

How Collaborative Writing Influence Psychological Factor: An Investigation of Interaction Anxiousness among College English Students in China

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Abstract

Among Chinese university students, social anxiety has emerged as a prevalent psychological issue. Psychology has conducted extensive research and made concerted efforts to alleviate social anxiety among college students. However, current investigations indicate that social anxiety remains widespread, affecting not only students' academic and daily life on campus but also influencing their behavior and thought patterns in future professional and personal settings. This study aims to explore whether collaborative writing in foreign language classrooms can mitigate students' social anxiety levels in daily life. Utilizing a qualitative research approach, semi-structured interview were conducted with 20 participating students. Findings indicate that collaborative writing pedagogy in foreign language classrooms not only effectively reduces students' social anxiety but also positively influences their social thinking patterns.

1. Introduction

College English is a long-established public course in Chinese higher education and a compulsory subject for every non-English major student in university. Each year, more than four million students enter universities to take the College English course, highlighting its importance and prevalence. However, in the past, there has been insufficient recognition and emphasis on writing in college English teaching (Yao Lan & Cheng Lini, 2005; Li Funing, 2000), and related research has been relatively sparse. With the deepening of the country's reform and opening-up, and the increasing frequency of economic, educational, and political exchanges with foreign countries, many experts and scholars have begun to introduce or experiment with Western writing theories or practical methods. Additionally, as academic understanding of writing continues to strengthen, some educators have also engaged in research, attempting to explore effective methods to enhance writing instruction. Collaborative teaching is considered a highly effective teaching

approach that can significantly improve students' performance. For example, Zhang Xiaoyan (2017) found that first-year non-English major students generally experience high levels of foreign language learning anxiety, and collaborative learning can effectively reduce students' foreign language learning anxiety. Currently, there have been discussions by scholars both domestically and internationally on the application of collaborative learning in writing, including the concept of collaborative writing (Moon-Heum Cho & Seongmi Lim, 2015). However, existing research on the role of collaborative learning mainly focuses on students' academic performance and learning interest, lacking studies on the impact of extracurricular psychological health factors. Nevertheless, social anxiety, as one of the indicators of mental health, has become a common psychological issue among Chinese university students (Jinhua et al., 1986; Peng Chunzi et al., 2004). This study aims to explore whether improving the teaching model in College English classrooms can alleviate the widespread issue of social anxiety among students.

2. Literature Review

2.1 Collaborative Writing

Since the last century, many scholars have begun to focus on collaborative writing tasks, particularly on the language use of collaborators within those tasks. Kowal and Swain (1994) analyzed the dialogue generated by a dictation task implemented in an eighth-grade French immersion classroom, aiming to explore the nature of learner dialogue in collaborative writing tasks. Swain and Lapkin (1998) further investigated the relationship between collaborative writing and learning, making the first attempt to trace the evidence between language-related episodes (LREs) and learning within collaborative writing tasks. By using customized assessments, they confirmed that the knowledge co-constructed by learners during LREs is retained. This indicates that the knowledge jointly constructed by collaborators in the process of collaborative writing can subsequently impact the individual collaborators. Storch, N. (2002) conducted the first systematic and qualitative analysis of paired interactions in a series of Storch collaborative writing tasks, focusing on intermediate and advanced English learners. The study identified four distinct interaction patterns, which were presented in a paired interaction model. This model has since been applied by researchers in various research contexts (Watanabe & Swain, 2007; Li & Zhu, 2013; Storch & Aldosari, 2013). Shehadeh, A. (2011) conducted a longitudinal study comparing the performance of low-intermediate English as a foreign language learners in collaborative writing versus individual writing, employing a pre- and post-test design. The study found that learners engaged in collaborative writing demonstrated greater improvements in text quality and vocabulary over the course of the semester than those engaged in individual writing; however, collaboration did not lead to higher accuracy. Surveys conducted with learners participating in collaborative learning revealed that the majority enjoyed the activity and felt their speaking skills and confidence had improved.

