

Iranian Medical Students' EFL Writings Anxiety, Coping Strategies, and Attitudes towards Writing in an Online Setting

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Abstract

To make stronger claims about the function of anxiety in online setting and its interaction with writing performance, there is a need to carry out extensive studies in various settings and with participants of different background experiences. Hence, this mixed method study set out to examine the effect of E-learning of English writing on Iranian medical students' writing anxiety and writing attitude. Students' sources of writing anxiety and coping strategies were also explored. To achieve the objectives, 71 upper-intermediate and advanced level Iranian medical students from Semnan, Iran, were recruited. In the quantitative phase, the required data were collected by employing two adapted questionnaires, namely, Writing Attitude and Second Language Writing Anxiety Inventory. In the qualitative phase, nine participants were interviewed. The results revealed that after receiving the online instruction, the students' writing anxiety decreased while their attitudes became more positive. Regarding the qualitative data analysis, "technical issues", "lecturer", and "time management" were the most prevalent sources of writing anxiety, and "staying calm and relaxed", "focusing on the given topic", and "preparing in advance" were mentioned as the most prevalent coping strategies amongst the students. The findings have useful pedagogical implications.

Keywords

Coping Strategies, Medical Students, E-Learning, Sources of Writing Anxiety, Writing Attitude

1. Introduction

Online learning (E-learning) is considered a prominent solution to fulfill the

growing demand of learning in today's educational sector (Keskin et al., 2020). It can be considered as an innovative approach to applying information technology, for teaching and learning systems. One of the important aspects of E-learning settings is their diversity in educational contents and effectiveness in knowledge transfer. It provides many advantages on students' learning as well as catering the learners with practical and viable learning techniques; however, it should be noted that no educational setting, or platform in other words, can be regarded as a flawless system since they may have some drawbacks which would result in difficulties for their learners.

E-learning setting can be considered a breakthrough in pedagogical improvement and provides all students with the capability to affiliate and connect to learning unions. Hence, a sound learning system needs to be significantly enriched as it provides students with a unique variation of information. This system also enables students to communicate their knowledge and ideas to other learners and instructors accordingly. Although E-learning has positive effects on learning, many factors including anxiety can negatively affect students. Anxiety which might occur in various circumstances such as speaking in a public place, test taking, or preparing for a job interview, is a natural feeling. Additionally, Ehrman (1996) stated that anxiety is considered as one of the affective factors which affect students' learning; it brings negative attitude and lower productivity when increased.

Bonifacci et al. (2008) noted that writing is an essential skill that requires study process, visual memory, attention, and good performance. However, regardless of how we perceive and respond to it, anxiety is a natural feeling that we all have in common. In the same way, Negari and Rezaabadi (2012) argued that writing is a fundamental skill that needs much time and hard work; it is a challenging skill for EFL learners as it is hard to master (Kurt, 2007). In this regard, foreign language writing anxiety may negatively impact learners' attitudes, performance, and achievement and limits their writing and learning process. In other words, most EFL students are anxious about writing and have a negative attitude to academic writing (Ismail et al., 2010, 2012).

Language anxiety and more specifically writing anxiety, which is the focus of the current study, is seen as a major phenomenon throughout the educational system of Iran. English language is regarded as a foreign language in Iran meaning that learners of the language are only able to learn and master it via the usual intuitional classes since, practically, they cannot utilize the language as a mean throughout their daily life. This is different from ESL contexts where the community caters the learners with the opportunity of employing the language so that the process of learning is reinforced and facilitated for them. It can be said that despite the greatest efforts of specialists in this sector to stay up to date with the most current developments in methods regarding the teaching and learning of the English language, the English learners in Iran continue to struggle with understanding as well as utilizing their English language skills, specifically writ-

ing (Rezaei & Jafari, 2014).

According to Jalaluddin et al. (2008), although the English language has been taught to the learners throughout the formal and informal settings for many years, anxiety can still be seen as a pivotal issue amongst the learners since they are still apprehensive towards utilizing the language. However, it is worth mentioning that even though anxiety in writing is considered a major issue in the EFL context of Iran, as compared to the students who are benefiting from the ESL context, it can be claimed that the degree of anxiety can still vary from person to person depending on the learning context. Also, anxiety may fluctuate over time and the anxiety level can be different based on the biological characteristics of the learners.

Therefore, it can be said that, if Iranian students struggle with writing anxiety over the past decades throughout the classical or the face-to-face learning environment, the results may be different if they undergo a novel and different learning context. For instance, online setting can be mentioned as a new learning context which might affect the process of learning of the students, that is, students may be less anxious with regard to the learning of the language skills (e.g., writing) since the context in which they are being taught is different. Moreover, students' attitude towards writing in an online setting can impact the continuous use of E-learning systems and shows the role of writing anxiety to face a foreign language. Also, the learners' background knowledge in the English language can be considered as one of the affective factors hindering the learning process and might increase the anxiety throughout the learning process. In this regard, MacIntyre (2017: p. 23) maintains that anxiety interacts constantly with such a variety of different students, situations, as well as aspects, "including linguistic abilities, physiological reactions, self-related appraisals, pragmatics, interpersonal relationships, specific topics being discussed, type of setting in which people are interacting and so on". Thus, it is important to consider the methods of teaching utilized by the educators and the learning environments since they may potentially affect learners' motivation, engagement, and attention which can impact the level of students' anxiety.

