

Test Anxiety Analysis of Chinese College Students in Computer-based Spoken English Test

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ABSTRACT

Test anxiety was a commonly known or assumed factor that could greatly influence performance of test takers. With the employment of designed questionnaires and computer-based spoken English test, this paper explored test anxiety manifestation of Chinese college students from both macro and micro aspects, and found out that the major anxiety in computer-based spoken English test was spoken English test anxiety, which consisted of test anxiety and communication apprehension. Regarding proximal test anxiety, the causes listed in proper order as low spoken English abilities, lack of speaking techniques, anxiety from the evaluative process and inadaptability with computer-based spoken English test format. As to distal anxiety causes, attitude toward learning spoken English and self-evaluation of speaking abilities were significantly negatively correlated with test anxiety. Besides, as test anxiety significantly associated often with test performance, a look at pedagogical implications has been discussed in this paper.

Keywords

Computer-based spoken English test, Test anxiety, Test anxiety causes

Introduction

With development of technologies and large-scale testing requirement, the need for applying computers in language testing was inevitable in academic contexts (Hosseini, Abidin, & Baghdarnia, 2014). In 1999, Chinese Examinations Board of CET-4 (College English Test-Band 4) and CET-6 (College English Test-Band 6) officially launched Spoken English Test (SET), a typical face-to-face test approach, to examine college students' speaking abilities. However, as the face-to-face spoken English test took much time, effort and expense, which usually resulted in a limited number of test takers, in 2005 the National College English Testing Committee proposed to adopt Computer-based Spoken English Test (CBSET) to measure and assess college students' speaking abilities and communicative skills. Computer-based test featured high-tech and interactive questions that incorporated diverse test stimuli and objectiveness, like video and graphics, and superiorly recorded voice quality (Davis, 2012). However, when a person was confronted with a novel testing situation, anxious emotion would probably arise and influence his or her test performance (Spielberger & Vagg, 1995; Wenemark, Persson, Brage, Svensson & Kristenson, 2011). With the prevalence of developing and using computer-based tests in educational assessment, issue of test anxiety resulted from the new testing approach of employing computers has raised concerns of researchers.

Literature review

Test achievement was very important and decisive in a person's academic development. In order to achieve high test scores, students are naturally under great pressure. Similarly, results obtained to assessment were usually taken into account when decisions to be made with regard to individuals in different environments, hence assessments have become stimuli that caused anxiety reactions (Zeidner, 1998). When students took a test, their performance would be expected to be influenced by the perceived consequence of the test (Wolf, Smith, & Birnbaum, 1995). Thus, in the search for approaches to reduce test anxiety, researches have to first focus on identifying antecedents to test anxiety (Jain & Dowson, 2009; Zeidner & Matthew, 2005).

Test anxiety

Anxiety referred to feelings of fear, worry, and unease caused by external or internal potential threats (Grupe & Nitschke, 2013). Test anxiety was a situation-specific anxiety experienced in evaluative situations (Putwain, 2008), and generally consisted of two components: cognitive components, such as worry and test-irrelevant thinking, and affective components, such as emotionality and bodily symptoms (Zeidner, 1998). A great number of studies were devoted to exploring antecedents relate to test anxiety. Studies showed that anxiety has been found to be associated not only with negative attitude but also poor academic outcomes in the subject and low

confidence regarding the ability to learn (Jansen, Louwerse, Straatemeier, Van der Ven, Klinkenberg, & Van der Mass, 2013). Test anxiety also often stemmed from inadequate test preparation, discomfort with testing situation or inaccurate perceptions regarding test-taking skills, and their perceptions regarding technology use (Beggs, Shields & Janiszewsk, 2011; Tatar, Zengin & Kağızmanlı, 2015).

Computer-based test

Computer-based test (CBT) was generally defined as an integrated procedure in which language performance is elicited and assessed by computers (Noijons, 1994). Being considered as an evolutionary step to future testing mode, CBT has been the research focus of educators and researchers. Some researchers investigated the technical aspects of CBT, ranging from item pool construction (He & Reckase, 2013) to comparison of different item-selection methods (Finkelman, Kim, Weissman & Cook, 2014; He, Diao & Hauser, 2014). Some researches focused on the correlation analysis, such as positive correlation between attitude and performance (Stricker & Attali, 2010), negative correlation between test anxiety and performance (Ortner & Caspers, 2011; Ortner, Weißkopf, & Koch, 2014; Lu, Hu, Gao, & Kinshuk, 2016), or no significant correlation between them (Shen et al., 2010).

