"It improves our writing enthusiasm": Exploring multimodal resources for teaching contemporary College English writing in China[1]

"Mejora nuestro entusiasmo por la escritura": exploración de recursos multimodales para la enseñanza de la escritura contemporánea en inglés universitario en China

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Abstract:

As Chinese college students work toward writing proficiency in English, a tension between direct, teacher-led instruction that focuses on proper usage conflicts with changes in literacy practices enabled by technology. As a visiting scholar to an American university, Author 1 was eager to use strategies she saw in Author 2's first year writing seminar. In this classroom research project, a mixed method

Resumen:

A medida que los estudiantes universitarios chinos trabajan para lograr el dominio de la escritura en inglés, la tensión entre la instrucción directa dirigida por el docente que se enfoca en el uso adecuado entra en conflicto con los cambios en las prácticas de alfabetización que permite la tecnología. Como investigadora visitante en una universidad estadounidense, la autora 1 se vio obligada a utilizar estrategias

design is used by Author 1 to report on three changes to her teaching practices in College English courses – the use of multimedia presentation software, social network communication, and the Pigaiwang writing assistance tool. By comparing survey results, interview themes, and test scores between control and experimental sections, results demonstrate that students in the experimental group had generally more favorable ratings of the College English experience. Based on these outcomes in a limited study, implications for future changes in College English instruction in China are discussed.

que vio en el seminario de escritura del primer año del autor 2. En este proyecto de investigación en el aula, la autora 1 utiliza un diseño de métodos mixtos para informar sobre tres cambios en sus prácticas docentes en los cursos universitarios de inglés: el uso de software de presentación multimedia, la comunicación en redes sociales y la herramienta de asistencia de escritura Pigaiwang. Al comparar los datos obtenidos de la encuesta, los temas de las entrevistas y los puntajes de las pruebas entre los grupos de control y experimental, los resultados demuestran que los estudiantes del grupo experimental generalmente obtuvieron calificaciones más favorables por la implementación de la experiencia universitaria en inglés. A partir de estos resultados, conscientes de que se trata de un estudio limitado, se analizan las implicaciones para los cambios futuros en la enseñanza del inglés universitario en China.

Résumé:
Alors que les étudiants universitaires chinois s'efforcent de maîtriser l'écriture en anglais, la tension entre l'enseignement direct dispensé par l'enseignant qui se concentre sur l'usage approprié entre en conflit avec les changements dans les pratiques d'alphabétisation rendus possibles par la technologie. Dans ce projet de recherche en classe, l'auteur 1 utilise une méthode mixte pour rendre compte de trois changements dans ses pratiques d'enseignement dans des cours d'anglais universitaires : l'utilisation de logiciels de présentation multimédia, la communication par les médias sociaux et l'outil d'aide à la rédaction Pigaiwang. En comparant les données obtenues à partir de l'enquête, des éléments de l'entretien et des résultats des tests entre le groupe témoin et le groupe expérimental, les résultats montrent que les étudiants du groupe expérimental ont généralement obtenu des notes plus favorables pour la mise en œuvre de l'expérience de l'anglais à l'université. A partir de ces résultats, conscients qu'il s'agit d'une étude limitée, les implications pour les changements futurs dans l'enseignement universitaire de l'anglais en Chine sont discutées.

1. Introduction

In China, an undergraduate student's English proficiency is a measure of both academic skill and career aspirations, opening avenues for future success. According to the College English Curriculum Requirements, a programmatic document for English teaching and learning in Chinese higher education, this required course "has as its main components knowledge and practical skills of the English language, learning strategies and intercultural communication" (The Higher Education Department of the Ministry of Education, 2007, pp. 24-25). Updated in 2020, recent revisions reiterate the importance of reading comprehension and fluent composition. Its goals are broader than just providing skills, however, as this course should be

> [N]ot only a language course that provides basic knowledge about English, but also [acts as] a capacity enhancement course that helps students to broaden their horizons and learn about different cultures in the world. It not only serves as a tool, but also has humanistic values. (p. 32)

Thus, in Chinese higher education, English literacy is both an important embodiment of undergraduates' academic skills and an essential aspect for what it means to be a productive citizen.

While these goals are admirable, in the day-to-day practices of teaching College English, however, instructor-enacted traditional practices of instruction –including lectures and drills– persist, with limited amounts of reading and writing. Typically, a combination of teacher instructions, textbook reading and exercises, and other basic learning materials are utilized. Lessons inevitably tend toward direct instruction or basic discussions on vocabulary, grammar, and analyses of text. The curricular reforms called also do not reflect changes in either current conceptions of English language in the 21st century –one that, as will be shown below, is embracing multimodality– or more active forms of teaching, including the use of newer technologies for lesson delivery and student interaction. Tensions between traditional instructional practices and the emerging understanding of English literacy may soon become untenable; changes will need to occur if China hopes to keep broadening its students' horizons, inviting them to use English to truly engage in humanistic inquiry.