2.2 Interaction Anxiousness

Interaction anxiousness refers to the emotional state of experiencing anxiety in situations involving interaction and communication with others (Xu Yang, Liu Haiyan, Liu Huimin, 2024). It is a common form of anxiety primarily manifested as feelings of apprehension, fear, and avoidance regarding social situations and interactions with others, thus categorizing it as a specific situational anxiety. Social anxiety can be simply described as the discomfort felt in the presence of others. The emergence of this negative psychological state is often associated with an individual's familial upbringing and traumatic memories. When individuals excessively make

threatening negative judgments about interpersonal interactions in social contexts, they are prone to develop social anxiety and corresponding behaviors. Individuals with social anxiety experience feelings of tension and fear in social situations, and in severe cases, may exhibit social avoidance behaviors, even leading to psychological issues such as depression. Due to the damage it inflicts on individuals' psychological well-being, behaviors, and interpersonal interactions, social anxiety has become a focal topic in psychological research (Zhan Hui, Wang Donghai, Tan Yan, Du Zhenzhong, 2022). The issue of social anxiety among university students, as one of the important social groups, is increasingly gaining attention, and currently, social anxiety has become the third most prevalent mental disorder, following severe depression and alcohol addiction (Ju Pei-jun et al., 2018).

3. Methodology and Procedures

3.1 Participants

A total of 120 college students from Sichuan, China were recruited for this study. They are divided into 3 groups, which are experimental group A(GP-A), control group B(CG-B)and experimental group (GP-C). For GP-A(n=32) and GP-C(n=33), students are required to form a writing group with 3-4 students and finish every writing task in group during class while CG-B(n=40) is required to finish their writing task on their own as usual. Purposeful sampling was used to recruit the participants, all participants major in science and engineering disciplines, and their results English score in College Entrance Exam for indicated that the differences were not significant, which means they have similar English learning ability. Meanwhile, their score of Interaction Anxiety Scale(IAS)has been indicated that the differences were not significant, which means their interaction anxiousness level were the same at the beginning of the experiment.

3.2 Data collection

Before the start of the experiment, ethics clearance was granted through the appropriate university and school boards prior to data collection. Participants were invited to participate in semi-structured interview. The interview protocol (in Mandarin) consisted of demographic questions focusing on collaborative writing experience, individual writing experience, self-evaluation of personality , Help-seeking habits, friendship patterns. Before conducting semi-structured interview, the protocol was pilot tested with 2 students from GP-A using a think-aloud protocol. The piloting process resulted in modification and rewording of some questions prior to conducting the interview. At last, 21 students from 3 groups were conducted, lasting about 30-60 minutes, in which 7 students from GP-A, 6 students from CG-B and 8 students from GP-C. All interviews were audio-recorded and data were transcribed verbatim.

3.3 Data analysis

This study primarily employed thematic analysis to analyze the interview data. Thematic analysis is an abstract summarization of significant information related to the research content. This process is a way of thinking through sentences or paragraphs, where each step is a process of the researcher's contemplation (Li Shujie & Huang Xiting, 2022). Braun, V. & Clarke, V. clearly outlined the six steps of thematic analysis in 2006: Step One, becoming familiar with the interview data; Step Two, initial coding; Step Three, searching for themes; Step Four, reviewing themes; Step Five, defining and naming themes; Step Six, producing the report. This analytical procedure has been recognized by several scholars, and this study strictly adhered to the aforementioned steps in processing and analyzing the interview data. Three researchers reviewed

the codes together and developed a shared understanding of the codes and themes, similar codes were grouped together into sub-themes and multiple sub-themes were grouped together to generate broader patterns called themes. When researchers are confronted with disagreement, the researchers discussed the quotations and codes until agreement was reached. In total, three themes and six sub-themes were derived from 21 participants (see Table 1). Example quotes were also provided in Table 1 to illustrate what participants' actual words were during the interviews. Participants are numbered and reported accordingly as AS1 for participant 1 from EG-A.