From a brief review of the literature on test anxiety in CBT, it was quite obvious that so far the conducted studies generally focused on test administration, theoretical models, test reliability and validity, and the test takers' general attitude. However, few studies have discussed test anxiety of the examinees in a specific way, such as the test anxiety differences of gender and at different language proficiency levels, and the test anxiety sources in computer-based testing environment.

Research design

In this paper, we first used a pilot study involving 61 students to testify and qualify the reliability of the questionnaire scale in the mid-semester and then at the end of the semester we conducted the experiment to investigate test anxiety of Chinese college learners of English as a foreign language in CBSET and made probation of the test anxiety causes.

Research questions

The main purpose of this paper was to explore specific test anxiety demonstration in CBSET, test anxiety differences in terms of gender and language abilities and the antecedents of test anxiety in CBSET. Thus, answers to the following questions would be discussed in the study.

- What're the representations of test anxiety in CBSET?
- What're the anxiety differences of genders and different language proficiency levels in CBSET?
- What's the correlation between test anxiety and test performance in CBSET?
- What're the test anxiety causes in CBSET?

Research instrument

The research was basically a quantitative study, including a computer-based spoken English test and a subsequent Likert-type questionnaire to measure students' test anxiety in CBSET. SPSS 17.0 (Statistical Package for Social Science 17.0 version) was employed in the study. The questionnaire consisted of two parts: Part A was about students' attitude toward spoken English and self-evaluation about their speaking abilities, and Part B was concerned with the scale to measure students' anxiety in computer-based spoken English testing environment.

Since this paper attempted to pinpoint test anxiety under computer-based settings, *Test Anxiety Scale* constructed by Sarason (1978) and *Attitude towards Computerized Assessment Scale* by Smith (2003) were adopted in the study and synthesized as the new *Test Anxiety Scale in CBSET* (TACBSET). There were 26 items in total, of which 17 items in the scale were concerned with test anxiety scale, covering the following aspects: fear of negative evaluation, communication apprehension, test anxiety which further contained worry and emotionality. 9 items were related to attitude toward computerized anxiety scale, covering: attitude toward CBSET, practice in CBSET and anxiety in CBSET. Each item was to answer on a 5-point Likert scale, including "strongly disagree," "disagree," "uncertain," "agree" and "strongly agree."

In order to ensure the reliability of the questionnaire, pilot study has been conducted to 61 freshmen who were from the same academic background. The data of 61 students who took part in the first pilot study was analyzed through SPSS 17.0 to assess the quality of the questionnaire. Statistical analysis showed that the Cronbach reliability for the *Test Anxiety Scale in CBSET* was .892.

The result of the pilot study showed no problem for the participants in understanding the contents of the questionnaires and the reliability of the questionnaire was 0.892, which was satisfactory and safe enough to be adopted.

Research subjects

The participants in this study were 330 freshmen in a key university and they all had experience in taking computer-based spoken English test. The average age of the participants was 18, ranging from 16 to 20. Most of the subjects have been studying English as a second language for about 6 to 7 years. The final sample consisted of 229 students of 180 being males and 49 being females, after one student was rejected because his responses have missed values. In order to further discriminate the test anxiety differences, students at different language levels were chosen to take part in the test. The placements of their language abilities were based on their English scores in Chinese College Entrance Examination. 79, 90 and 60 were from advanced, medium and low level group respectively.

Research procedure

In computer-based spoken English testing environment, there were two supervisors, an English teacher and a technician. As students sit down to take the test, the Test Administration Module first asked them to check the machine to make sure the volume of their headsets were adequate to hear satisfactorily whatever instructions or questions to be presented and also to verify their voice being recorded properly in the designated storage area. Once the volume and recording checks completed, test items or questions were administered to the examinees in the order and manner specified by the computer programs automatically. During the administration of the test, the examinees generally did not have to perform any tasks other than speaking into their microphones and clicking on buttons to advance through the test.

In order to precisely capture test takers' feelings, test administrators subsequently delivered questionnaires to test takers after they had taken computer-based spoken English test. All the subjects were instructed to fill in the questionnaire with their true opinions and feelings in the test and there was no right or wrong answer. The whole process lasted for about 12 minutes.

Results

After the collection and analysis of the data from computer-based spoken English test through SPSS 17.0, each of the 229 students' scores could be obtained.

