF in the foreign language classroom (Ducate & Arnold, 2012). For instance, Orlando (2016) investigated 30 students' perceptions of SF and found that they preferred it because it was more personal and provided more helpful information. Likewise, Alharbi (2017) compared online Saudi EFL students' perceptions of SF and handwritten feedback and found that they were better able to engage with SF. In addition, Zhang (2018) surveyed six Chinese English majors and examined their journal entries for eight weeks, along with follow-up interviews in a case study. Findings showed that participants held positive attitudes toward using SF and believed that this multimodal form of feedback effectively addressed students' needs while fostering a friendly student-teacher relationship.

Despite the insightful findings of the aforementioned research on writing with SF, there remains a paucity of robust empirical evidence regarding the effectiveness of SF on students' writing performance. For example, Ali (2016) used a mixed research design to explore the impact of SF on the academic writing of 63 first-year students. Results indicated that the experimental group performed better than the control group and that most students found SF to be clear, personal, and supportive. However, students also reported the slow loading time entailed in SF and the challenge of not being able to download the videos. Another study was conducted by Inan-Karagul and Seker (2021) to explore the effects of SF on students' writing strategies in undergraduate students at two Turkish state universities through a mixed research approach. The results indicated that SF could enhance learners' self-regulated learning strategies, and qualitative analysis showed that learners' perceptions

toward receiving SF were also quite positive.

In summary, although research literature has found positive findings in assisting students' writing with the implementation of SF, only a limited number of studies have demonstrated the effectiveness of SF on students' writing performance to date. Moreover, while a plethora of studies have focused on the impact of writing at the higher education level, few studies have focused on the secondary school level, particularly Chinese secondary school students. In accordance with Mahoney et al.'s (2019) recommendation for a more rigorous, empirical analysis to detect whether SF impacts students' writing performance, this paper aims to explore the impact of SF on Chinese secondary school students' writing and perceptions to fill the aforementioned gap and limitations.

3. Methods

Given the appropriateness and objectives, this study adopted a mixed-methods sequential explanatory design (Creswell et al., 2003; Ivankova et al., 2009). Thus, learners' writing proficiency results were analyzed quantitatively, and then a semi-structured interview was conducted to collect qualitative data to help explain the quantitative findings. The mixing of the quantitative and qualitative methods occurred in two stages: 1) selecting the participants for the semi-structured interview and creating the semi-structured interview questions based on the quantitative findings; 2) discussing the findings from the two phases for better interpretation.

3.1 Context and Participants

This study involved 90 Grade 12 EFL students (40 males and 50 females) from two intact classes studying in southern China during the second semester of the 2020/2021 academic year. The participants were selected using the convenience sampling method (Dörnyei, 2007). One class was randomly selected as the experimental group (N = 44), while the other was assigned as the control group (N = 46). All students were EFL learners aged 17-18 and had to study 40-minute compulsory English courses every day to improve their English language skills for the college entrance examination. The participants' English proficiency level was measured by their performance on the final exam for the first semester of the 2020/2021 academic year, which was developed by three experienced English teachers who had over 15 years of teaching experience from the English Department. The test results indicated that the participants' proficiency level was intermediate. Each participant was assigned a tablet through which they could receive notifications (e.g., learning materials, quizzes, homework, class notices, etc.) from the instructor via the AI Learning platform. Prior to the research, none of the participants had experienced SF in their previous study. All participants gave their informed consent.

3.2 Instruments and Materials

3.2.1 IELTS Academic Writing Examination

Participants writing performance were assessed using the International English Language Testing System (IELTS), an international standardized English language proficiency test for non-native speakers. Given the in-class time limits and the emphasis on argumentative writing, students were assigned one of the IELTS task formats, Writing Task 2, in which they were given a topic to write about in an academic-style argument and spent no more than 40 minutes. Additionally, this task assesses the ability to present a clear, relevant, well-organized argument, give evidence or examples to support ideas, and use language accurately. In this task, the researcher adopted the IELTS writing band descriptor Task 2 as a formative assessment (McMillan, 2017) to evaluate learners' academic writing performance regarding four facets of task achievement: coherence and cohesion, lexical resource, and grammatical range and accuracy (see Appendix 1). All participants were given a mark from 1 (non-users) to 9 (expert users) with respect to the four components to evaluate their academic writing performance, with the final score ranging from 1 to 9 at intervals of 0.5.

