

English Writing Anxiety in Mobile Learning Environments

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Abstract: *This study investigates online writing anxiety in the context of mobile learning based on contemporary college English writing practices. Using comparative testing, questionnaires, and interviews, we comprehensively assess the state of online writing anxiety under mobile learning conditions. The results indicate no significant difference in writing effectiveness between mobile learning and traditional modes. Students experience moderate levels of anxiety during online writing, with stronger feelings of avoidance. Factors such as online dictionaries, translation tools, and the openness of the network environment in mobile learning facilitate students' English writing. However, issues like online disorientation, discomfort, and feelings of distance also impact online writing.*

Keywords: *Mobile learning model; Writing anxiety; Writing effectiveness; Influencing factors*

1. Research Background

The integration of new information technologies and the rapidly developing internet has accelerated the informatization of higher education, continuously transforming the learning methods of English learners. This enables college students to access online resources and learning platforms more conveniently. In recent years, research on using collaborative writing platforms for writing instruction in mobile learning environments has gained widespread popularity. Wang Guohua et al. (2015) noted that mobile learning effectively integrates online and offline learning, allowing for self-paced and real-time collaborative learning.

In college language teaching, the application of writing systems in the classroom has become increasingly common. Wang Li (2015) suggested that online automatic writing systems can improve students' writing, including syntax and the use of low-frequency words. These systems can help address issues like limited vocabulary and low internalization of vocabulary, enabling students to better complete the internalization of low-frequency words and enhance their English composition skills. Other studies have demonstrated that online English writing instruction can significantly improve students' writing levels and stimulate their interest in writing.

Guo Yan and Qin Xiaoqing (2010) found that students' foreign language writing performance is influenced by writing anxiety. Their analysis indicated a significant negative correlation between overall foreign language writing anxiety and writing performance, further proving that foreign language writing anxiety is a hindrance that can obstruct the quality and achievement of students' writing; higher anxiety levels correlate with poorer writing performance. Ma Jie et al. (2018) argued that writing anxiety hinders the writing process, leading to difficulties that generate painful and negative emotional experiences related to writing tasks, ultimately diminishing expectations of writing success. Given the specificity of this research, we define English writing in mobile learning environments as online English writing.

2. Research Content

2.1 Research Questions

This study translated and revised the Second Language Writing Anxiety Scale designed by Cheng (2004) and conducted an investigation into the foreign language writing anxiety of 75 non-English major college students through semi-structured interviews. The research questions are:

- a. How effective is students' English writing in a mobile learning environment?

- b. B. What is the level of English writing anxiety among students in a mobile learning environment?
- c. What factors influence English writing in a mobile learning environment?

2.2 Research Methods

2.2.1 Participants

The participants consisted of 75 first-year students from three majors: International Trade, E-commerce, and Electrical Automation. Among them, 40 were male and 35 were female, with an average age of 19. They had completed one semester of writing instruction, including both classroom learning and online writing.^[1]

2.2.2 Research Instruments

2.2.2.1 English Writing Test

The writing test utilized a topic-based essay prompt, with a maximum score of 15 points. The 75 participants were divided evenly into an experimental group and a control group. Within a specified time of 30 minutes, the experimental group completed their writing on the Zhike platform, while the control group engaged in traditional paper-based writing, with all students required to work independently. Before the test, the purpose of the writing task was clearly explained to the participants. After the test, two experienced English writing teachers scored the essays based on vocabulary usage, sentence structure complexity, coherence, and relevance to the topic.

2.2.2.2 Second Language Writing Anxiety Scale

The questionnaire used is a translated and revised version of Cheng's (2004) Second Language Writing Anxiety Scale, comprising 24 items. It has high reliability and validity. Items 1-22 are from the original scale, with two additional items (23 and 24) added to better understand learners' online writing anxiety. The scale includes three anxiety factors: cognitive anxiety, physical anxiety, and avoidance behavior. The items are formatted using a 5-point Likert scale, ranging from "strongly disagree" (1 point) to "strongly agree" (5 points). Among the 24 items, 7 are reverse-coded for scoring. A higher score indicates greater writing anxiety and vice versa. At the end of the scale, two open-ended questions were included to gather learners' attitudes and suggestions regarding writing anxiety. In the revised scale, total scores range from 24 to 120, where scores above 70 indicate high anxiety, 55-70 indicate moderate anxiety, and below 55 indicates low anxiety. Before administering the questionnaire, students were informed of its purpose, and it was collected after 20 minutes.