Seeking an opportunity to better understand how English was being

taught, Author 1 applied for a program sponsored by the Education Department of Shandong Province, China, and conducted teaching research as a visiting scholar at Central Michigan University under the guidance of Author 2. In the fall of 2018, Author 1 observed weekly sections of a writing-intensive, first-year, honors seminar. By observing this course, she was able to collect, sort out and build multimodal teaching resources, integrating technology to concentrate on students' participation and experience, thus reconsidering her own approach to teaching College English in China, which will be described in further details in the Methodology section below.

2. Literature Review

Three overlapping trends in the research literature provide context for this study: the state of English teaching in China, the evolving definition of English and literacy in a digital age, and the ways in which instructional technologies are being employed.

2.1. English Teaching in China

The teaching of College English in China occurs in a context of persistent, traditional frames for instruction. For instance, according to the survey conducted by the College Foreign Language Teaching Steering Committee of the Ministry of Education from 2009 to 2010, in the 530 colleges and universities surveyed, many disparities existed. For instance, although most had adopted a new mode of "classroom face-to-face teaching + computer-aided teaching," the survey results suggested that face-to-face teaching was still the most important teaching mode in China at that time (Wang & Wang, 2011).

This is concerning, as the 2007 revisions to the guiding document claimed that "the new Requirements strongly suggests teacher-student and student-student interactions in a collaborative way of learning by combining cognition and social context under the framework of social cognitive learning theory" (Han & Yin, 2016, p. 8). Han and Yin (2016) continue by adding that:

> Therefore, college English teaching and learning in classroom is mainly or-
> ganised and conducted in students' peer groups, through which students' in-
> terests and critical thinking are expected to develop. The changed classroom
> context brings huge impact on Chinese students learning mentally and prac-
> tically (p. 8).

These changes did not seem to occur, even as a more networked, con-
temporary society emerged. With continuous innovation and the gradual
popularization of mobile learning devices, the way that people connect,
collaborate, and study has changed dramatically.

College English learning, too, faced changes. Han and Yin argue that
"The traditionally endowed roles of teachers as authorities and models in
knowledge and skills have been challenged by students who were born
and exposed to the new era of highly developed information and tech-
nology" (2016, p. 2). Models such as "flipped learning" have been pro-
posed and met with some success (Doman & Webb, 2017). This chang-
ing context is not exclusive to China, of course, as educators around
the world were working to embrace changes wrought by technology. Yet,
these challenges are compounded further by the effects of technology,
both on the definition of literacy as it continues to change, as well as the
tools used to deliver instruction to students.

2.2. Changing Conceptions of English and Literacy in a Digital Age

Changes to broader definitions of "literacy" have been underway in the
past 30 years, hearkened by the New London Group's introduction of
"multiliteracies" (1996), and what has since been variously described as
"new literacies" (Coiro et al., 2008), "digital literacies" (Gilster, 1997),
and "information and communication technologies" (United Nations Ed-
ucational, Scientific and Cultural Organization, n.d.), among other terms.
As Author 2 et al define them, these literacies are "*the complementary
and interwoven skills, both technical and social, that people must employ
when using Internet-based communication—including hypertext, images,
audio, and video—to consume and create messages across a variety of
academic, civic, and cultural contexts*" (Hicks, Baleja, and Zhang, 2019,
para 1, emphasis in original).

Connecting back to curricular reform in College English teaching in
China, Wang (2017) provides this argument

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> In the process of implementing the "quality engineering" of the Ministry of Education, the reform of College English teaching has seized the opportunity of the modern information technology revolution in the new century, made full use of information technology, established a new teaching mode based on computers and classrooms, and changed the original single classroom teaching mode dominated by teachers' instruction. The development of computer technology, such as, artificial intelligence, digitalization and networking, has become the technical factor to promote the reform of teaching mode (p. 62).

Thus, as technologies and literacies evolve, Chinese teachers and students find themselves with opportunities for practicing their reading, writing, listening, and speaking skills in ways that are no longer conveyed only through class talk or written words. Each digital media form has the potential to play a positive role in the construction of English meaning-making.

2.3. Use of Technologies for Teaching

The use of newer technologies in the teaching of English also compounds the tensions of traditional teaching and modern conceptions of literacy, particularly in three categories of technologies that have become more prominent, though not dominant, in the teaching of English in China.

2.3.1. MULTIMEDIA AND PRESENTATION SOFTWARE

In the context of College English in China, Yao (2017) elaborates on the role of multimedia software, like PowerPoint as well as audio and video segments, in stating,

> In general classroom teaching, text is the main way to supplement the discourse. However, with the rapid development of science and technology today, new technology can provide more modes for classroom teaching, and various modes can cooperate with each other to build meaningful classroom teaching together (p. 155).

For example, images (especially those with rich connotations) can guide students' thinking and trigger positive associations. Colorful, dynamic, and clear videos can change the static into the dynamic, the ab-

stract into the intuitive, all while supporting learning. That is, the strategic use of tools like PowerPoint can bring value to the content being presented and recordings of micro-lectures can provide students with appropriate learning materials that they can review on their own time.