Table 1: Summary of Themes, Sub-themes, Codes, and Example Quotes

Themes	Sub-themes	Codes	Example Quotes
Collaboration Conflicts and Writing Issues	Opinion Disagreement and Coping Strategies	Frequent Disagreements	AS2: We have disagreements; one teammate wants AI to write the entire paper, and I said it's meaningless. What's the point of just doing the assignment? Plus, it's group work, even if you finish it with AI, what will you do with the remaining time? With so many of us, what we write is definitely better than AI. CS7: The only challenge I currently face is this disagreement, as it is a very difficult challenge to overcome. At that time, I had disagreements with three classmates, and they ultimately convinced me with a model essay. The second time, when I had disagreements with our group members, at first, my partner and I were discussing and we were both very angry."
		Compromise Through Communication	CS3: In the end, I still categorized the opinions of the three people into one. Let them each step back a bit and integrate. If that really doesn't work, one side might have to convince the other side before we can move forward. CS7: Ultimately, they convinced me with a model essay, and once the other two group members joined, it became a bit more relaxed.
		Majority Rules	AS1: One challenge is that there will be disagreements during communication; when we reach a consensus, we directly follow the majority. CS6: Generally, with three people, it's definitely two against one, so the minority will follow the majority. Sometimes we will compromise and integrate ideas.
		Peers Slacking Off	AS2: Lack of cooperation from teammates; I can only think of various ways to motivate their enthusiasm. When we communicate face to face, I am already thinking of ways to motivate them. Perhaps certain personalities can cause issues when put in the same group. CS8: A shortcoming might be that certain
	Writing Negative Phenomena		

Feedback Mechanisms and Problem Discovery	Feedback Behavior Helps Identify Issues	Negative Emotions	members in a group slack off, which may result in the writing being completed without full effort.
			CS7: When all three of them know something and I don't. BS2: In the middle, I feel it's hard for me to conceive ideas; I don't know what to write, which makes me very anxious.
		Peer Feedback	AS1: After writing, I gave him feedback, pointing out the areas he did not do well in, and raised this during peer review. CS3: Peer feedback after collaborative writing, for example, the first feedback they gave me; I might say at that time that my ideas were not yet complete. However, the second time, my ideas became very rich and abundant. This means that in this short time, I constantly promoted my ability to generate more ideas and improved continuously.
		Teacher Feedback	AS2: Because after every writing assignment, you (the teacher) provide feedback, I know where I can improve.
Social Interaction and Individual Behavior Influence	Social Relationships	Discovering Personal Shortcomings	CS2: From others' feedback, whether it's from the teacher or not, I further enhance myself to improve my English or writing skills.
			AS6: As the main writer, there are times when I suddenly can't remember some words they read, and I don't write well. CS1: During the writing process, you will discover many errors, including grammatical and structural issues, and you can promptly identify your problems.
		Social Thoughts/Behaviors	AS5: Yes, it is reflected in expressing my own viewpoints. One should be brave to express oneself and also listen to others' opinions, accepting viewpoints that differ from one's own.
			CS6: In terms of cooperation, I am definitely willing to cooperate, as I know I am personally introverted, and I also understand that doing something alone is quite difficult.
		Differences Between Collaborative Team Members and Other Classmates	AS5: My interactions with group members may be closer than with other classmates.
			CS7: I think the benefit is that as a team, and since we are classmates, you can better understand yourself and make good friends. My relationships with same-gender peers are quite good, while with the opposite gender, I tend to avoid being too close unless I like