Having said that, in order to investigate the above-mentioned matter, the current study attempted to primarily analyze the writing anxiety of students in an online learning situation. Moreover, as part of the other variables of this study, additional factors such as sources of writing anxiety, coping strategies, and attitude towards writing are also examined.

2. Literature Review

2.1. Types of Writing Anxiety

The basis of the present study is Cheng's approach to writing anxiety. Therefore, Somatic Anxiety, Cognitive Anxiety, and Avoidance Behavior Anxiety are three sub categories that are derived from writing anxiety as mentioned by Cheng (2004). As defined by Cheng (2004), Cognitive Anxiety (CA) is the cognitive

part of experiencing anxiety, which includes thinking about others' perceptions, being overly preoccupied with performance, and negative thoughts. It is part of mental function characterized by "negative expectations and perceptions about worrying about one's own performance, success or evaluation, negative self-talk, failure images, inability to concentrate, and attention deficit disorder" (Parnabas & Mahamood, 2013: p. 260). Somatic Anxiety (SA) refers to the stress, nervousness, and other physiological effects of experiencing anxiety (Cheng, 2004). It is that the physical symptoms of tension, including butterflies in the stomach. It is additionally called somatization (Gelenberg, 2000).

Psychological signs of anxiety or the specific mental processes that occur during anxiety, is normally contrasted with cognitive concern, for instance, fear or apprehension. These various aspects of anxiety are examined in particular in athletic psychology, and they are clearly linked to how anxiety signs and effects influence physical performance. Consistent with Gelenberg (2000: p. 50), symptoms naturally related to somatization of anxiety and other psychiatric disorders include "chest pain, dyspepsia, insomnia, abdominal pain, dizziness, fatigue, and headache"; these signs can either appear individually or in various combinations.

Avoidance Anxiety (AA) is the behavioral aspect of avoiding writing whenever possible (Cheng, 2004). Avoidance behaviors are all the actions an individual takes to escape from challenging opinions and feelings. In many different ways, these behaviors can occur and may include actions that one does or does not do. People with fear disorder regularly take on avoidance behaviors to sidestep fearful feelings, thoughts of dread, and general symptoms of anxiety.

2.2. Source of Writing Anxiety and Students' Attitude

Due to the debilitating effects of writing anxiety, scientific efforts have been made to identify the factors related to it. Cheng (2002) listed self-confidence or self-concept, language skills, gender, and the relationship between writing anxiety and other forms of language anxiety as factors in the second language writing anxiety. In addition, Cheng (2004) claimed that participants become anxious when asked to write topics they do not know under difficult time constraints as well as teachers' preoccupation with forms and language. Writing Anxiety (WA) can also be caused by cognitive factors. In this case, students are worried about writing because they have poor language skills and poor writing performance. These are all factors that are consistent with the Foreign Language Classroom Anxiety (FLCA) components. According to Horwitz, Horwitz, and Cope (1986), FLCA appears in experimental situations, when students are engaged and because of what they mistakenly believe about language learning. All of these WA factors remind us of the concept that writing has both a cognitive and an emotional aspect. However, an attempt has been made to draw a typology of coping strategies for language anxiety. Kondo & Ying-Ling (2004) show the 70 tactics used by Japanese EFL students. These tactics are divided into five general types, namely: readiness, calmness, positive thinking, peer and resignation.

2.3. Strategies to Cope with Writing Anxiety

According to Kondo and Ying-Ling (2004), cognitive, affective, and behavioral schemes are evident in students' coping tactics. This is consistent with the types of WA of foreign languages developed by Cheng (2004). Kondo and Ying-Ling (2004) believed that cognitive tactics, which involve positive or optimistic thinking and peer-search, are strategies used to alter problematic thought processes correlated to language learning. They have also stated that, relaxation strategies categorized by their emotional quality are used to reduce the physical stress related to emotional arousal while preparation plans are used to reduce focusing on the behavioral components of language learning, which is related to effective performance in class (Kondo & Ying-Ling, 2004). Another research conducted by Nuranifar (2014) has identified 80 foreign language coping schemes that are used by EFL learners in Iran; however, those strategies are similar to Kondo and Ying-Ling's work. Therefore, this research relies greatly on Kondo and Ying-Ling's framework to analyze strategies in dealing with writing anxiety.

The latest records of research on language learning anxiety have been notably affected by two major articles. It was found by Scovel (1978, 2001) that first views of tension on the link among anxiety and second language learning establish highly inconsistent results. Scovel (1978, 2001) explained the inconsistent results to various anxiety definitions and diverse anxiety perceptions. He argued that if a differentiation was established between facilitative and debilitating anxiety, contradictory experimental data might be resolved. When the degree of difficulty at work creates the proper level of anxiety, anxiety alleviation happens. However, despite the fact that a positive stage of tension can be beneficial, an excessive level of tension can have a detrimental impact, leading to job avoidance or inadequate performance.

2.4. Studies on the Anxiety of Students

Sabti et al. (2019) mentioned in their study that if the writing anxiety is at a high level, the writing performance would be weaker as a result, while the higher level of writing self-efficacy and motivation would result in a better writing performance. Additionally, the findings indicated that writing anxiety and writing performance have a negative relationship with each other while writing self-efficacy and writing achievement have a positive and significant relationship. The study suggests that these variables should be considered in the EFL writing training in order to assist the process of teaching and learning of the EFL writing, which would help undergraduate EFL students improve their writing abilities.