2.3.2. SOCIAL MEDIA-STYLE COMMUNICATION TOOL

Building on these themes, social media-style communication tools can be used to encourage student learning. QQ, short for Tencent QQ, supports online chat, video calls, file transfers, QQ mailbox and other functions, and can be used on the computer or mobile devices. Thus, it has become a very popular tool for social media in China. Considering its convenience, practicality, and versatility, QQ has long been explored as a tool for English teaching in China (e.g., Gil et al., 2020; Yu & Mu, 2012; Zhang et al., 2007). For instance, through QQ, teachers' voice comments can offer an important supplement to that of written comments, helping provide personalized guidance to students quickly and efficiently. Thus, the teaching of English writing no longer needs to be limited to fixed places and times.

2.3.3. WRITING ASSISTANCE TECHNOLOGY: PIGAIWANG

While social media-style tools are useful for encouraging communication, other tools can more directly affect students' performance as writers by providing feedback on English proficiency. According to relevant empirical research, Pigaiwang, an online writing and evaluation platform, can improve the writing through automated feedback, stimulating students' enthusiasm and interest in independent writing (X. Li & Zhong, 2017). Through the corrective feedback provided by Pigaiwang, students can use diagnostic and information query tools, which increases their opportunity for active learning. Also, Pigaiwang can test the modification effect of students in real time to help them adjust their learning objectives quickly (Lu, 2016).

What's more, the ability to engage in peer feedback (and to also receive teacher feedback) built into the platform makes up for the shortcomings that may be inherent in the automatic feedback (G. Li, 2019). The teaching opportunities for independent writing on Pigaiwang can effectively improve students' overall level of English writing, stimulate their learning motivation and improve their self-efficacy (Yang & Dai, 2015). Finally, though not a specific function available in Pigaiwing, voice com-

menting tools available in other software can offer an important supplement to that of written comments, helping the teacher provide personalized guidance quickly and efficiently.

Taken in sum, these changes in the use of technology are worthy of further inquiry in the context of teaching undergraduate English students.

3. Methodology

Based on Author 1's experience over her 16-year career, most English courses on writing adopted the traditional modes of teaching described above. Because students generally had low enthusiasm for classroom participation, their ability to think, practice and solve problems is easily constrained under this teaching mode. Against this backdrop, and considering her observations in Author 2's classroom, Author 1 worked to make changes in her College English courses, outlined below. To answer the research questions above, this project documents two separate courses in the fall of 2019, right before the COVID-19 pandemic and the shift to "emergency remote teaching" (Hodges et al., 2020).

3.1. Research Questions

This review of the literature – demonstrating that the teaching of English in China has largely remained consistent, without the integration of multimodal writing or technologies for teaching and learning – leads to the following questions:

- RQ1: In what ways could the implementation of Multimedia and Presentation Software (PowerPoint) during lecture-based instruction support students' learning in the target language of English, as measured by student survey responses?
- RQ2: In what ways could the implementation of a Social Media-style Communication Tool (QQ) encourage students to participate in genuine dialogue in English, as demonstrated in a content analysis of their written communication?
- RQ3: In what ways could the implementation of a Writing Assistance Technology (Pigaiwang) lead to improvement in students' final exam scores?

3.2. Participants and Process

The experience of 123 students across two courses in the fall of 2019 contribute to this study. A mixed method design was used, identifying two sections of the same course for comparative reference. Class B22 served as the control group which adopted a traditional English writing teaching mode, while Class B39 acted as the experimental group which adopted an interactive multimodal teaching mode. Each lasted for 16 weeks, with 4 hours of instruction per week, including 2 hours for reading and writing and 2 hours for viewing, listening, and speaking. In addition to engaging in a thematic review of interactions in QQ and Pigaiwang in the experimental section, B39, a survey was sent to this section at the end of the term. Finally, five students from section B39 agreed to be interviewed by Author 1, sharing their insights on their experience with the multimodal tools and teaching techniques. Due to the limited scope for this study, the only specific comparison between the two groups was made on the scores of the writing portion in the final exam which simulates the writing of CET-4.

The teaching process for the control group, Class B22 was taught in a traditional mode for English writing, which is roughly divided into three steps:

(1) The teacher assigned writing tasks and gave corresponding oral instructions with the aid of the blackboard;
(2) Students completed the writing tasks in pen and paper and then handed them in to the teacher;
(3) The teacher corrected students' writings and then handed them back.

The teaching process for the experimental group, B39, was also divided into three steps, with a more intentional use of digital writing tools to engage students in their work:

(1) Before writing, the teacher drew up writing topics and shared multimodal teaching resources such as micro-lectures, additional audio and video files, as well as PowerPoint slides to students;
(2) While writing, students were required to complete their writing tasks independently via the online writing and evaluation platform, Pigaiwang;
(3) After writing, with Pigaiwang's reports, students conducted mu-

tual reviews, and then the teacher made manual corrections and offered text or voice suggestions, after which even more writing exchanges were encouraged in QQ.

The differences are outlined in brief in Table 1 and an example is described in detail in the section below.