3.2.2 Screencast Feedback and Paper-Based Feedback Form

The purpose of giving feedback to students was to allow them to follow instructions, obtain suggestions provided by the instructor, and revise effectively to enhance their argumentative writing performance. In this study, the researcher adopted the free edition of the Tencent Meeting, an online cloud-based video conferencing platform that can be adopted as an online screencast recording tool to provide feedback on learners' written tasks. Given that there were no time constraints for the recording in the Tencent Meeting, it was available for instructors to provide more comprehensive feedback to students. Instructors could choose to share the screen, turn on the camera, enable microphone access, and start recording the SF on participants' writing. In this process, only participants in the experimental group were given the SF, which enables recordings of both the screen and the talking head. In other words, learners can see the instructor's screen and facial expression and hear the voice simultaneously. After the recording, the researcher saved the screencast video for each participant in the empirical group and sent it via the AI Learning platform, and students instantly received the video on their backend. The screen recording allowed participants to follow the instructors' thoughts in reviewing the writing process from a holistic perspective and assisted in bridging the distance between learners and instructors by seeing the instructor's facial expressions. Students could also make further comments regarding the SF. Figure 1

demonstrates the SF on the experimental group participants' first draft writing.

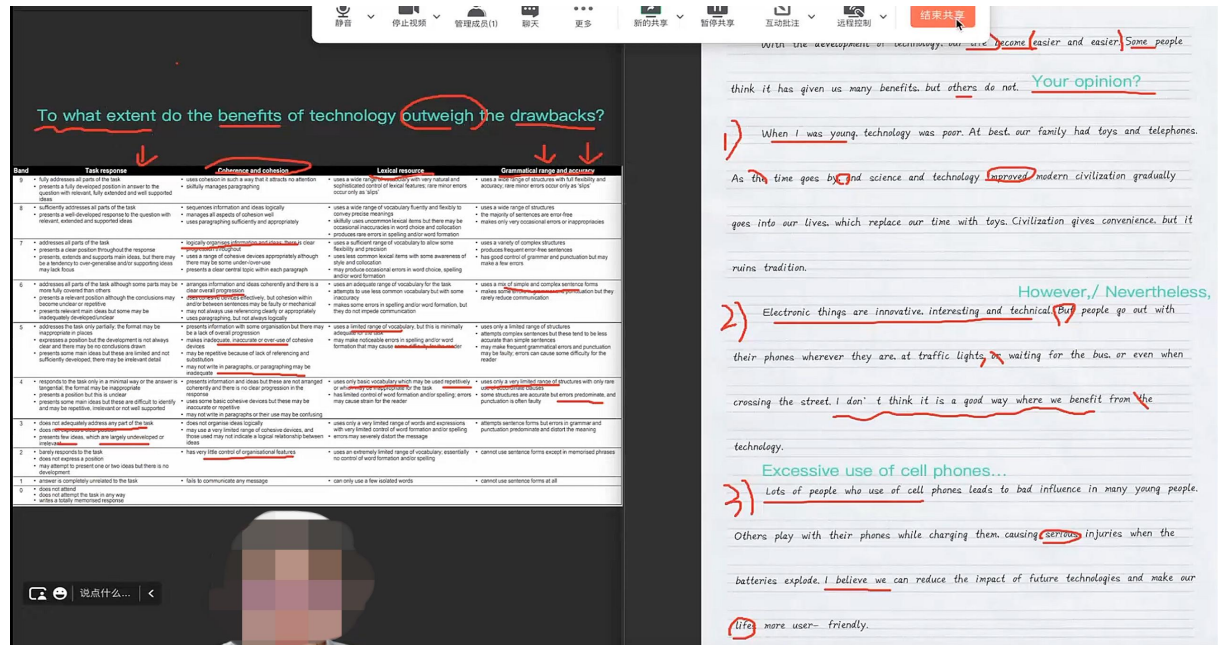


Figure 1. Screenshot of Screencast feedback in students' writing

With respect to the control group, participants received paper-based written feedback provided by the researcher. Specifically, the researcher reviewed participants' written assignments, provided a specific grade, and then noted with the red pen detailed feedback alongside their work. The following day, the participants received their paper-based feedback.

3.3 Procedures

The researcher (instructor) first gave each group the initial 40-minute argumentation writing instructions. The following day, all participants were given an in-class argumentative writing assignment as a pretest to assess their writing proficiency levels prior to the intervention. In this pretest, participants were required to write at least 150 words within 40 minutes. The researcher collected all participants' drafts after the class and marked their submitted writing based on the IELTS writing grading scale, along with specific feedback on their four different areas of performance. While the experimental group received SF, the control group received traditional paper-based feedback. Participants were then required to revise the assignments accordingly and submit their final drafts. The researcher then graded the final draft and returned it to the students. As for the posttest, participants were given an in-class IELTS Academic Writing Task 2 with a similar topic and the same difficulty level after one week, and all posttests were collected after the class.

A semi-structured interview was conducted during the class break time after the posttest regarding participants' perceptions of the SF in developing their argumentative writing performance. In this procedure, a semi-structured interview was conducted with learners in the experimental group, given that the results in Table 4 showed that they outperformed the control group. Accordingly, the qualitative results were applied to explain and clarify the quantitative findings. Each interview took approximately 20 minutes. Three participants from the experimental group volunteered to participate in the semi-structured interview process through the Tencent Meeting platform. After the interview, all data were transcribed into Microsoft Word files, and all participants used pseudonyms. Given participants' native language is Chinese, the researcher translated their original quotation into English.