After that, Rabadi and Rabadi's (2020) research regarding the writing anxiety is worth to mention. According to the findings of the study, it was mentioned that participants experienced a high level of writing anxiety, of which cognitive anxiety is the predominant type. "Low self-confidence in writing", "language

problems”, “insufficient writing practice” and “panic of writing tests” were reported as the main sources of writing anxiety. Mention should be made that the participants of this study comprised 684 students from Jordanian universities. In order to collect data, the researcher utilized two questionnaires namely, Second Language Writing Anxiety Inventory and Causes of Writing Anxiety Inventory; a semi-structured interview was implemented as well.

Following this, [Kurniasih et al. \(2020\)](#) study can be mentioned. In their study it was reported that student’s anxiety was reduced from 71.27 to 63.20, which means that the level of anxiety decreases from high to moderate anxiety. The findings also showed that there is a significant difference in the written performance of students after the treatment which was reported at a significant level. It can be said that the writing process approach has a substantial effect on learners’ writing performance and writing anxiety since their anxiety was alleviated significantly.

[Doğan \(2020\)](#) also conducted a research with regard to anxiety of Turkish learners in an online setting as compared to face-to-face class implementation. In this study, he mainly focused on if learners’ foreign language anxiety in a classroom reflects their learning anxiety in an online learning setting. In this study two questionnaires namely, Foreign Language Anxiety Classroom Anxiety Scale as well as Distance Learning Anxiety Scale were utilized. The findings of research showed that the anxiety over online learning setting and classroom setting was observed to be moderate. In both contexts, the anxiety levels were highly linked.

2.5. Present Study

Although many studies have investigated writing anxiety and writing attitude, the majority of them are in face-to-face context (e.g., [Syarifudin \(2020\)](#); [Jafari \(2019\)](#); [Nazari et al. \(2019\)](#); [Wahyuni et al. \(2019\)](#)). Moreover, they show inconsistencies in their findings as compared to those in online contexts (e.g., [Fathi & Nourzadeh \(2019\)](#)) as the proper use of online settings may positively affect learners’ anxiety as well as their attitude; however, the findings are inconclusive because of the lack of literature within the E-learning setting, specifically in the Iranian context. To make stronger claims about the function of anxiety in online setting and its interaction with writing performance, there is a need to carry out extensive studies in various settings and with participants of different background experiences. To the best of researcher’s knowledge, no previous study of online writing anxiety in the context of Iran has taken this point into account. More specifically, even the related studies in Iran have not concentrated on medical students as they are different from other university students. This claim is made as “almost all original medical textbooks taught in universities are written in English” ([Sadeghi et al., 2013: p. 2315](#)) while the other university students are instructed through the medium of Persian language. Furthermore, previous studies were confined to specifying the degree of writing anxiety among different

sub-groups of EFL learners while a wider perspective should dig into the sources of anxiety as well as the coping strategies adopted by learners.

Academic studies should focus on the preferred coping strategies which learners adopt in actual learning contexts. Since language anxiety is a context-specific phenomenon, learners need to employ each unique coping strategy in each respective context (Yasuda & Nabei, 2018). Therefore, the concept of anxiety, its sources among EFL learners, and the anxiety coping strategies are more insightful when all of them are investigated in a single conclusive study. Therefore, in line with the review of related studies and lack of literature on online writing anxiety and attitude within the Iranian E-learning setting, this study intends to measure the attitudes toward online writing and online writing anxiety, specify the effects of online writing on the attitudes and the anxiety, identify the sources of the writing anxiety, and finally, explore the anxiety coping strategies, among medical students in Iran. In order to achieve this objective, the following questions are posed:

- 1) What is the writing anxiety and writing attitude levels of medical students when utilizing an online setting as a medium of learning of writing?
- 2) What are the sources of writing anxiety of medical students when utilizing an online setting as a medium of learning of writing?
- 3) What are the coping strategies used by medical students to alleviate their writing anxiety in an online setting?
- 4) Does online writing instruction have any significant effect on medical students' writing anxiety and attitude?

3. Methods

3.1. Design

The current study utilized a mixed method approach to collect the required data. For the quantitative phase, a single group pretest-posttest design was adopted to compare the writing anxiety and attitude level in the pretest and posttest. Furthermore, since the sources and coping strategies of writing anxiety in E-learning context is investigated through the semi-structured interviews in the current study, phenomenology approach is utilized as for the qualitative part of this study. As stated by Creswell (2017), this approach is utilized in order to investigate the characteristics of a particular phenomenon. By using the mentioned method, the researchers were able to represent the characteristics of a phenomenon from the viewpoint of people who have gone through it. Thus, since the researchers gathered the required data qualitatively and quantitatively, mixed methods design is employed in the current study.

3.2. Participants

The statistical population of this study includes Iranian medical students. From this population, 71 male and female (M = 33, F = 38) medical students aging between 18 and 25 years old from Semnan, Iran were randomly selected as par-

ticipants. In order to ensure the homogeneity of the participants for the purpose of this study, a Quick Oxford Placement Test (OPT) was run. In this way, the students who scored between 31 and 40 were selected as participants in the quantitative phase. This score band is equal to A2-2 level in The Common European Framework of Reference for Languages (CEFR) level from Pre-A1 to C2. This level of proficiency was selected to accommodate more students in this study, owing to the fact that the proficiency level higher than A2-2 is not common in Iran.

Out of the 71 participants, nine participants were also selected for a semi-structured interview to collect the qualitative data. Moreover, the researcher tries to select participants from more or less similar families in terms of income, culture and socioeconomic backgrounds in order to minimize the role of variables other than the independent variable. This was made possible through running an informal interview with the participants before the study is conducted.