Table 1
Comparison of Traditional and Interactive, Multimodal Teaching of College English Courses in Fall 2019 Sections for Author 1

	Traditional Teaching Approach (B22)	**Interactive, Multimodal Teaching (B39)**
Use of text	Paper textbooks and printed text were used.	Along with textbooks, digital texts in the form of Word documents were used.
Use of images	No images were supplied except for those on the textbooks.	Pictures of model compositions, tables, and emojis were inserted into Power Point slides or presented to students through QQ.
Use of video	No videos were supplied.	Videos on how to improve writing skills were supplied.
Use of PowerPoint	No Power Point slides were presented.	Power Point slides on the writing of different types of compositions were presented to students in class or pushed to them after class.
Use of Pigaiwang	Compositions written on paper were submitted to the teacher directly. All correcting work was done by the teacher.	Compositions were submitted to the teacher through Pigaiwang. All correcting work were first done by Pigaiwang (an online writing platform), then by peers, and then by the teacher.
Use of voice comments	Voice comments were given to students in class.	Voice comments were given to students in class or through QQ after class.

3.3. Differences in Teaching Methods and Tools

To provide a more detailed example, take one of the writing tasks. In B22, all the work would have been completed in class. However, with B39, before writing, the teacher and students discussed ideas online in QQ and drew up a writing topic: "How to be a qualified college student." Later, multimodal teaching materials were pushed to students – includ-

ing teacher-made PowerPoint slides on the CET-4 writing guide (which combined sample essays, tables, pictures, and words in different fonts, sizes and colors), a Word document describing writing skills on connecting words and overall planning tips for writing in English, as well as CET-4 writing lecture videos – with the purpose of helping students comb through relevant knowledge on CET-4 writing.

Then, students were required to complete the writing task independently via the online platform Pigaiwang, within 30 minutes, all while in the reading and writing class. The teacher was mainly responsible for providing technical service and real-time support. After writing, Pigaiwang provided personalized responses, generating marks and writing comments on each composition, even down to the sentence level (see Figure 1). For example, in this screenshot, besides the mark of 8, Pigaiwang generated writing comments for the composition, which stated that:

- the student had used a simple cohesive technique and his writing was smooth;
- he could increase the use of clauses appropriately and should pay attention to small mistakes;
- he had a huge progress to be made for the enrichment of vocabulary and the accumulation of advanced vocabulary; and
- there were still some spelling mistakes in the essay.

In addition, Pigaiwang provided suggestions on vocabulary expansion, recommended expressions, sentence errors, and spelling errors.

Based on this, students were paired for peer feedback. Then, outside of class time, the teacher made corrections and comments online via Pigaiwang (see Figure 2) or sent voice comments to students via QQ. In this example, in terms of the student's sentence – "First of all, if you want to be a good student, you must be good at your specialized course, it is precondition." – the teacher commented that the student hadn't split the two sentences correctly, but instead spliced them together. As for the sentence, – "Second, except study, take part in activities is also important." – the teacher not only pointed out that the word "except" should be replaced by "besides," but also affirmed the use of gerund as sentence subject mentioned in the peer evaluation.

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Figure 1
Screenshot of Pigaiwang Personalized Feedback

Finally, English writing groups were encouraged to exchange writing experience online in QQ (see Figures 3 and 4) or offline. For the dialogue in Chinese in Figure 3, it is worth noting that the groups were reflecting on the problems existing in their own compositions, such as unreasonable composition structure, improper use of capitalization and punctuations, or what they refer to as "Chinglish" expressions, all under the guidance of the teacher. Then, in Figure 4, the dialogue shows how students participated in brainstorming and contributed their own ideas to enrich the writing materials. Together, these examples illustrate the kinds of activities that occurred over the entire 16 weeks.

Figure 2
Teacher Feedback Offered Through Pigaiwang

Figure 3
QQ Screenshots with Writing Exchanges in Chinese between the Teacher and Students

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Figure 4
QQ Screenshots with Writing Exchanges in English between the Teacher and Students
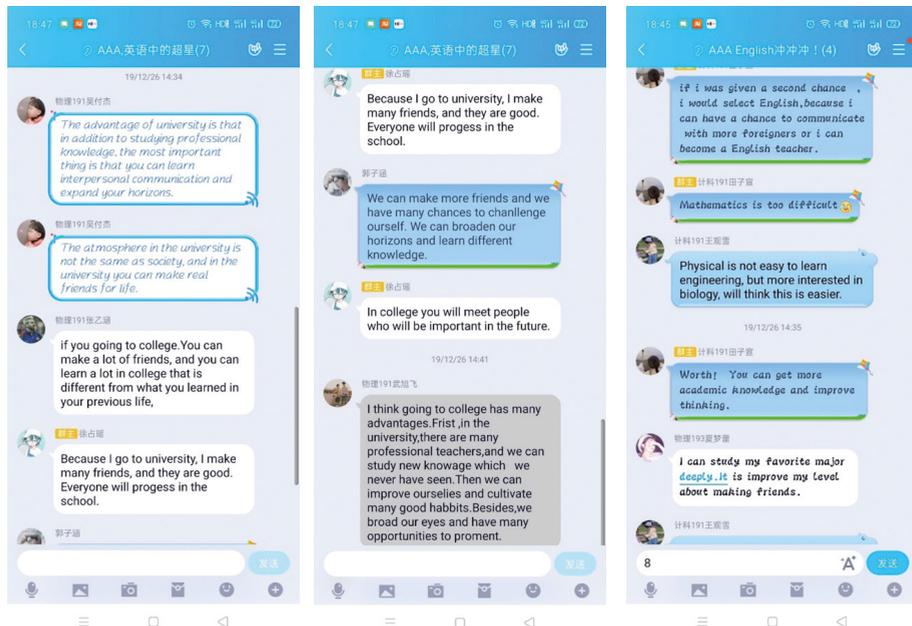
4. Data Collection and Analysis