3.4 Data Analysis

The quantitative data were analyzed using SPSS version 26. A normality test was first conducted to examine the distribution of the four aspects of writing performance and participants' overall writing performance. In this study, the Kolmogorov-Smirnov test was utilized. Given that $p < 0.05$, this indicated that variables are not normally distributed. Two non-parametric tests were conducted to address research questions 1 and 2 of the study: the Wilcoxon signed rank test and the Mann-Whitney U test. In order to answer research question 1, the

Wilcoxon Signed Ranks test was utilized to examine whether the SF significantly impacts students' writing performance in the experimental group. Additionally, the Mann-Whitney U test was employed to explore further the difference in writing performance between participants who adopted the SF and those who used traditional paper-based feedback.

To answer research question 3, this study used inductive content analysis, which adopted Bengtsson's (2016) four major stages (i.e., decontextualization, recontextualization, categorization, and compilation) to analyze and present the qualitative findings. Three researchers went through the data line by line and followed the four steps to code the data. The qualitative findings were used to explain and clarify the quantitative findings.

4. Results

4.1 Quantitative Findings Related to Research Question 1

The mean and standard deviation of the four aspects of writing are presented in Table 1. As appeared in Table 1, the experimental group students' mean score of the posttest regarding the TA2 (M = 5.84, SD = 1.27), CC2 (M = 6.00, SD = 1.16), and Overall2 (M = 5.39, SD = 0.65) are all greater than the mean score of the pretest. However, the means for the posttest of LR2 (M = 4.43, SD = 1.07) and GRA2 (M = 5.00, SD = 1.29) are lower than those of LR1 and GRA1 in the pretest.

Table 1. Descriptive Statistics of four aspects and overall performance

		Mean	N	Std. Deviation	Std. Error Mean
Pair 1	TA1	4.30	44	1.27	0.19
	TA2	5.84	44	0.89	0.13
Pair 2	CC1	4.05	44	1.26	0.19
	CC2	6.00	44	1.16	0.18
Pair 3	LR1	4.5	44	1.09	0.16
	LR2	4.43	44	1.07	0.16
Pair 4	GRA1	5.05	44	1.2	0.18
	GRA2	5.00	44	1.29	0.2
Pair 5	Overall1	4.51	44	0.74	0.11
	Overall2	5.39	44	0.65	0.1

Note: TA = Task Achievement; CC=Coherence and Cohesion; LR = Lexical Resource; GRA = Grammatical Range Accuracy

The Negative, Positive, and Ties Rank between the pretest and posttest for each aspect of writing in the experimental group is shown in Table 2, including the mean rank and the sum of ranks.

Table 2. Negative, Positive, and Ties Rank between the Pretest and Posttest

		N	Mean Rank	Sum of Ranks
TA2 - TA1	Negative Ranks	0 ^a	0	0
	Positive Ranks	40 ^b	20.5	820
	Ties	4 ^c		
	Total	44		
CC2 - CC1	Negative Ranks	0 ^d	0	0
	Positive Ranks	44 ^e	22.5	990
	Ties	0 ^f		
	Total	44		
LR2 - LR1	Negative Ranks	19 ^g	15.18	288.5
	Positive Ranks	14 ^h	19.46	272.5

	Ties	11 ⁱ		
	Total	44		
GRA2 - GRA1	Negative Ranks	17 ^j	17.91	304.5
	Positive Ranks	17 ^k	17.09	290.5
	Ties	10 ^l		
	Total	44		
Overall2 - Overall1	Negative Ranks	2 ^m	5	10
	Positive Ranks	33 ⁿ	18.79	620
	Ties	9 ^o		
	Total	44		

Note: a. TA2 < TA1; b. TA2 > TA1; c. TA2 = TA1; d. CC2 < CC1; e. CC2 > CC1; f. CC2 = CC1; g. LR2 < LR1; h. LR2 > LR1; i. LR2 = LR1; j. GRA2 < GRA1; k. GRA2 > GRA1; l. GRA2 = GRA1; m. Overall2 < Overall1; n. Overall2 > Overall1; o. Overall2 = Overall1

Findings from the results (Table 2 and Table 3) show that TA2, CC2, and Overall2 scores in the posttest are significantly higher than TA1, CC1, and Overall1 scores in the pretest, given that the p-value was less than 0.05. However, LR2 and GRA2 do not significantly differ in the pretest and posttest ($p > 0.05$).

Table 3. Wilcoxon Signed Ranks Test

	Z	Asymp. Sig. (2-tailed)
TA2 - TA1	-5.627 ^b	0
CC2 - CC1	-5.852 ^b	0
LR2 - LR1	-.146 ^c	0.89
GRA2 - GRA1	-.124 ^c	0.90
Overall2 - Overall1	-5.053 ^b	0

a. Wilcoxon Signed Ranks Test

b. Based on negative ranks.

c. Based on positive ranks.