		<p>them. I'm not very good at making friends while doing things.</p> <p>AS3: The first reaction is to discuss internally within the group; if we can't resolve it after discussion, we then look online. Once we start collaborative writing, the most effective thing is still to seek help from group members.</p> <p>CS3: Usually, I just go directly to my teammates. The most effective way is to discuss directly with my partner.</p> <p>BS3: For example, if there are questions I can't solve or theoretical issues I need help with, I hope to receive their support.</p> <p>CS2: I hope to receive support and help from those around me. This kind of help can first enhance my confidence, allowing me to face problems without fear, reducing anxiety, making me more willing to actively seek methods and learn from others. Furthermore, it also increases my trust in others, as I am more inclined to trust them because they provide me with support and encouragement, giving me the motivation to keep trying.</p> <p>CS3: This collaborative mindset makes you want to receive help from others, but I think this help can be a double-edged sword; it may bring positive effects, but it could also lead to dependence on seeking help from others.</p> <p>BS3: I feel that I don't like being forced to memorize things; I prefer to be proactive.</p> <p>When teachers force me, I dislike it. I prefer to explore on my own, for example, if I feel I need to strengthen something, like vocabulary, I would memorize it myself. After setting a goal for myself and reaching it, I feel a sense of satisfaction. However, if a teacher forces me to memorize essays or English, I really dislike it.</p> <p>AS1: I feel that I am neither very introverted nor very extroverted. I also like to be alone.</p> <p>CS3: I think I am very introverted, but they all say I'm quite outgoing, not an introverted person at all. I am very casual and easygoing in life and personality.</p> <p>BS1: When classmates offer to help me, I feel a bit burdened. If a classmate helps me, I start thinking about why they want to help; I might</p>
	Help-Seeking Habits	
Ambivalence of Help-Seeking Behavior and Dependence	Desire for Help but Fear of Dependency	
	Unwilling to Have Learning Interfered	
Personality and Behavioral Patterns	Self-Character Evaluation	
	Unwilling to Receive Help	

feel obligated to return the favor, which would be a significant burden for me.
BS4: I feel I can solve problems by myself and generally do not seek help.

Source: [Authors]

4. Results and Discussion

In the writing process, both the experimental group and the control group identified some common issues. The problems encountered by the experimental group primarily centered around frequent disagreements in collaborative writing. For instance, one participant remarked, *"We have disagreements; one teammate wants AI to write the entire paper, and I said it's meaningless. What's the point of just doing the assignment? Plus, it's group work; even if you finish it with AI, what will you do with the remaining time? Certain personality types may clash when grouped together"* (AS2). Another noted, *"I think the main issue lies in the time spent handling our disagreements"* (CS2). Additionally, there were concerns about peers slacking off, as expressed by, *"The lack of cooperation from teammates; I can only think of various ways to motivate their enthusiasm"* (AS2) and *"Some members in the group might slack off, leading to the writing being completed without full effort"* (CS8). Negative emotions also arose, with one participant stating, *"I worry that if my teammates slack off, it will negatively impact our final result. Moreover, I am concerned about my level of participation; if I am the only one doing the writing, it would be meaningless, right?"* (AS2) and *"When all three of them know something and I don't, I become anxious"* (CS7). To address these issues, the experimental group adopted various strategies. For example, in handling disagreements, some groups employed the "minority follows majority" approach (AS1, AS3, CS1, CS5, CS6), while many groups mentioned a tendency to resolve conflicts through "communication and concession" (AS2, AS7, CS1, CS2, CS3, CS7, CS8). From the respondents' perspective, several participants from experimental group C explicitly indicated that they more frequently resolved disagreements through communication and concession. The cooperation among members was influenced by multiple factors, including familiarity among members, their attitudes, and their abilities (Zhu Zihan, 2024). The researcher noted that although both experimental groups selected their members voluntarily, students in experimental group C had already spent some time together and became familiar with each other before choosing their partners, whereas group A formed their teams during the first week of instruction. Although the researcher encouraged students to engage in extracurricular team-building activities, it was evident that the familiarity among members in experimental group C was higher than that in group A when selecting teammates. This difference may lead to varying approaches in handling disagreements. The study reasonably infers that the level of familiarity among members results in different tendencies in collaboration when addressing disagreements. Regarding problem-solving, respondents from both experimental group A and group C mentioned that they would practice writing skills independently after class or attempt to further communicate with group members with whom they had disagreements, thus extending classroom behaviors into extracurricular settings.