To answer the research questions, three data collection methods were used: a student survey of all 62 students in Class B39 (RQ1), an interview of five students in QQ (RQ2), and an analysis of final exam scores (RQ3).

4.1. RQ1: Student Survey

As a way to gain insights on students' perceptions of the interactive and multimodal components of her students' experiences in each course, Author 1 developed a survey, composed of 19 multiple-choice questions and 1 open-ended question. Multiple-choice questions were designed based on five-point Likert Scale with "strongly agree," "slightly agree," "neutral," "slightly disagree," and "strongly disagree" as the options. The survey aimed to discover B39 students' satisfaction on:
- the teaching mode (7 multiple-choice questions)

- the teacher (3 multiple-choice questions)
- the online writing platform (5 multiple-choice questions), and
- peer evaluation (4 multiple-choice questions).

All questionnaires were issued through Wenjuanxing, a professional online questionnaire survey platform. The total number of valid returned questionnaires is 62, which is the same as that of distributed ones.

With the surveys, SPSS software was used to run Cronbach's alpha and a KMO test in order to confirm the reliability and validity of the returned questionnaires. This is an accepted test for quantitative measures of correlation (Creswell & Creswell, 2018; Zhou, 2017). The test results yielded compelling results. First, the value of the reliability coefficient is 0.946, higher than 0.9, which means the research data have high reliability. Second, the KMO value is 0.844, higher than 0.8, also indicating the data has high validity.

As for the last open-ended question in the questionnaire, "please write down your opinions and suggestions on the interactive multimodal writing teaching mode," 30 students gave responses, and 12 of those replied "Nothing." In the other 18 responses, eight gave short, affirmative comments on the teaching mode, and two held the opinion that this teaching mode needed to be improved, but did not provide specific suggestions. The remaining eight provided brief opinions and suggestions, mainly involving ideas about having more interactions, insisting on peer evaluation, doing more CET-4 writing practices, improving the online writing platform itself, and designing more novel and interesting writing topics.

4.2. RQ2: Student Interviews

For the sake of convenience –and in order to eliminate the interviewee's possible concerns about privacy and personal expression ability during face-to-face interviews– the student interviews were conducted online, via written text only, using QQ. Before the interview, a request to each interviewee was made by Author 1, inviting them to share their genuine feelings about the experience in the course. Six interview invitations were randomly sent out to students in Class B39, with the result of being accepted voluntarily by five students and declined by one.

The interview focused on the interactive, multimodal teaching mode for College English writing, mainly involving problems encountered

in the writing process, suggestions on the teaching mode, the overall learning experience, and other similar topics. Interview transcripts were analyzed thematically, "a method for identifying, analyzing, organizing, describing, and reporting themes found within a data set" that "can produce trustworthy and insightful findings" (Nowell et al., 2017, p. 2). Because we were not aiming to produce generalizable knowledge, nor seeking a statistical measure of interrater reliability, thematic analysis was an appropriate method to review the data and provide insights from the data.

4.3. RQ3: Comparison of Exam Grades

The final exam of College English at Author 1's university has always been in the form of paper and pen. The writing portion of the final course examination is based on the requirements and marking criteria of CET-4, a National English test hosted by the higher education department of Chinese Ministry of Education. The purpose of CET-4 writing is to assess candidates' ability to express themselves in written English. Candidates are required to write a short essay of 120-180 words in 30 minutes, which is related to the general knowledge of society, culture, or daily life. A full mark in CET-4 writing is 15 points, and the marking standard is divided into five grade levels: 2 points, 5 points, 8 points, 11 points and 14 points. If the students' writing is slightly superior or inferior to the mark, one point can be added or subtracted, but a half point is not allowed. Examiners are required to give a mark according to their overall impression on the language and content of the essay. The two examiners chosen are both English teachers with more than 15 years' College English teaching experience. These educators are well-prepared for the task, familiar with the current models of College English teaching and CET-4 marking criteria on writing. The average mark of the two examiners forms the final mark for each essay.

5. Results and Discussion

The results provide insights on the three research questions focusing on impacts of the multimedia courseware, social media-style communication tools, and the use of writing assistance technology. SPSS software

was also used for descriptive analysis, and we present two tables here – Table 2, "Frequency Analysis of Student Opinions of Multimodal Compared to Traditional Teaching Modes," and Table 3, "Descriptive Analysis of Student Opinions about Multimodal Writing Tools."