4.2 Quantitative Findings Related to Research Question 2

Prior to the intervention, the writing proficiency of both groups was assessed with a pretest. Results show that the absence of a statistically significant difference between the two groups ($p = 0.232 > 0.05$) confirms that both groups were equally proficient in writing prior to the intervention.

The descriptive statistics were demonstrated in Table 4. Results show that participants' overall writing performance in the experimental group has a higher performance mean rank (61.16) than that of those in the control group (30.52).

Table 4. Descriptive Statistics of the Ranks

	Group	N	Mean Rank	Sum of Ranks
Overall2	Experimental Group	44	61.16	2691
	Control Group	46	30.52	1404
	Total	90		

Furthermore, figures and results in the assumed equal variances were interpreted (see Table 5). It is evident that the Mann-Whitney U test result is statistically significant due to the p-value (0.000) being less than 0.05.

Table 5. the Mann-Whitney U Test Results

	Overall2
Mann-Whitney U	323
Wilcoxon W	1404
Z	-5.793
Asymp. Sig. (2-tailed)	0.000

a. Grouping Variable: Group

4.3 Qualitative Findings Related to Research Question 3

In this study, when inquiring the question “Do you like or dislike receiving SF in your writing, and why?”, the qualitative findings from the semi-structured interviews revealed that three participants’ perceptions of receiving SF in their writings were positive. They expressed their willingness to receive and recommend SF in future writing classrooms.

“I think I still recommend teachers to use SFB in the future.” (Ryan)

“I like the feedback that the teacher gives us writing with SFB, [...]” (Lily)

In response to a question about the possible reasons for their positive perceptions of SF, three main themes were identified as follows:

Theme 1: SF strengthens the teacher-student interaction.

For Chinese students, teachers’ authoritarianism is typically defined by social identity, and learners may be influenced by authoritarianism in the process of receiving education, resulting in the suppression of their own personalities (Liu & Li, 2022). In this teacher-student relationship, learners cannot have an equal dialogue with teachers. However, SF can democratize the teaching process and establish a democratic classroom by improving communication between teachers and students. Moreover, SF focuses on guided teaching methods and constantly strengthens students’ subjective initiative in the teacher-student relationship (Zheng & Zeng, 2018). Thus, as a form of teacher feedback in a democratic classroom, SF can strengthen the teacher-student relationship through teacher feedback. The participants all mentioned their perceptions when explaining the advantages of SF.

“Usually, I am not very good at communicating with teachers, but I think this way [SF] has strengthened the communication between the teacher and me. I can also tell the teacher what other doubts I have in the comment area in the pad, which has improved my learning efficiency.” (Ryan)

“I like the feedback that the teacher gives us writing with SF [...] as if I went to the office to find her face-to-face to mark the composition, and I know where I should improve rather than just a “cold” red score, which also makes me feel very intimate.” (Lily)

Theme 2: SF provided by the teacher is specific and longer.

As noted by Ellis et al. (2008), SF is considered a holistic assessment feedback form that can provide more specific and comprehensive feedback, such as providing more support in logic and coherence of writing. All participants reported similar features of SF, such as providing detailed and longer feedback about their writing performance. Moreover, one of the participants believed that specific feedback increased the motivation to keep writing.

“When watching the video [SF], I felt as if the teacher was [...] guiding me step by step to revise the composition. I think it [SF] is very helpful, and I didn't like writing very much before, but I think the more feedback the teacher gives, the more motivated I will be to keep trying and practice.” (Ryan)

“SFB can help me know exactly where I need to improve, not just words and grammar mistakes. The teacher would point out to me problems with the overall logical framework of my writing.” (Jason)

“If I could have the detailed feedback on each composition like this, my composition will improve very quickly.” (Lily)

Theme 3: SF promotes the writing confidence of students.

Conventionally written feedback in Chinese English courses cannot satisfy the achievement of self-accomplishment in the process of English learning, and it is also very easy to arouse negative emotions and reduce learning enthusiasm (Truscott, 1996). However, negative cognitive emotions may lead to students’ low confidence in writing, including a lack of confidence in writing grades (Gu et al., 2022). Written feedback is also

mainly limited to error correction, such as vocabulary and grammar, which can easily lead to negative feelings and low writing confidence in students. During the interviews, participants' attitudes towards writing changed significantly, from the original negative attitude to a positive attitude of expectation and self-confidence.