Seventeen respondents evaluated their own personalities as introverted, with some even expressing a fear of social situations. One participant stated, *"Because I am relatively introverted, sometimes when I speak in crowded places, my voice shakes, and I feel quite uncomfortable. However, in class, I may not be very proactive in speaking up"* (BS3). Another noted, *"First of all,*

I am an introverted person, and I may be relatively timid and afraid to initiate interactions with others, although I really want to engage with people, I just lack the courage" (BS4). A third respondent mentioned, "I consider myself to be quite introverted; I am not very willing to engage widely in friendships, as I believe that having a few close friends is more important. You could say I am shy and find it hard to open up to strangers, which conveys a similar meaning" (CS6). In terms of constructing social relationships, the interview results from the experimental group and the control group exhibited significant differences. Particularly regarding social thoughts and behaviors, respondents from control group B expressed markedly negative evaluations of social interactions in university. One participant stated, "So far in college, I haven't made any good friends, and I'm not familiar with either same-gender or opposite-gender peers. I don't want to communicate with people I'm not familiar with, and when I say I don't want to interact with unfamiliar people, I mean that if I encounter someone in a professional course, I will communicate knowledge generously. However, if it's about collaboration, we are quite naïve; perhaps in the future when I work, I will do well, but right now, everyone is immature and of the same age, so I actually don't like to interact with unfamiliar people to complete tasks" (BS1). In contrast to the social anxiety observed in control group B, respondents from experimental groups A and C demonstrated changes in their social behaviors and thoughts. Experimental group A consisted of 15 respondents, 14 of whom explicitly noted that their social thoughts and behaviors had changed due to collaborative writing. This change not only persisted in their daily lives but also had a positive impact on group collaborations in other subjects. One respondent remarked, "I might be more willing to engage in discussions within a group. In English class, because of this collaborative writing, when it comes to group activities in other classes, I am more willing to participate in such collaborations. For example, when I can't solve my calculus assignments, we ask our calculus teacher via our phones" (AS1). Another participant mentioned, "Collaborative writing does indeed influence my thoughts; for instance, I used to have a mindset of not wanting to socialize, but now I feel that even though personalities may not match, I should still try to interact. Many assignments in college require group collaboration, and I feel more adept at this. Learning from others and mutual learning within the team is also crucial, and I feel that my emotional intelligence in interpersonal relationships has improved" (AS2).

There are significant differences in help-seeking habits between the experimental and control groups in the classroom. When respondents from experimental groups A and C were asked, "What do you generally do when you encounter problems or confusion in English class and want to seek help?" all respondents from both experimental groups indicated that their first choice is to seek help from group members. One participant stated, *"I directly ask the members of the group, and if they also don't know, then I look for answers online" (AS6). Another noted, "When I encounter a problem, my first reaction is still for everyone in the group to discuss it together. If we can't figure it out among ourselves, then I will seek help from AI" (CS2). In contrast, all respondents from control group B indicated that their first choice is to search online for information, with one stating, "I can only look up information and see what is available online. I feel that I rarely seek help from others and rely mostly on myself" (BS2).*

5. Conclusion and Suggestion

Through the comparison of the experimental group and the control group, it can be concluded that although most participants perceive themselves as introverted, collaborative writing can significantly alter students' social thoughts and behaviors. Due to their closer relationships with

group members, they do not develop feelings of isolation and helplessness. Consequently, they are more willing to seek help from classmates first, forming a help-seeking pathway of "classmate-network/teacher-self." They also feel adept in group collaborations in other courses at university. In future university English instruction, it is recommended to appropriately adopt a more comprehensive process to integrate collaborative learning into every aspect of teaching. This can help students enhance their teamwork and communication skills in the classroom, contribute to alleviating students' social anxiety, and further assist in improving students' mental health issues.

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