Table 2
Frequency Analysis of Student Opinions of Multimodal Compared to Traditional Teaching Modes

Item	Option	Frequency	Percentage (%)	Cumulative percentage (%)
1. Compared with traditional teaching mode, the interactive multimodal teaching mode in College English writing is more able to improve my English writing level.	5	33	53.23	53.23
	4	22	35.48	88.71
	3	4	6.45	95.16
	2	3	4.84	100
2. Compared with traditional teaching mode, the interactive multimodal teaching mode in College English writing is more able to boost my English learning enthusiasm and initiative.	5	40	64.52	64.52
	4	18	29.03	93.55
	3	3	4.84	98.39
	2	1	1.61	100
3. Compared with traditional teaching mode, the interactive multimodal teaching mode in College English writing is more able to enhance my English writing efficiency.	5	32	51.61	51.61
	4	22	35.48	87.1
	3	4	6.45	93.55
	2	4	6.45	100
4. Compared with traditional teaching mode, the interactive multimodal teaching mode in College English writing is more able to enrich my English writing content.	5	40	64.52	64.52
	4	17	27.42	91.94
	3	1	1.61	93.55
	2	4	6.45	100
5. Compared with traditional teaching mode, the interactive multimodal teaching mode in College English writing is more able to promote my English application capability.	5	32	51.61	51.61
	4	23	37.1	88.71
	3	4	6.45	95.16
	2	3	4.84	100

Item	Option	Frequency	Percentage (%)	Cumulative percentage (%)
6. Compared with traditional teaching mode, the inter-active multimodal teaching mode in College English writing is more able to meet my personalized English learning needs.	5	33	53.23	53.23
	4	26	41.94	95.16
	2	3	4.84	100
7. Compared with traditional teaching mode, the inter-active multimodal teaching mode in College English writing is more able to increase my English autono-mous learning ability.	5	33	53.23	53.23
	4	21	33.87	87.1
	3	4	6.45	93.55
	2	2	3.23	96.77
	1	2	3.23	100

Table 3

Descriptive Analysis of Student Opinions about Multimodal Writing Tools

Item	Sample size	Minimum	Maximum	Mean value	Standard deviation	Median
8. I think the multimodal learning resources on English writing (e.g. pictures, videos, teaching courseware, etc.) pushed by the teacher are of much help to my English writing.	62	2	5	4.645	0.575	5
9. I think the class discussion and experience exchange in-itiated by the teacher on Eng-lish writing are of much help to my English writing	62	2	5	4.532	0.718	5
10. I think the teacher's online correction and feedback are of much help to my English writing.	62	2	5	4.694	0.561	5
11. I think the online writing platform is of much help to my English writing.	62	1	5	4.258	0.886	4

Item	Sample size	Minimum	Maximum	Mean value	Standard deviation	Median
12. I think the online writing platform can effectively evaluate my English writing ability.	62	2	5	4.242	0.783	4
13. I think the online writing platform can objectively point out my English writing problems.	62	2	5	4.419	0.641	4
14. I think the online writing platform can provide reasonable improvement suggestions for my English writing.	62	2	5	4.5	0.621	5
15. I am willing to keep using the online writing platform to improve my English writing level.	62	2	5	4.452	0.694	5
16. I think peer evaluation is of much help to my English writing.	62	2	5	4.145	0.865	4
17. In the process of peer evaluation, I have carefully reviewed the compositions of my peers.	62	3	5	4.629	0.52	5
18. In the process of peer evaluation, I have carefully revised my composition according to the feedback from my peers.	62	3	5	4.484	0.62	5
19. I am willing to improve my English writing level through peer evaluation.	62	2	5	4.419	0.821	5

From the survey results, most students were satisfied with the teacher's role in the experimental mode, whose work included creating and sharing multimodal learning resources, initiating classroom discussion and exchanges on English writing, correcting essays, and giving feedback. For the survey, the mean value of Items 8, 9, 10, 14 and 17 was equal to or higher than 4.5, indicating that respondents had accepted the role of the teacher in guiding, organizing and facilitating a multimodal, interactive teaching mode for College English writing, including the use of PowerPoint slideshows, QQ as a space for dialogue and the use of Pigaiwang.

From the interviewees, we can see that students were generally satisfied, though they had specific ideas for improvement. One interviewee's suggestions noted that "By using the form of online writing, some students are opportunistic and rely on English word searching software for writing, which will be unhelpful for the improvement of their vocabulary and writing ability in the long run."(S2) This suggests that supervision of the writing process should be strengthened, and that more process management should be implemented throughout the writing process.

This same student suggested that the instruction "Try not to occupy the viewing, listening and speaking class time with writing practice. I think it would be better to write before class, comment in class, and improve after class" (S2). Another student offered the following: "Display more excellent model essays and help students expand their writing content with more useful phrases, expressions, and sentence patterns" (S1). Finally, a third student suggested that "More critical learning materials can be added to the interactive multimodal writing practice, which will be beneficial for training students' divergent thinking"(S5). With these suggestions, though students generally found the tools to be useful, Author 1 will continue to strengthen multimodal elements.