Twelve participants were interviewed by using maximum variation sampling method. For a phenomenological research, [Creswell \(1998\)](#) suggests interview ranges of 5 to 25 participants. However, based on a study conducted by [Guest et al. \(2006\)](#) regarding the data saturation, it was reported that the data is saturated upon 12 interviews. Hence, the researchers followed the recommendations as mentioned above and 12 participants were supposed to participate in the study, however, since the interview was saturated with the participants' responses, the researchers did not continue and nine participants were interviewed throughout the qualitative data collection.

3.3. Research Instruments

In order to provide the answers of research questions, two questionnaires were utilized as follows;

- Second Language Writing Anxiety Inventory (SLWAI).

[Cheng \(2004\)](#) aimed to encompass both English as a second language and also foreign language contexts with this inventory. The questionnaire contains three subscales namely, Cognitive Anxiety, Somatic Anxiety and Avoidance Behavior. The questionnaire includes 22 questions and the responses are a 5-point Likert scale from strongly disagree (1) to strongly agree (5). [Cheng \(2004\)](#) found the reliability of the SLWAI as 0.91 and temporal stability as 0.85, considering test-retest reliability. The predicted reliability (Cronbach's alpha) of the pilot SLWAI in this study was 0.939. **Table 1** presents the SLWAI domains and their questions.

- Writing Attitude Questionnaire (WAQ).

A questionnaire introduced by [Wolcott and Buhr \(1987\)](#) which consists of 30 items was considered in this study to assess writing attitude. It includes three extensive groups that meet students' perceptions of its usefulness, their apprehension about writing, and their understanding of the writing process as it used to their practices with the Likert scale, scaled from strongly disagreeable (1) to

strongly agree (5). *Wolcott and Buhr (1987)* found the reliability of the WAQ as 0.79. The predicted reliability (Cronbach's alpha) of the pilot WAQ in this study was 0.786. **Table 2** represents the WAQ domains and questions.

Ultimately, since interviews allow respondents to express specific answers about their own viewpoints in certain circumstances that have occurred to them, in order to answer the research question number two and three, the researchers decided to gather the required data through the semi-structured interviews. As mentioned by *Ohata (2005)*, interviews are regarded as a method to gather required data since they can provide specific data which are not easily collectable by observation such as the participants' feelings, desires, or specific point of views.

- Semi-structured Interview.

The main instrument used in this study was a semi-structured interview. The interview protocol includes a list of questions and subjects that need to be covered during the discussion and conversation. In order to structure the items of the interview, four questions from a set of studies on anxiety were adopted/modified and chosen as the reference. The items were modified according to the context of this study. Moreover, other interesting questions used to emerge during the interview. Each interview session had a mean length of 12 minutes. Then, the interview questions were given to a panel of TEFL professors and practitioners, in order to approve the validity of the interview and ensure its reliability. Here are the main questions that were asked during the interview:

- 1) Do you consider yourself as an anxious language learner? Why/why not?
- 2) Do you feel anxious during L2 writing?

Table 1. Second language writing anxiety domains and questions.

Domain	Questions	Number of Items
Somatic Anxiety	2, 6, 8, 11, 13, 15, 19	7
Avoidance Behavior	4, 5, 10, 12, 16, 18, 22	7
Cognitive Anxiety	1, 3, 7, 9, 14, 17, 20, 21	8
Total		22

Table 2. Writing attitude questionnaire domains and questions.

Domain	Positive Questions	Negative Questions	Number of Items
Usefulness	3, 4, 5, 7, 9, 13, 14, 16, 17, 18	1, 2, 6, 10	14
Apprehension	-	8, 11, 12, 15, 19, 20, 24	7
Process	21, 23, 25, 29, 30	22, 26, 27, 28	9
Total			30

3) Are there anything that make you anxious during L2 writing task? Elaborate on them.

4) How do you try to overcome the feelings of anxiety during writing?

It needs to be added that these questions were elaborated by some other follow up questions.

3.4. Procedure

In this study, as mentioned earlier, the data was collected using two questionnaires as well as the interview sessions. Also, it is worth to note that since the current study had two phases, pretest and posttest, there was a treatment which lasted for two months (one session each week). The treatment was held in Adobe Connect® platform which is a software for remote training, web conferencing, presentation, and desktop sharing. During each session of the treatment, the students were asked to write a three-paragraph expository essay on different topics in class. For each essay, they received four rounds of feedback that increased in explicitness. The instructor focuses on a list of pre-scripted prompts and the hierarchical order of its provision beginning from the most implicit to the most explicit which is adjusted to learners' ZPD (Lantolf & Poehner, 2014). Although the researcher could provide the feedback based on the kind of help needed, it was abandoned for practicality reasons given that it is "labor-intensive, time-consuming, and, perhaps, difficult to carry out in large programs" (Anton, 2009: p. 592).

In the first round, the most implicit feedback, the description in the rubric that corresponds to the grammatical range and accuracy of their writing was highlighted and returned to them the day after the class. They then had one day to rewrite their essays based on the feedback they had received. In the second round, their errors were underlined and they again had one day to revise their writing based on the feedback. In the third round, their errors were color coded, based on what had already been given to them. Indeed, each error type was signified by a specific color while the participants already knew what each specific color means. They had one more day to revise this. The last round of feedback which was given on their writing was the explicit correction of their errors and they were asked to rewrite their essays in class (one week after they wrote the first draft). This procedure continued up to week nine. In the next step, the posttest questionnaires were given to the participants. Moreover, the interviews with the nine volunteer participants were carried out.