Test anxiety statistics in CBSET

In the new scale, 17 items were related to *Test Anxiety* (TA) and the score of each item ranged from 1 to 5 points, thus, the potential score of each student's anxiety should range from 17 to 85 points. The 17 items were composed of three aspects: fear of negative evaluation (item 5 and 17), which was defined as the apprehension about other's evaluations, avoidance of evaluative situation, and the expectation that others would evaluate one negatively (Wastson & Friend, 1969), communication apprehension (item 1, 14 and 16), which was a type of shyness characterized by fear of or anxiety about communication with people (McCroskey, 1977), and test anxiety referred to a type of performance anxiety stemming from a fear of failure (Sarason, 1980), which was in turn composed of two factors: worry (item 2, 3, 10, 11, 13 and 15) and emotionality (item 4, 6-9 and 12). *Attitude towards Computerized Assessment* (ATCA) consisted of 9 items, and the potential score of each student's anxiety ranged from 9 to 45. This part was also composed of three factors: attitude toward CBSET (item 18-21), practice in CBSET (item 22 and 23) and anxiety in CBSET (item 24-26). The scale of *Test Anxiety* and the scale of *Attitude towards Computerized Assessment* finally made up the scale of *Test Anxiety in*

Computer-Based Spoken English Test (TACBSET). Thus, total speaking test anxiety score of each student ranged from 26 to 130 points.

Table 1. Descriptive analysis of test anxiety in CBSET

	N	Range	Min	Max	Mean	Std. deviation
TACBSET	229	81	38	119	2.885	.551
TA	229	69	23	92	3.032	.542
ATCA	229	24	13	37	2.606	.559

SPSS 17.0 has processed 229 valid individual data and it was found out that students' speaking test anxiety registered between 38 (minimum) and 119 (maximum), with a range of 81. From Table 1, it could be seen that the general mean score of test anxiety in CBSET was 2.885, which was slightly below the average point 3. It showed that test takers were not as stressful as assumed in the CBSET. It was discovered that 48.5% of test takers were below the mean, 4.7% were on the mean and 46.8% were above the mean. The mean score of TA was 3.032, a little higher than the average level while the mean score of ATCA was 2.606, largely lower than the average point. Comparing the mean scores of TA and ATCA, we could find that participants perceived more anxiety on spoken English test than the anxiety caused by computers. Based on the general analysis of test takers' test anxiety in CBSET, we have obtained a general view of test takers' anxiety in CBSET. It was necessary to make a further exploration on the specific and detailed description of test anxiety.

Table 2. Detail analysis of test anxiety in CBSET

			Mean	Std. deviation	
TACBSET	TA	FNE	2.335	.991	
		CA	3.097	.970	
		TA1	w	3.073	1.321
			e	3.158	1.024
			sum	3.117	1.172
ATCA	A1	2.84	.9967		
	P	2.535	1.121		
	A2	2.66	1.074		

Note. FNE: fear of negative evaluation (item 5 and 17); CA: communication apprehension (1, 14, 16); TA1: test anxiety (w: worry item 2, 3, 10, 11, 13 and 15; e: emotionality 4, 6-9, 12); A1: attitude toward CBSET (item18-21); P: practice in CBSET (item 22 and 23); A2: anxiety in CBSET (item24-26).

Table 2 showed that the mean score for fear of negative evaluation was 2.335, 3.097 for communication apprehension, 3.117 for test anxiety with the component worry of 3.073 and component emotionality of 3.158. The scores of test anxiety and communication apprehension were both over the average point 3. It showed that among the three components, test anxiety occupied much portion, followed by communication apprehension and fear of negative evaluation. The high value of test anxiety suggested students were afraid of participating in the evaluative activities and were less confident of their communicative language abilities or were lack of communicative language abilities. As for the three components of attitude toward computer-based spoken English test, scores were 2.84, 2.535 and 2.66, respectively, all below the average point 3, which indicated that students did not feel much anxiety about the adoption of computers in spoken English test and generally accepted the new test format.

Anxiety differences in gender

Gender was commonly stated to have an effect upon the development and manifestation of anxiety in assessment situations. Men and women have been hypothesized to interpret and respond to evaluative situations in a differential manner (Arch, 1987).