From the survey results, this demonstrates that most students were satisfied with the role of the online writing assistance platform, Pigaiwang, which is devoted to effectively evaluating students' English writing ability, objectively pointing out their problems in English writing, and providing reasonable suggestions. In sum, they were willing to keep using this platform for future writing. More than 50 of the 62 respondents were highly involved in and satisfied with peer evaluation. The survey results and interview responses confirmed the students' perceptions about the help of peer evaluation on their English writing; because of their positive response, Author 1 is inclined to keep using this approach. It should be noted, however, that because students had actively participated in peer evaluation with a very serious attitude, it is likely that their perceptions of their own efforts may have influenced their opinions on the use of peer response, which can often be perceived as being unhelpful (especially when describing the feedback offered by others). One interviewee has stated the benefits of multimodal teaching resources for his writing:

On one hand, multimodal teaching resources not only improves our ability to extract and understand information, but also helps us overcome the limitation of thinking so as to think outside the box. On the other hand, interactive writing teaching based on multimodal resources improves our writing enthusiasm, making us more active in learning English and practicing writing… In a word, I think this is an effective way to improve English writing ability. If we keep on practicing in this way, our English writing ability will be greatly improved. (S5)

The role of the online writing platform was also affirmed by another interviewee. "The online automatic commenting and marking function in the new writing mode is really good, which can not only point out our grammatical errors in the text, but also provide learning tips and recommended expressions." (S4)

Another response, one that we did not expect, was in relation to students' use of handwriting. One interviewee even expressed his concern for the lack of writing practice with paper and pen. As noted above, the final exam of College English has always been in the form of paper and pen:

For students like me who don't study regularly, it may take me long time to write a composition due to my indifferent sense of time. And when the real paper-and-pen exam comes, I may feel flustered. Secondly, because online writing replaces paper-based writing, I feel that my English handwriting is not as beautiful as before, and it may even affect the overall impression mark for my composition. (S4)

The calculated results from each section showed that the average mark of all compositions submitted for the final essays in class B22 was 9.39, and in class B39 was 9.72, a slight improvement (though not statistically significant). As can be seen from the following line chart, the lowest and highest marks of both classes are 6 and 13 respectively. The number of students with the mark range from 6 to 9 points in class B22 is slightly higher than that in class B39, which demonstrates that there were more students with final, poor marks in class B22. The number of students with the mark range from 10 to 13 points in class B39 was generally higher than that in class B22, indicating that there are more students with better writing abilities in class B39. Assuming that most other factors about the

students were relatively consistent, the overall English writing ability of class B39, the experimental group, ended up higher than that of class B22, the control group, as shown in Figure 5.

Figure 5
Writing Score Distribution in the Final Examination

Writing score distribution in the final examination

	6 points	7 points	8 points	9 points	10 points	11 points	12 points	13 points
Class B22	1	3	11	24	7	10	3	2
Class B39	1	1	9	18	16	9	4	3

Writing scores (full mark: 15 points)
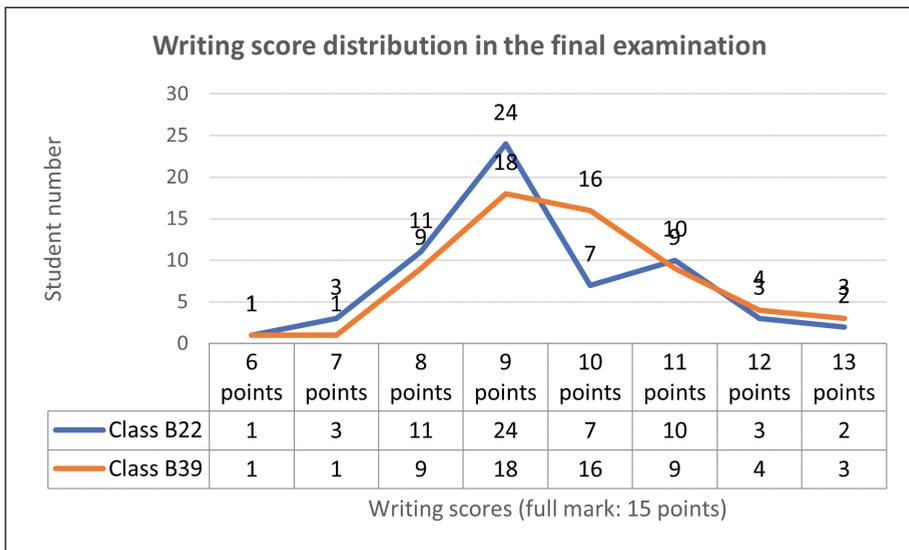
5.1. Limitations

From a research perspective, there are a few limitations to this study. First, this is a self-study of two classes taught by the same instructor Author 1, and did not include a randomized, controlled study of two equal populations of students. Second, as noted above, the initial test results from the two course sections suggest that the initial abilities and skills of class B39 were likely a bit stronger than those of B22, which could account for differences in the final test. Without multiple testing data points from a larger population, it is difficult to ascertain the overall effect of the multimodal teaching techniques. Finally, since Author 1 was the interviewer, it is fair to assume that their comments may not have been as critical or incisive as they might have been if provided to an outside interviewer.