"I used to be very afraid of writing argumentative papers, but now I feel more confident." (Ryan)

"I will be very looking forward to the revised composition, I hope the teacher will give me high marks." (Jason)

5. Discussion

The present study aimed to examine the effects of SF on the writing performance of Chinese high school students and their perceptions. The first research question explored the impact of SF on the performance of Chinese secondary school students in English argumentative writing. Results for research question 1 provide evidence that SF was more effective in improving learners' writing in terms of task achievement, coherence and cohesion, and overall writing performance. These findings are broadly consistent with previous research (e.g., Ali, 2016; Bakla, 2017; Silva, 2012), which supports the potential of improving learners' writing performance through SF. Contrary to previous research (Mitchell, 2012), one interesting finding of this study is that there is no significant difference between the pretest and posttest in the lexical resources and grammatical range accuracy, indicating that participants from the experimental group did not perform better after receiving the SF. One possible explanation could be that Chinese teachers usually correct students' writing in the micro-level aspects (i.e., grammar and vocabulary) either in conventionally written feedback or SF, which may be ineffective in this context. Similar to the study conducted by Davis and McGrail (2009), it is also possible that students made higher-order rather than surface-level revisions.

Regarding research question 2, the study aimed to compare the overall writing performance of students who utilized SF and those who received the conventional paper-based method. Findings showed that students who employed the SF in the experimental group performed better than those who received conventional paper-based feedback. This finding is consistent with Ali's (2016) conclusion that the empirical group that used SF obtained a higher academic writing performance score than the control group. This finding may be attributable to several factors. For instance, previous literature noted that SF allowed the instructor to provide specific elaboration on the comments, thus increasing the likelihood of students comprehending the feedback and revision suggestions compared to paper-based feedback (e.g., Bush, 2020; Chen & Li, 2020). Qualitative results in this study could also verify the quantitative findings, where participants reported that SF could be specific and provide detailed illustrations for students to improve their writing.

Concerning research question 3, the objective was to understand students' perceptions of SF. The results indicated that participants positively perceived SF when they received it. As demonstrated by the qualitative findings, learners believed that SF could increase their interaction with teachers to improve their writing proficiency. Such a result resonates with previous literature (e.g., Anson et al., 2016; Crews & Wilkinson, 2010). In a similar vein, Chen and Li's (2020) study indicated that more students preferred SF, given its personal and interactive traits, despite their focus on higher education. Furthermore, this finding supports the sociocultural theory, which highlights the shared construction of knowledge through interaction (Lantolf, 2016). In the present study, qualitative findings showed that SF could be used as a tool to assist students in improving their writing performance through close student-teacher interaction. Moreover, students' positive views on SF not only come from teacher-student interaction, but more comprehensive and supportive feedback forms can also improve students' writing confidence. Under the influence of positive writing confidence, SF can achieve better results and improve students' writing abilities (Sim & Heo, 2014).

6. Conclusion

The current study explored the effects of SF on Chinese secondary school students' writing performance using a mixed-method sequential explanatory design. Based on the quantitative analysis, it can be concluded that SF was effective in improving students' writing, specifically in task achievement, coherence and cohesion, and overall writing achievement. Moreover, results also indicated that learners who received SF in their argumentative writing outperformed those who utilized conventional paper-based feedback. Qualitative results indicated that students positively perceived SF in their writing, and they believed that SF enhanced the interaction between teachers and students. Moreover, students reported that SF provided by the instructor could be more specific, thus improving their writing. Concerning pedagogical insights, the current study suggested that teachers could take advantage of SF in their writing instructions, where they can provide more detailed and longer feedback regarding their macro-level problems and support students in improving their writing. For curriculum designers, SF could be considered in embedding the argumentative writing classes, such as integrating SF into formative assessments. In addition, this study filled the aforementioned void in the literature, thereby enhancing our understanding of the impact of SF on learners' writing performance.

Despite the potential of SF mentioned above, this study has several limitations. First, the generalizability of the

results is limited by the small sample size, particularly in the interview process, and only focuses on Chinese high school students. Thus, future researchers can expand the large sample size and use different populations to achieve this objective. Second, a delayed posttest was not conducted, and the long-term effects remained unknown in this research. It is suggested that future research can employ a longitudinal study to explore the effect of SF on students' writing development. Third, as the current study only focuses on students' perceptions toward SF, future studies could also consider teachers' perceptions. These lines of worthy inquiry would help teachers, researchers, and curriculum designers have a more holistic perspective on understanding the role of SF in students' writing development.