The gender difference in test anxiety in CBSET could be detected via Independent Sample *t*-test. From Table 3, we could see that although the anxiety level of female students ($M = 2.962$) was higher than the one of male students ($M = 2.838$), the mean difference was not statistically significant ($t = 1.810$) (see Appendix1). In other words, though female students perceived more anxiety than male students, their anxiety degrees were close and the test anxiety differences were not significant. A deep look found that female students felt much anxiety on spoken English test with the mean anxiety value of 3.028, compared with the mean value of male students' 2.981. With regard to the attitude toward CBSET, both females and males demonstrated much lower anxiety than spoken English test anxiety, with values of 2.839 and 2.569, respectively. To be concluded, the findings

showed no matter to spoken English anxiety and attitude toward CBSET, female students consistently perceived more anxiety than male students did and that both sexes had comparatively more anxiety on spoken English test.

Table 3. Test anxiety differences in gender

	Sex	N	Mean	Std. deviation
TACBSET	Female	49	2.962	.4087
	Male	180	2.838	.4825
TA	Female	49	3.028	.4817
	Male	180	2.981	.5281
ATCA	Female	49	2.839	.5664
	Male	180	2.569	.6453

Anxiety differences at different language proficiency levels

The number of subjects in this study was 229, of which comprised 79 students in advanced group, 90 students in medium group and 60 students in lower group.

Table 4. Test anxiety differences at different language proficiency levels

		N	Range	Min	Max	Mean	Std. deviation
TA	Advanced	79	69	23	92	2.91	.6138
	Medium	90	45	31	76	3.14	.8472
	Lower	60	26	40	66	3.27	.3662
ATCA	Advanced	79	24	13	37	2.51	.6395
	Medium	90	22	13	35	2.69	.4671
	Lower	60	16	22	38	2.98	.3033
TACBSET	Advanced	79	81	38	119	2.77	.5165
	Medium	90	56	50	106	2.98	.3850
	Lower	60	36	63	99	3.08	.2654

The descriptive analysis of test anxiety scores in CBSET for different language proficiency levels indicated that the differences between any of the two levels were significant, that was to say, the differences among advanced, medium and lower language levels were distinguished. The test anxiety scores for each group had an inverse relationship with the group language proficiency levels, namely, the group with higher language levels achieved lower test anxiety score and vice versa. The mean scores for advanced, moderate and low language level groups were 2.77, 2.98 and 3.08, respectively (as shown in Table 4).

Through the observation of the values of range and the standard deviation, it could be seen that there existed a much significant anxiety difference in advanced language level group with the range of 81 and standard deviation .5165 and less significant anxiety difference in lower language level group with the range of 36 and standard deviation .2654. The results suggested that test anxiety in advanced language levels appeared in an extreme way, that was, of the students with high language proficiency levels, some took CBSET with low anxiety while others with high anxiety. Perhaps some students with high language level were confident enough in their language abilities and took the examination easily, while some students were still anxious about their performance, probably, because they had much self-negative evaluations or they were less confident or they were afraid of failure, which imposed much stress on them, even though they had strong language abilities.

With comparison of scores of TAS and ATCAS, it could be found the most test anxiety perceived by students with different language levels were from the spoken English test rather than the new test style with adoption of computers. By checking the mean scores of spoken English test anxiety for each group, it was obvious that the scores of medium and lower level groups were over the average 3.0, with the score of 3.14 and 3.27, respectively, and the score of advanced group was 2.91, below the average one. It suggested that students with high language abilities were less stressful than those with lower ones, while taking the spoken English test. Besides, it could be seen that the mean scores of students' attitude toward computer-based English test also had a positive relationship with students' language abilities. In another words, students with higher language abilities hold positive attitude towards the new test style with computers.

Analysis of the effect of test anxiety on test performance

In the previous parts, we discussed examinees' test anxiety in a micro and minor way and found males and females, no matter they were from high, medium or lower language proficiency levels, all perceived much anxiety portion in the respect of spoken English test anxiety and less anxiety on the adoption of computers in spoken English test. Since the major cause of anxiety was from spoken English test anxiety, it was necessary to clarify the relationship between the anxiety and test performance to see whether test anxiety had an adverse effect on test performance.

Table 5. Correlation analysis between test anxiety and test performance (TP)

		TP	TA	ATCA	TACBSET
TP	Pearson correlation	1	-.166*	-.058	-.153*
	Sig. (2-tailed)		.012	.382	.021
	N	229	229	229	229

Note. * $p < .05$.

As shown in Table 5, it could be seen that the test anxiety in CBSET had a significantly negative correlation with the test performance with r of $-.153$. It suggested that students with higher test anxiety in the test would achieve lower test scores and students with lower test anxiety in the test would achieve higher test scores. To explore further, we could find that spoken English test anxiety also had a significantly negative correlation with test performance with r of $-.166$, while attitude toward computer-based spoken English test had a weak negative relationship with the test performance.