Ultimately, it is worth mentioning that in order to analyze the data, statistical analysis was used in two descriptive and inferential levels. Descriptive statistics (frequency and percentage) were used to check the condition of respondents. Paired-samples t-Test was used for the data analysis and hypothesis testing. Moreover, Statistical Package for Social Science (SPSS) has been used here. The interview results were also thematically analyzed to identify the frequency of writing anxiety coping strategies as well as the sources of writing anxiety.

4. Results

4.1. Exploratory Data Analysis

With regard to the exploratory data analysis, the predicted reliability (Cronbach's alpha) of the SLWAI questionnaire for the pretest and posttest equaled 0.938 and 0.915, respectively. Furthermore, the predicted reliability of the WAQ for the pretest and posttest equaled 0.796 and 0.818, respectively. Thus, the data have been reliable. It is worth noting that the results of Kolmogorov-Smirnov in the pretest of SLWAI (Sig. (2-tailed) = 0.72, $p > 0.05$) and WAQ ($p = 0.71 > 0.05$) confirmed the normality of the distributions. Besides, the results of Kolmogorov-Smirnov in the posttest of SLWAI (Sig. (2-tailed) = 0.94, $p > 0.05$) and WAQ ($p = 0.72 > 0.05$) confirmed the normality of the distributions in the posttest.

4.2. Students' Writing Anxiety and Writing Attitude Levels in Online Settings

The first research question was: what is the writing anxiety and writing attitude levels of medical students when utilizing an online setting as a medium of learning of writing? In order to answer to this question, the researchers utilized the SLWAI and the WAQ.

According to **Table 3**, 28 participants were reported as highly anxious students, 21 students as moderately anxious, and the anxiety level of 22 students was reported as low. Thus, it can be stated that, the High, Moderate, and Low levels of anxiety amongst students were mentioned as 39.4, 29.6, and 31 percent respectively. Further, in terms of subscales of anxiety, it is worth to mention that, 28 students (39.4 percent) were reported to have a low level of Somatic Anxiety followed by Avoidance Behavior and Cognitive Anxiety, which is 36.6 percent and each subscale include 26 students. Next, as for the moderate level, 23 students (32.4 percent) were mentioned to experience Cognitive Anxiety, followed by Avoidance Behavior and Somatic Anxiety with 22 (31.0 percent) and 20 (28.2 percent) respectively. In terms of high anxiety level, Somatic Anxiety as well as Avoidance Behavior include the highest anxious students, which is 32.4 percent and each subscale include 23 students, followed by Cognitive Anxiety including 22 students which is 31 percent for that subscale. The findings of the analyzed data for the WAQ can be seen in **Table 4**.

According to **Table 4**, pretest scores of the WAQ, the overall attitude score represents that not many of the participants have high attitude level at this stage. Based on the results, 16 students, which represents 22.5 percent of the total number of participants, have high level of attitude and as for number of students for the medium and low level, the reported statistics are 22 (31.0 percent) and 33 (46.5 percent) respectively. Further, in terms of subscales of attitude, it is worth to mention that, 58 students (81.7 percent) found writing as a useful skill for them, which is significantly high; however, 12 students (16.9 percent) mentioned that the usefulness of writing for them is at the medium level, and lastly,

Table 3. Writing anxiety level frequency and percentage (pretest scores).

Anxiety Levels	Subscale 1 Somatic Anxiety	Subscale 2 Avoidance Behavior	Subscale 3 Cognitive Anxiety	Total Anxiety
Low	28 (39.4%)	26 (36.6%)	26 (36.6%)	22 (31.0%)
Moderate	20 (28.2%)	22 (31.0%)	23 (32.4%)	21 (29.6%)
High	23 (32.4%)	23 (32.4%)	22 (31.0%)	28 (39.4%)
Total	71 (100%)	71 (100%)	71 (100%)	71 (100%)

Table 4. Writing attitude level frequency and percentage (pretest scores).

Attitude Levels	Subset 1 Usefulness Subset	Subset 2 Apprehension Subset	Subset 3 Process Subset	Total Attitude Score
Low	1 (1.4%)	Severe 26 (36.6%)	16 (22.5%)	33 (46.5)
Medium	12 (16.9%)	Medium 25 (35.2%)	31 (43.7%)	22 (31.0%)
High	58 (81.7%)	Low 20 (28.2%)	24 (33.8%)	16 (22.5%)
Total	71 (100%)	71 (100%)	71 (100%)	71 (100%)

1 student (1.4 percent) was reported as low level for this subscale. Further, as for the Apprehension domain of the WAQ, according to the results, the number of students for the severe, medium and low level were reported as 26 (36.6 percent), 25 (35.2 percent), 20 (28.2 percent) respectively, and lastly, according to the Process subset of the WAQ, most of the students were reported as medium level for this domain which is 31 (43.7 percent), followed by high and low level that are reported as 24 (33.8 percent) and 16 (22.5 percent) respectively.

4.3. Students' Sources of Writing Anxiety While Writing in an Online Setting

The second research question was: what are the sources of writing anxiety of medical students when utilizing an online setting as a medium of learning of writing? To answer this question the interview data was coded and categorized as shown in **Table 5**.