References

- Abdous, M., & Yoshimura, M. (2010). Learner outcomes and satisfaction: a comparison of live video-streamed instruction, satellite broadcast instruction, and face-to-face instruction, *Computers & Education*, 55(2), pp. 733–741.
- AbdRahman, S., Salam, A., & Yusof, M. (2014). Screencast Feedback Practice on Students' Writing. In *Asia-Pacific Social Science Conference 2014, Seoul, Korea, APSSC*. Retrieved from https://www.researchgate.net/publication/289396637_Screencast_Feedback_Practice_on_Students'_Writing.
- Alharbi, W. (2017). E-Feedback as a Scaffolding Teaching Strategy in the Online Language Classroom. *Journal of Educational Technology Systems*, 46(2), 239–51. <https://doi.org/10.1177/0047239517697966>.
- Ali, A. D. (2016). Effectiveness of using screencast feedback on EFL students' writing and perception. *English Language Teaching*, 9(8), 106–121. <https://doi.org/10.5539/elt.v9n8p106>.
- Anson, C. M., Dannels, D. P., Laboy, J. I., & Carneiro, L. (2016). Students' Perceptions of Oral Screencast Responses to Their Writing: Exploring Digitally Mediated Identities. *Journal of Business and Technical Communication*, 30(3), 378–411. <https://doi.org/10.1177/1050651916636424>.
- Bakla, A. (2017). An Overview of Screencast Feedback in EFL writing: Fad or Future? *International Foreign Language Teaching and Teaching Turkish as a Foreign Language*, 319–331, Bursa, Turkey, April 27–28.
- Ball, E. (2010). Annotation an effective device for student feedback: A critical review of the literature. *Nurse Education in Practice*, 10(3), 138–143. <http://dx.doi.org/10.1016/j.nepr.2009.05.003>.
- Bao, R. (2019). Oral corrective feedback in L2 Chinese classes: teachers' beliefs versus their practices. *System* 82, 140–150. <https://doi.org/10.1016/j.system.2019.04.004>.
- Bengtsson, M. (2016). How to plan and perform a qualitative study using content analysis. *NursingPlus Open*, 2, 8–14.
- Bernat, E., & Gvozdenko, I. (2005). Beliefs about Language Learning: Current Knowledge, Pedagogical Implications, and New Research Directions. *TESL-EJ*, 9, 1–21.
- Biber, D., Nekrasova, T., & Horn, B. (2011). The effectiveness of feedback for L1-English and L2- writing development: A meta-analysis. <https://doi.org/10.1002/j.2333-8504.2011.tb02241.x>.
- Bloxham, S., & Boyd, P. (2007). *Developing Effective Assessment in Higher Education: A Practical Guide: A Practical Guide*. McGraw-Hill Education (UK).
- Boud, D., & Molloy, E. (2012). Rethinking models of feedback for learning: The challenge of design. *Assessment & Evaluation in Higher Education*, 38(6), 698–712. <https://doi.org/10.1080/02602938.2012.691462>.
- Bush, J. C. (2020). Using screencasting to give feedback for academic writing, *Innovation in Language Learning and Teaching*. <https://doi.org/10.1080/17501229.2020.1840571>.
- Cavaleri, Michelle, Kawaguchi, Satomi, Di Biase, Bruno, & Power, Clare. (2019). How recorded audio-visual feedback can improve academic language support. *Journal of University Teaching & Learning Practice*, 16(4), 1–19. <https://ro.uow.edu.au/jutlp/vol16/iss4/6>.
- Cheng, D., & Li, M. (2020). Screencast video feedback in online TESOL classes. *Computers and Composition*, 58, 102612.
- Cranny, D. (2016). Screencasting, a tool to facilitate engagement with formative feedback? *All Ireland Journal of Teaching and Learning in Higher Education* 8(3), 1–27.
- Crews, T. B., & Wilkinson, K. (2010). Students' perceived preference for visual and auditory assessment with e-handwritten feedback. *Business Communication Quarterly*, 73(4), 399–412. <https://doi.org/10.1177/1080569910385566>.