6. Conclusion and Implications

The improvement of Chinese college students' English writing ability is a gradual process, where the combination of multimodal teaching resources and online writing platforms can help to cultivate students' writing cognition and, as one student noted, improve their English writing enthusiasm; therefore, it can provide an effective way to satisfy students' needs for input and output in their process of English writing. In this case, all teaching activities should be student-centered, but the role of teachers should not be underestimated. From pre-class guidance to multimodal teaching resource design, from in-class writing practice to after-class feedback and peer evaluation, the teachers' scaffolding role will support the smooth development of these techniques in future terms. We offer three recommendations:

1. Strengthen the technical guidance of online writing

Often, students faced challenges on the registration, login, and first-time use of the writing platforms. Therefore, before writing, teachers must provide proper training for students to eliminate their frustrations. In addition, timely instruction and question-answering (online and offline, inside and outside of class) are essential. Personalized guidance can help students solve specific technical problems, including dilemmas such as a frozen smartphones, punctuation switching through autocorrect, and form refreshing and resubmission. With a new wave of educational technologies always arriving, College English teachers need to adapt, promoting the integration of technology into English teaching, and striving to improve their own digital literacies.

2. Expose learners to more multimodal learning resources

In today's China, modern information technology –represented by the Internet, big data and artificial intelligence– is profoundly influencing social development and people's lives. It becomes increasingly convenient to acquire, process, store, communicate and use multimodal learning resources such as videos, audios, animations, images, graphics, figures, and texts. Diversified teaching resources break through the limitations of traditional paper textbooks, and the multidimensional and digital teach-

ing materials provide College English teachers with various teaching materials covering a wide range of topics, which can then well meet the personalized learning needs of students in the new media era (Yao, 2017, p. 19). According to the results of this study, compared with traditional materials, Author 1 has discovered that the multimodal learning resources increase students' pleasure in the learning process, mobilize students' enthusiasm in English learning, and reduce their cognitive load. The construction of abundant multimodal learning resources by colleagues across China could be shared openly with all for the improvement of students' English writing ability.

3. Add more interactions in and out of class

The interactive, multimodal teaching mode of College English writing is student-centered, characterized by teacher-student and student-student interactions. Through these interactions, the teacher can push multimodal resources based on students' learning needs to provide targeted guidance. Through their interactions, students can evaluate each other's compositions and provide suggestions for further revision. Teachers also offer individual review of students' compositions with text and voice comments.

However, according to students' responses to the open-ended question on the questionnaire and through the interview, there are still some gaps in our interactions, which need to be improved in the future. Some students hoped the teacher would display more high-quality compositions by posting the picture of model essays in the QQ group chat or by creating a "composition wall" in the classroom. Some students even proposed that the teacher could comment on the participation of each group member, selecting the best examples after group discussion; others even put forward the suggestion of honoring outstanding peer comments. These suggestions reflect the role of interaction in stimulating students' enthusiasm for English learning, and indicate their desire to get affirmation from teachers and peers.

In an era of change in both English language learning and in the opportunities provided by technology, current definitions of literacy move beyond reading and writing. They also include an understanding and application of audio, video, images, animations, colors, gestures and other semiotic symbols. Compared with traditional teaching, an interac-

tive, multimodal teaching mode is characterized anywhere, anytime affordances. Meanwhile, "multidimensional and various teaching resources promote the diversified development of teaching content, provide a guarantee for multimodal teaching, and create a real and meaningful learning environment for students" (Yao, 2017, p. 21).

That said, instructor labor must be considered. Though difficult to accurately record the overall time and effort Author 1 put into planning for, teaching, and then responding to student work in classes B22 and B39, she estimates that the time spent on in-class teaching for the two classes is roughly the same (about 30 minutes per week, 480 minutes in total), the time spent on after-class instruction is roughly the same (about 60 minutes per week, 960 minutes in total), while the teaching design time was different (about 60 minutes per week for class B22 and 120 minutes per week for class B39). In total, Author 1 spent more time in all aspects of teaching class B39 than B22, suggesting that constructing multimodal teaching resources is a new commitment and challenge. We also remind readers that this research occurred in the fall of 2019, right before the COVID-19 pandemic shifted most of the world to fully remote learning. In China, this accelerated the pace of technology-based change. Colleges and universities are setting off a vigorous wave of reform, with the blended learning online and offline as one of the distinctive features (Gao & Zhang, 2020).

Improving their English writing ability is a long-term, dynamic process for our Chinese learners. Whether students remain primarily in face-to-face instruction, or whether they may choose to (or be required to) remain online, a multimodal, interactive approach –when implemented with intention– can provide a feasible alternative. It is only then that we will encourage writing enthusiasm and enact a more humanistic approach to learning College English.

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