As can be seen from **Table 5**, 11 items were reported as the most frequent sources of writing anxiety among the participants of the current study. Among them, "technical issues", "lecturer", "time management", "insufficient knowledge in English", "distraction due to the online environment", and "lack of sufficient writing skills", were reported as the most frequent ones, followed by "keeping the camera on", "preparation for class or assignments", "linguistics difficulties", "fear of peer evaluation", and "low level of self-confidence" were mentioned as the least frequent ones amongst the students.

Table 5. Frequency of the sources of writing anxiety.

No.	Repeating Ideas	f	Sources of Writing Anxiety	f
1	Internet-based instructions	2	Distraction Due to the Online Environment	6
	Lack of optimized online platform for Instruction	2		
	The novelty of learning of the writing in online platforms	1		
	Other online distractions	1		
2	Poor internet connection	8	Technical Issues	10
	Power outage	2		
3	Lack of sufficient writing practices	4	Lack of Sufficient Writing Skills	6
	Lack of sufficient writing technique	1		
	Writing a perfect work	1		
4	Not mentally prepared for the assignments or the exams	2	Preparation for Class or Assignments	3
	Not to be well prepared for the class	1		
5	Course evaluation	3	Lecturer	9
	Lecturer itself	2		
	Feedback of the lecturer	4		
6	Managing the time	5	Time Management	9
	Reaching the deadlines	2		
	Many assignments given by the lecturer	2		
7	Grammatical errors	3	Linguistics Difficulties	3
8	To keep the camera on when taking an exam	4	Keeping The Camera On	4
9	Insufficient knowledge in specific areas when asked to write about	4	Insufficient Knowledge in English	8
	Insufficient background knowledge in English	4		
10	Fear of Peer Evaluation	2	Fear of Peer Evaluation	2
11	Low Level of Self-Confidence	1	Low Level of Self-Confidence	1

4.4. The Coping Strategies Used by Participants

The third research question was: what are the coping strategies used by medical students to alleviate their writing anxiety in an online setting? To answer this question, the interview data was coded and categorized which are mentioned in **Table 6**.

Table 6. Frequency of the coping strategies of students.

No.	Repeating Ideas	Coping Strategies	f
1	Studying before the class	Preparing in Advance	6
	Reviewing previous notes		
	Reviewing previous lectures		
2	Try not to get distracted	Focusing on the Given Topic	8
3	Take a deep breath	Staying Calm and Relaxed	10
	Taking breaks		
4	Keep the negative thoughts away	Staying Confident	3
5	Not to think about previous errors	Positive Attitude	3
6	New context of learning	E-learning Setting	5
	Novelty of E-learning		
7	Texting friends for their help	Asking for the Classmates' Helps	5
	Having discussion with friends		
8	Setting time limits	Time Management	5
	Try to do the assignments before the deadline		
9	Practicing	Developing Writing Skills	1
	Writing many drafts		
	Freewriting		
10	Looking up on the internet	Research About the Topic	3
11	Requesting more explanation	Asking for the Lecturer's Helps	5
	Requesting the teacher's comments		
	Having discussion with the teacher		
12	Organize main ideas before writing	Preparing an Outline Before Writing	3
	Classifying main point in advance		

As can be seen from **Table 6**, 12 items were reported as the most frequent coping strategies among the participants of the current study. Among them, “staying calm and relaxed”, “focusing on the given topic”, “preparing in advance”, “E-learning setting”, “asking for the classmates’ help”, “asking for the lecturer’s help” and “time management”, were reported as the most frequent ones, followed by “staying confident”, “positive attitude”, “research about the topic”, “preparing an outline before writing”, and “developing writing skills” were mentioned as the least frequent ones amongst the students.

4.5. The Effect of E-learning of Writing on Students’ Writing Anxiety and Writing Attitude

To answer the fourth research question, the data gathered by the SLWAI and the WAQ in the pretest and post-test, were analyzed by Paired-Samples t-Test analysis in the SPSS software.

• The Subscales of the SLWAI Questionnaire.

The data were analyzed according to the domains of the SLWAI questionnaire. The results are presented in **Table 7**.

According to **Table 7**, the mean of Somatic Anxiety ($M = 20.28$, $SD = 8.75$), Avoidance Behavior ($M = 19.48$, $SD = 7.67$), and Cognitive Anxiety ($M = 23.18$, $SD = 8.35$) of students before the E-learning course is greater than the mean of Somatic Anxiety ($M = 17.65$, $SD = 7.03$), Avoidance Behavior ($M = 16.00$, $SD = 6.00$), and Cognitive Anxiety ($M = 20.42$, $SD = 7.37$) of students after the E-learning course. Therefore, it can be descriptively said that, the mean level of Somatic Anxiety, Avoidance Behavior, and Cognitive Anxiety among the students in the post-test has decreased.

Also, based on the results of the paired t-test for Somatic Anxiety, ($t_{70} = 6.85$, $p < 0.001$), Avoidance Behavior ($t_{70} = 6.96$, $p < 0.001$), and Cognitive Anxiety ($t_{70} = 8.07$, $p < 0.001$), the p-value is less than 0.05. The results indicate that there is a significant difference between students’ Somatic Anxiety, Avoidance Behavior, and Cognitive Anxiety before and after the E-learning course. Therefore, it can be concluded that after the online course, the amount of anxiety of students has decreased significantly.

Table 7. Comparison between students’ pretest and post-test anxiety scores.