- Creswell, J. W., Plano Clark, V. L., Gutmann, M., & Hanson, W. (2003). Advanced mixed methods research designs. In A. Tashakkori & C. Teddlie (Eds.), *Handbook on mixed methods in the behavioral and social sciences*, 209–240. Thousand Oaks, CA: Sage Publications.
- Cunningham, K. J. (2019). Student perceptions and use of technology-mediated text and screencast feedback in ESL writing. *Computers and Composition*, 52, 222–241. <http://dx.doi.org/10.1016/j.compcom.2019.02.003>.
- Davis, A., & McGrail, E. (2009). Proof-revising' with Podcasting: Keeping readers in mind as students listen to and rethink their writing. *Reading Teacher*, 62(6), 522–529. <http://dx.doi.org/10.1598/RT.62.6.6>.
- Dörnyei, Z. (2007). *Research methods in applied linguistics*. Oxford: Oxford University Press.
- Ducate, L., & Arnold, D. (2012). Computer-mediated feedback: Effectiveness and students' perceptions of screen-casting software vs. the comment function. In G. Kessler, A. Oskoz, & I. Elola (Eds.), *Technology across writing contexts and tasks. CALICO Monograph Series*, 10, 31–55.
- Ellis, R., Sheen, Y., Murakami, M., & Takashima, H. (2008). The effects of focused and unfocused written corrective feedback in an English as a foreign language context. *System*, 36(3), 353–371.
- Elola, I., & Oskoz, A. (2016). Supporting second language writing using multimodal feedback. *Foreign Language Annals*, 49(1), 58–74. <https://doi.org/10.1111/flan.12183>.
- Gu, J. Y., Yang, D. L., & Lin, Q. P. (2022). Research on Academic Emotions and Regulation Strategies in Peer Feedback in English Writing—Based on the Perspectives of Feedback Providers and Feedback Receivers. *Foreign Language Audio-Visual Teaching*, 4, 71–79.
- Ghosn-Chelala, M., & Al-Chibani, W. (2018). Screencasting: supportive feedback for EFL remedial writing students. *The International Journal of Information and Learning Technology*. Retrieved from: <https://doi.org/10.1108/IJILT-08-2017-0075>.
- Hattie, J., Gan, M., & Brooks, C. (2016). Instruction based on feedback, in *Handbook of Research on Learning and Instruction*, eds R. E. Mayer and P. A. Alexander (New York, NY; London: Taylor and Francis), 290–324.
- Hattie, J. A., & Timperley, H. (2007). The power of feedback. *Review of Educational Research*, 77(1), 81–112. <http://dx.doi.org/10.3102/003465430298487>.
- Henderson, M., & Phillips, M. (2015). Video-based feedback on student assessment: scarily personal. *Australasian Journal of Educational Technology*, 31(1), 51–66. <http://dx.doi.org/10.14742/ajet.1878>.
- Huang, S. (2000). The nature of an EFL teacher's audiotaped and written feedback on student writing: A case study. ERIC Document 438728.
- Hyland, K., & Hyland, F. (2006). Feedback on second language students' writing. *Language Teaching*, 39(2), 83–101.
- Hynson, Y. T. A. (2012). An innovative alternative to providing writing feedback on students' essays. *Teaching English with Technology*, 12(1), 53–57.
- Inan-Karagul, B., & Seker, M. (2021). Improving Language Learners' Use of Self-Regulated Writing Strategies Through Screencast Feedback. *SAGE Open*, 11(4). <https://doi.org/10.1177/21582440211064895>.
- Ivankova, N. V., Creswell, J. W., & Stick, S. L. (2006). Using Mixed-Methods Sequential Explanatory Design: From Theory to Practice. *Field Methods*, 18(1), 3–20. <https://doi.org/10.1177/1525822X05282260>.
- Jiang, J., & Wang, Y. (2020). A Theoretical and Empirical Investigation of Feedback in Ideation Contests. *Prod Oper Manag*, 29, 481–500. <https://doi.org/10.1111/poms.13127>.
- Kim, V. (2018). Technology-Enhanced Feedback on Student Writing in the English-Medium Instruction Classroom. *English Teaching*, 73(4), 29–53. <https://doi.org/10.0.61.242/engtea.73.4.201812.29/>.
- Lantolf, J. P. (2006). Sociocultural theory and second language learning: State of the art. *Studies in Second Language Acquisition*, 28, 67–109.
- Lantolf, J. P., & Thorne, S. L. (2007). *Sociocultural theory and second language learning*. In B. VanPatten & J. Williams (Eds.), *Theories in second language acquisition: An introduction*, 197–221.
- Larkley, J. E., & Maynard, V. B. (2008). *Innovation in education*. Nova Publishers.
- Lee, I. (2017). *Classroom writing assessment and feedback in L2 school contexts*. Singapore: Springer Nature Singapore.
- Lee, A. R., & Bailey, D. B. (2016). Korean EFL students' perceptions of instructor video and written feedback in a blended learning course. *Society for Teaching English through Media*, 17(4), 133–158.