2.2.2.3 Interviews

After the questionnaire survey, 15 students were randomly selected for 30-minute semi-structured interviews. The interview content primarily addressed factors affecting online writing to further understand students' attitudes towards online writing and the specific difficulties they encountered in their learning. Factors mentioned by students were categorized and ranked, with percentages provided for each factor, allowing researchers to analyze the impact of various influences clearly.

2.2.2.4 SPSS 20.0

Upon receiving the writing test data, the scores from the experimental and control groups were input into a computer for analysis using SPSS 20.0. Comparisons were made based on means, medians, and variances to evaluate the effectiveness of online writing and the fluctuations in final scores. After collecting the survey data, scores for the 24 items were analyzed based on the three factors of cognitive anxiety, physical anxiety, and avoidance behavior. Descriptive statistics were employed to compare average scores, determining the anxiety levels of the participants based on their scores across the three anxiety factors.^[2]

3. Research Results

3.1 Writing Test

The final scores for both online writing and paper-based writing were input into a computer and analyzed using SPSS 20.0. Descriptive statistics were employed to present the mean, median, and standard deviation of the scores for the two types of tests. The specific results are shown in the table below:

Table 1 Descriptive statistics of writing test results

Writing mode	Mean	Standard deviation
Online writing	9.0	1.65
Paper writing	8.95	1.52

The table above shows that the final scores for the two writing modes differ by only 0.05. The mean and standard deviation for online writing are 9.0 and 1.65, respectively, while for paper-based writing, the values are 8.95 and 1.52. The average score for paper-based writing is 0.2 higher than that of online writing, but this difference is minimal. The standard deviation for the two writing scores differs by only 0.13, indicating that the results for both writing modes are nearly identical. However, the variance for online writing is slightly larger, suggesting that students' scores vary more in this mode, leading to greater fluctuations. Overall, there is not much difference in students' writing outcomes between the two modes.

3.2 Second Language Writing Anxiety Scale

The final scores of the scale were analyzed based on the aggregate scores from the three anxiety factors. The specific statistical results are presented in the table below:

Table 2 Descriptive statistics of writing anxiety

Anxiety factor	Mean	Standard deviation
Cognitive anxiety	2.95	0.60
Body anxiety	3.16	0.73
Avoidance behavior	3.62	0.59
General anxiety	60.12	10.35

The table above shows that the mean score for avoidance behavior anxiety is 3.62, with a variance of 0.59; the mean score for physical anxiety is 3.16, with a variance of 0.729; and the mean score for cognitive anxiety is 2.95, with a variance of 0.60. It is evident that among the three anxiety factors, avoidance behavior has the highest average score and the smallest variance, while cognitive anxiety has the lowest average score.^[3]

The overall anxiety score is 60.12, indicating that students' overall anxiety level is moderate. It can be observed that the strongest anxiety experienced by students during online writing is related to avoidance behavior, while cognitive anxiety is relatively low, with most students indicating "neither agree nor disagree."

3.3 Interviews

3.3.1 Beneficial Factors

The semi-structured interviews first discussed the beneficial factors in online writing, and the specific statistical results are presented in the table below:

Table 3 Statistics on the proportion of favorable factors

Favorable factor	Proportion	Ranking
Online dictionary	85%	1
Online translation	77%	2
open	60%	3
Editable	50%	4

The table above shows that the most beneficial factor for students in online writing is the use of online dictionaries, followed by online translation. The third factor is the openness of the online environment. The editability of online texts is also considered a beneficial factor. Compared to the difficulties of modifying traditional paper writing, this editability provides students with significant convenience.

3.3.2 Detrimental Factors

The interviews also discussed the detrimental factors, and the statistical results are presented in Table 4:

Table 4 Statistics on the proportion of negative factors

Negative factor	Proportion	Ranking
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Network loss	80%	1
Writing habits	75%	2
Unwel	68%	3
Sense of distance	20%	4

From Table 4, it can be seen that the most detrimental factor in online writing is the feeling of being lost online, followed by the influence of writing habits. Additionally, discomfort when facing the computer is another factor affecting online writing.^[4]

Overall, it indicates that the writing performance of non-English major students in a mobile learning mode is comparable to that in traditional modes. However, students experience anxiety in online writing, particularly reflecting strong avoidance behavior. They also have a comprehensive understanding of the beneficial and detrimental factors affecting online writing.