Anxiety	Measure	M	SD	t	df	p
Somatic	Pretest	20.28	8.75	6.85	70	0.000
	Post-test	17.65	7.03			
Avoidance Behavior	Pretest	19.48	7.67	6.96	70	0.000
	Post-test	16.00	6.00			
Cognitive	Pretest	23.18	8.35	8.07	70	0.000
	Post-test	20.42	7.37			

- **The Subscales of the WAQ.**

The analysis with regard to Usefulness, Process, and Apprehension domains in the WAQ are reported in **Table 8**.

According to **Table 8**, the mean value for pretest stage of Usefulness Domain ($M = 24.63$) and Process Domain ($M = 5.42$) is lower than the mean value calculated for the post-test stage of Usefulness Domain and Process Domain, that is $M = 25.54$ and $M = 7.20$, respectively. Therefore, it can be descriptively stated that, the mean score of Usefulness Domain and Process Domain for students in the post-test has increased significantly.

The significance level of paired t-test, based on the value ($p = 0.001$) is less than 0.05; thus, it can be concluded that after having the E-learning course, the Usefulness Domain and Process Domain scores of students have increased significantly which would result in an increase in the total attitude score of the students. Having said that, the results indicate that there is a significant difference between the Usefulness Domain and Process Domain of the WAQ scores before and after the E-learning course.

Based on **Table 8**, it can be stated that the mean value for post-test stage, which is $M = -13.79$, is greater than the mean value computed in the pretest stage, that is $M = -19.27$. As a result, it can be descriptively said that, the mean score of apprehension domain for students in the post-test has decreased significantly. Since the questions of this domain are considered as negative, the final calculated score would result in a negative value, therefore, the mean value reported in this section has a negative value as well.

Also, the significance level of paired t-test, based on the value ($p = 0.001$) is less than 0.05; thus, it can be concluded that after having the online course, the apprehension of the students has alleviated significantly which would result in an increase in the total attitude score of the students, that is, they would have a positive attitude about writing. Having said that, the results show that there is a significant difference between the apprehension domain of the WAQ score before and after the E-learning course.

Table 8. Comparison between students' pretest and post-test WAQ scores.

Domain	Measure	M	SD	t	df	p
Usefulness	Pretest	24.63	5.26	-5.39	70	0.000
	Post-test	25.55	4.93			
Process	Pretest	5.42	4.94	-3.80	70	0.000
	Post-test	7.20	4.47			
Apprehension	Pretest	-19.27	5.84	-6.55	70	0.000
	Post-test	-13.79	5.77			

5. Discussion

5.1. Writing Anxiety and Writing Attitude Level

The first objective of the research was to explore writing anxiety and writing attitude levels of students in E-learning of EFL writing. The findings of the current research showed that, for the writing anxiety, 39.4 percent of the students experienced high level of anxiety, followed by 29.6 percent for the moderate level and lastly, 31.0 percent in terms of low level of anxiety. Then, based on the post-test stage of the study, the results revealed that the anxiety level of students decreased significantly and it was reported as 25.4 percent for high, 26.8 percent for moderate level, and lastly 47.9 percent for the low level of writing anxiety. Based on the results, the writing anxiety of the majority of the students was alleviated after the treatment. This finding contradicts [Rezaei and Jafari \(2014\)](#), [Jafari \(2019\)](#), [Syarifudin \(2020\)](#), [Rabadi and Rabadi \(2020\)](#) whose studies were in face-to-face setting. On the other hand, the results support [Abdullah et al. \(2018\)](#), [Zhang \(2019\)](#), [Fathi and Nourzadeh \(2019\)](#), and [Yavuz et al. \(2020\)](#) who reported that E-learning setting can alleviate the level of anxiety. It seems that online writing instruction provides a way for learners to acquire the content without the social pressure of being surrounded by other peers.

In terms of attitude level of students, as for the pretest stage, the findings showed that 46.5 percent of students had low level of attitude towards writing followed by 31.0 percent for the medium level and lastly, 22.5 percent for the high level. However, based on the results of the post-test stage, 9.9 percent of students had low level of attitude, 49.3 percent reported as medium level and lastly, 40.8 percent of the students had high level of attitude towards writing. This point suggests an increase in the attitude level of the majority of the students towards online writing. This finding is in line with [Ismail and Albakri \(2012\)](#), [Fageeh and Mekheimer \(2013\)](#), [Said et al. \(2013\)](#), and [Chang et al. \(2021\)](#) who reported that E-learning would help students to have a positive attitude towards the writing skills. A wide range of other studies including [Tahriri et al. \(2016\)](#), [Setyowati and Sukmawan \(2016\)](#), and [Kazemi Malekmahmudi and Kazemi Malekmahmudi \(2018\)](#) reported similar results in a face-to-face environment. However, [Akhtar et al. \(2020\)](#) findings differed from those of the current study as the majority of students experienced a moderate level of anxiety throughout the E-learning course. The difference can be justified by the nature of participants as the role of age in feeling anxious is undeniable.