- <http://www.kci.go.kr/kciportal/landing/article.kci?arti id=ART002167019>.
- Li, J., Wong, S. C., Yang, X., & Bell, A. (2020). Using feedback to promote student participation in online learning programs: Evidence from a quasi-experimental study. *Educational Technology Research and Development*, 68(1), 485–510.
- Liu, Y. B., & Li, Y. (2022). Reshaping “Respecting Teachers and Emphasizing Education”: Contemporary Significance and Its Path. *Contemporary Education Science*, 5, 56–62.
- Mahoney, P., Macfarlane, S., & Ajjawi, R. (2019). A qualitative synthesis of video feedback in higher education. *Teaching in Higher Education*, 24(2), 157–179. <https://doi.org/10.1080/13562517.2018.1471457>.
- Marriott, P., & Teoh, L. K. (2012). Using screencasts to enhance assessment feedback: Students’ perceptions and preferences. *Accounting Education*, 21(6), 583–598. <https://doi.org/10.1080/09639284.2012.725637>.
- Mathieson, K. (2012). Exploring student perceptions of audiovisual feedback via screencasting in online courses. *American Journal of Distance Education*, 26(3), 143–156.
- McCarthy, J. (2015). Evaluating Written, Audio and Video Feedback in Higher Education Summative Assessment Tasks. *Issues in Educational Research*, 25(2), 153–169.
- McGarrell, H., & R. Alvira. (2013). Innovation in Techniques for Teacher Commentary on ESL Writers’ Drafts. *Innovative Practices in Computer-Assisted Language Learning*, 5, 37–55.
- McMillan, J. H. (2017). *Classroom assessment: Principles and practice that enhance student learning and motivation* (7th ed.). Pearson.
- Merry, S., & Orsmond, P. (2008). Students’ attitudes to and usage of academic feedback provided via audio files. *Bioscience Education*, 11(11), 1–11.
- Mitchell, K. (2012). Screencast feedback on writing: Comments students can see and hear. Retrieved from: <https://www.slideshare.net/ktmtchl/screencast-feedback>.
- Odo, D. M., & Yi, Y. (2014). Engaging in computer-mediated feedback in academic writing: Voices from L2 doctoral students in TESOL. *English Teaching*, 69(3), 129–150.
- Orlando, J. (2016). A Comparison of Text, Voice, and Screencasting Feedback to Online Students. *American Journal of Distance Education*, 30(3), 156–166. Doi:10.1080/08923647.2016.1187472.
- O’Malley, P. (2011). Combining Screencasting and a Tablet PC to Deliver Personalized Student Feedback. *New Directions in the Teaching of Physical Sciences*, 5, 27–30.
- Rybakova, K. (2020). Humanizing online assessment: Screencasting as a multimedia feedback tool for first generation college students. In P. Sullivan, J. Lantz, B. Sullivan, & K. Rybakova (Eds.), *Handbook of research on integrating digital technology with literacy pedagogies*, 500–518. Hershey, PA: IGI Global.
- Seror, J. (2012). Show Me! Enhanced Feedback Through Screencasting Technology. *TESL Canada Journal*, 104–116.
- Silva, M. (2012). Camtasia in the classroom: student attitudes and preferences for video commentary or Microsoft Word comments during the revision process. *Computers and Composition*, 29(1), 1–22. <http://dx.doi.org/10.1016/j.compcom.2011.12.001>.
- Silva, M. L. (2017). Commenting with Camtasia: A Descriptive Study of the Affordances and Constraints of Peer-to-Peer Screencast Feedback. In *Research on Writing: Multiple Perspectives*, edited by S. Plane, C. Bazerman, F. Rondelli, C. Donahue, A. Applebee, and C. Bore, 325–346. Metz, France: The WAC Clearinghouse, CREM.
- Thompson, R., & Lee, M. J. (2012). Talking with students through screencasting: Experimentations with video feedback to improve student learning. *The Journal of Interactive Technology and Pedagogy*, 1(1), 1–16.
- Truscott, J. (1996). The case against grammar correction in L2 writing classes. *Language Learning*, 46(2), 327–369.
- Vygotsky, Lev S. (1978). *Mind in Society: The Development of Higher Psychological Processes*. Cambridge, MA: Harvard University Press. <https://doi.org/10.2307/j.ctvjf9vz4>.
- Wang, L., Zheng, Y., Li, G., Li, Y., Fang, Z., Abbey, C., & Rozelle, S. (2019). Academic achievement and mental health of left-behind children in rural China: A causal study on parental migration. *China Agricultural Economic Review*, 11(4), 569–582. <https://doi.org/10.1108/CAER-09-2018-0194>.
- Yapp, D., de Graaff, R., & van den Bergh, H. (2021). Effects of reading strategy instruction in English as a second language on students’ academic reading comprehension. *Language Teaching Research*, 1362168820985236. <https://doi.org/10.1177/1362168820985236>.

- Zhang, Y. (2018). Analysis of Using Multimodal feedback in writing instruction from EFL learners' perspective. *English Language and Literature Studies*, 8(4), 21–29.
- Zheng, L. Q., & Zeng, Q. W. (2018). Criticism and Transcendence of Teachers' Authoritative Personality. *Chinese Journal of Education*, 1, 82–86.

Appendix A

IELTS Writing Task 2 Performance Descriptor

Components	Description
Task Resonse	In IELTS Academic version, Task 2 requires test takers to formulate and develop a position in relation to a given prompt in the form of a question or statement. Ideas/ Contents should be supported by evidence, and examples may be drawn from the test takers' own experience. Responses must be at least 150 words in length. Scripts under the required minimum word limit will be penalized.
Coherence and Cohesion	This assesses the overall clarity and fluency of the message: how the response organizes and links information, ideas and language. Coherence refers to the linking of ideas through logical sequencing. Cohesion refers to the varied and appropriate use of cohesive devices (for example, logical connectors, pronouns and conjunctions) to assist in making the conceptual and referential relationships between and within sentences clear.
Lexical Resource	This criterion refers to the range of vocabulary used and its accuracy and appropriacy in terms of the specific task.
Grammatical Range and Accuracy	This assesses the range and accurate use of grammar, as manifested in their test takers' writing at sentence level.

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