4. Existing Problems and Insights

4.1 Writing Effectiveness

This study primarily assesses the effectiveness of online writing through comparative testing. The results show that the average scores for online writing and traditional paper-based writing differ by only 0.05, indicating that the writing outcomes of the two modes are nearly identical. This suggests that students have become accustomed to online writing.

Crystal (2001) notes that approximately 80% of English resources on the internet are beneficial for second language learners. The internet provides learners with a wealth of electronic resources that are accessible without time or location constraints. In China, the rapid development of information technology has shifted English teaching from traditional methods to computer-assisted instruction. In recent years, mobile English teaching has gained popularity in many universities. Computers have even been integrated into English teaching in middle and primary schools, leading to increased exposure to mobile learning for most Chinese students.

However, compared to traditional methods, online writing is ultimately a new mode of writing. Economic disparities mean that some students who were exposed to computers early in their education possess better skills and adaptability in using the internet. Students with weaker computer skills may experience anxiety during the writing process, negatively impacting their final scores and resulting in greater variability in online writing outcomes. Therefore, students should focus on practicing online writing skills during their learning, becoming familiar with beneficial online resources to maximize the utility of computers in their studies.^[5]

4.2 Anxiety Levels

This study analyzes the factors contributing to writing anxiety from three components. The results indicate that despite achieving satisfactory online writing scores, students still exhibit avoidance behavior. Li Jiongying (2004) argues that anxiety is a fear response developed in individuals due to inappropriate habits during foreign language learning, typically manifested as avoidance behavior. Psychologists propose three basic strategies for coping with anxiety: active cognitive strategies, active behavioral strategies, and avoidance strategies. Such avoidance behaviors hinder students' sense of responsibility and their ability to learn independently, as well as impede their progress in English proficiency. High levels of anxiety can lead to a lack of confidence in writing, causing stress unrelated to the actual writing task that adversely affects performance. In contrast, students with low anxiety levels tend to concentrate better and complete writing tasks more effectively.

Based on this, students should increase their writing practice during their studies. Furthermore, as Wang Song (2021) suggests, incorporating textbook content and leveraging modern educational technology can create task environments relevant to students' lives. This approach allows students to experience the joy of solving language problems, thereby enhancing their interest and sense of achievement in writing, improving online writing outcomes, and reducing anxiety.

4.3 Influencing Factors

The interview results indicate that the detrimental factors primarily relate to writing habits. Writing on a computer differs from writing on paper, as required resources are often scattered across different

pages. Students need to pay attention to using the keyboard and mouse; otherwise, they may easily be distracted by unrelated factors, affecting the quality of their writing.^[6]

Despite the increased opportunities for online writing in the current mobile learning mode, it remains a challenge for students accustomed to traditional learning methods. They spend significantly less time writing on computers compared to paper writing. Therefore, students should gradually adapt to the new learning mode in their daily writing studies, enhancing their online writing practice. Min-chen Tseng (2008) suggests that students should learn to adjust their computer's brightness and color settings to avoid discomfort during writing.

Conclusion

Writing is a crucial skill for second language learners. Learners inevitably encounter many difficulties and challenges in English writing within a mobile learning mode, with writing anxiety being a significant factor affecting their performance. The research findings indicate that the outcomes of online and traditional writing are quite similar; however, learners still experience anxiety regarding online writing and lack confidence in their English writing abilities, making them susceptible to negative influences during the writing process.

Therefore, teachers should implement specific and effective teaching activities and models to gradually enhance students' writing skills while solidifying foundational knowledge. This will help students overcome the adverse factors associated with online writing, boost their confidence, and psychologically reduce or eliminate anxiety, thereby minimizing avoidance behaviors. For learners, it is essential to continuously improve their ability to adapt to new learning modes, enhance their English writing proficiency, and eliminate negative mindsets. Approaching writing tasks and learning with a positive and optimistic attitude will allow them to enjoy the process of online writing.

Anxiety, as a significant factor affecting English writing, was tentatively explored in this study. However, the participants were drawn from a single university, and the research methods were relatively simple, presenting certain limitations. Future research could broaden data sources and employ more diverse methodologies to conduct further qualitative and quantitative studies on writing anxiety in mobile modes, thereby contributing to the advancement of English writing instruction.

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