5.2. Sources of Writing Anxiety

The second objective of the study was to identify the source of writing anxiety of students while writing in an E-learning setting. With regard to the findings of the study, 11 items were reported as the most frequent sources of writing anxiety among the participants. Among them, “technical issues”, “lecturer”, “time management”, “insufficient knowledge in English”, “distraction due to the online environment”, and “lack of sufficient writing skills”, were reported as the most

frequent ones, followed by “keeping the camera on”, “preparation for class or assignments”, “linguistics difficulties”, “fear of peer evaluation”, and “low level of self-confidence” were mentioned as the least frequent ones amongst the students. Further, it is worth noting that the results of the current study with regard to the sources of writing anxiety are marginally consistent with previously conducted researches by Rezaei and Jafari (2014), Wahyuni and Umam (2017), Wahyuni et al. (2019), Elif and Yayli (2019), Rabadi and Rabadi (2020), Syarifuddin (2020), and Fareed et al. (2021). These studies have identified items such as, “poor linguistic knowledge”, “lack of topical knowledge”, “fear of tests”, “fear of teacher’s negative feedback”, and “insufficient writing practice” which are relatively identical to the current study. The mentioned items are only coded differently due to the distinct “repeating ideas” that were transcribed or collected during the process of data collection by their intended researchers. This can be seen as a common phenomenon since the participants may provide various responses in a study as compared to another. The comparison between these findings and the findings of the previous studies suggest that some sources of anxiety can be universal among the EFL learners. However, there were some contradictions between them which might have been context dependent and related to the characteristics of the participants.

5.3. Coping Strategies

The third objective of the study was to explore the coping strategies in order to alleviate students’ writing anxiety in an E-learning setting. As for the findings of the study, it was revealed that 12 strategies were utilized as the most frequent coping strategies among the participants of the current study. Among them, “staying calm and relax”, “focusing on the given topic”, “preparing in advance”, “E-learning setting”, “asking for the classmates’ help”, “asking for the lecturer’s help” and “time management”, were reported as the most frequent ones, followed by “staying confident”, “positive attitude”, “research about the topic”, “preparing an outline before writing”, and “developing writing skills” were mentioned as the least frequent ones amongst the students. These strategies had been explored by previous researchers including Qashoa (2014), Wu and Lin (2016), Jawas (2019), Wahyuni et al. (2019), Kamaruddin et al. (2021), and Wern and Rahmat (2021). These studies had also identified “taking a deep breath”, “taking some time off from writing task”, “getting some entertainment”, “process writing approach”, “positive error correction”, and “vocabulary knowledge enhancement” as the most frequent writing anxiety coping strategies. Considering the commonalities between the present studies and the present study, it seems that the common strategies are mainly related to two categories of affective and linguistic strategies. This suggests that if affective and the linguistic barriers are resolved, their writing anxiety level might diminish to a great extent.

5.4. The Impact of Online Instruction

The last objective of the study was to specify if the online writing instruction

impacts the attitude and the anxiety of the participants in a significant way or not. Based on the results, the writing anxiety in post-test had a significant decrease as compared to the pretest mean score, meaning that the E-learning course had a positive effect in order to alleviate the anxiety of students. Further, the attitudes in post-test had a significant increase as compared to the pretest. Considering the Paired-samples t-Test analysis of each domain of the questionnaires, there was a significant difference between the mean value of each domain in the pretest stage of writing anxiety and writing attitude of the study as compared to the post-test results, meaning that students' anxiety alleviated and it was reported lower than the pretest data analysis results. Hence, the findings show that the participants of the current study have lower anxiety and higher attitude regarding E-learning. The results of this study contradict the previous studies (e.g., Rezaei & Jafari (2014); Kurniasih (2018)) which revealed most of the medical students experienced a high level of EFL writing anxiety. Interestingly, these studies had been carried out in face-to-face setting. This suggests that online setting could lower the anxiety. However, there are studies which have revealed that more proficient learners do not feel very anxious in face-to-face instruction context (Ekmekçi, 2018). This point suggests that anxiety is a multi-dimensional and dynamic concept which is context dependent.

6. Conclusion

According to the results of the current study, the overall writing anxiety of the students was alleviated at the post-test after they were taught through E-learning platforms. The same results can be seen with regard to the overall writing attitude scores of students since they increased significantly after the post-test. Therefore, it seems that university instructors are the most influential factors in students' improvement of learning (e.g., writing skill) which can affect their anxiety levels. Additionally, it is important to consider the novel methods of teaching and learning environment by utilizing the virtual or E-learning settings since they may potentially enhance students' motivation and engagement toward learning and paying attention to such factors can positively impact the level of students' anxiety.

Having said that, first, teachers can provide their classroom materials in a way that students would be able to do their assignments in pair or group works since the assignment is divided in the group works and students are working on certain parts only, which would result in less anxiety in students. Second, teachers are recommended to include games in their teaching method that would keep the class more engaged and would make students less anxious. Third, teachers are recommended to give their exams in such a way that students would have certain amount of time in order to complete it and they would submit it to the teacher within the intended time, in this way, students would not have to stay in front of the camera, considering the online examination situations, in order to take the exam and this would help them to reduce their writing anxiety.

It needs to be added that the data was collected from only 71 participants. Indeed, the number of participants in this study was relatively small, and future studies need to draw on more diverse populations and participants to add credence to the findings of this study. Generally, it is not always possible for the researchers to collect the data through administering the questionnaires and the interviews in as many educational centers as possible. To handle this problem, online applications such as WhatsApp and Telegram can be utilized for future studies to have a larger sample to include varied student clusters in an organized way and obtain findings that are more revealing. The current study has been carried out based on a homogeneous group (in many respects) of English learners as the target population for investigating online writing anxiety. Therefore, a multidimensional sampling in a different setting can make it generalizable to other contexts. Further research can involve the study of writing anxiety for different age groups and proficiency levels of students.

These limitations have resulted in some shortcomings within the data collection procedure and the generalizability of the findings. Hence, administering the present study in various other contexts is highly suggested. The present study deserves further investigation and refining as considering all dimensions of writing anxiety within a single study is less than ideal.

Conflicts of Interest

The authors declare no conflicts of interest regarding the publication of this paper.

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