Test anxiety sources

As we have discussed the adverse effect of test anxiety in CBSET on test performance, it was essential and necessary to do a further exploration of the test anxiety sources so as to have a full understanding and made preparations to reduce the anxiety. In the questionnaire, students were asked to arrange the anxiety source of low spoken language abilities, inadaptability in computer-based spoken English test, anxiety from the evaluation process and lack of speaking techniques in the CBSET.

Table 6. Major anxiety source

		Frequency	Percentage	Valid percent	Cumulative percent
Valid	AS1	136	59.5	59.5	59.5
	AS2	7	3	3	62.5
	AS3	29	12.6	12.6	75.1
	AS4	57	24.9	24.9	100
	Sum	229	100	100	

Note. AS1: low spoken language abilities; AS2: inadaptability in computer-based spoken English test; AS3: anxiety from the evaluation process; AS4: lack of speaking techniques.

In Table 6, among 229 research subjects, 136 students showed that their major anxiety was from low spoken language abilities, taking up 59.5% of the total. 7 students told that their major anxiety source was the inadaptability in CBSET, only occupying 3%. 29 of 12.6% students chose the anxiety of taking test as the major one, and 57 students believed lack of speaking techniques constructed the major anxiety, accounting for 24.9% of the total.

Among the 79 students from advanced language level (as shown in Table 7), 42 students (53.2%) showed that their major anxiety resulted from lower spoken language abilities. Only 3 students (3.8%) said their major anxiety was from the inadaptability of CBSET. 13 students (16.5%) expressed their major anxiety from the test itself and 21 students (26.6%) chose lack of speaking techniques as the major cause of their anxiety. In the medium level group, 50 students (55.6%) chose the low spoken language abilities as the major anxiety source. 3 students (3.3%) hold the inadaptability in CBSET. 12 students (13.3%) believed the test made them feel anxious, and 25 students (27.8%) believed lack of speaking techniques was the major source of anxiety. Of the lower level group, 44 students (73.3%) expressed that their major anxiety source was from low spoken language abilities. only one student (1.7%) showed the inadaptability in CBSET. Four students (6.7%) chose the test itself and 11 students (18.3%) believed lack of speaking techniques was the major anxiety source.

Table 7. Major anxiety source for students at different language levels

			Frequency	Percentage
Valid	AS1	Advanced	42	53.2
		Medium	50	55.6
		Lower	44	73.3
	AS2	Advanced	3	3.8
		Medium	3	3.3
		Lower	1	1.7
	AS3	Advanced	13	16.5
		Medium	12	13.3
		Lower	4	6.7
	AS4	Advanced	21	26.6
		Medium	25	27.8
		Lower	11	18.3

If students believed what they did was important and useful, they were likely to be motivated as indicated by their task engagement, persistence, and effort expenditure (Durik et al., 2006). Thus, perception of task importance can be treated as a threat, meanwhile a significant motivator of engaged behavior. Task importance was an antecedent of anxiety (Nie, Lau, & Liao, 2011). Shen, Wu and Lee (2014) had shown that better attitude usually led to a positive commitment. Therefore, attitude towards spoken English in computer-based test was a key impact factor of test performance. Self-evaluation was a self-deliberative process, based on self-analysis, self-esteem and by which a person performs a quantitative and qualitative measurement of its own success and failure (Mogonea, & Mogonea, 2013). Therefore, attitude toward spoken English and self-evaluation of speaking abilities were synthesized as self-evaluation on spoken English in this paper. Thus, in order to understand the sources of various anxious reactions to test situation, both self-evaluation on spoken English and task importance need to be jointly considered.

Table 8. Correlation analysis of self-evaluation on spoken English and task importance

		Self-evaluation on spoken English	TACBSET	TP
Self-evaluation on spoken English	Pearson correlation	1	-.238**	.477**
	Sig. (2-tailed)		.000	.000
	<i>N</i>	229	229	229
Task importance	Pearson correlation	.167*	-.017	.206**
	Sig. (2-tailed)	.011	.800	.002
	<i>N</i>	229	229	229

Note. * $p < .05$; ** $p < .01$.

From the above table, it could be seen that self-evaluation on spoken English and task importance variables could influence the test anxiety in CBSET and test performance. Table 8 showed that self-evaluation on spoken English was significantly negatively correlated with the test anxiety in CBSET and significantly positively correlated with the perceived test performance, that was to say, students who favored in spoken English and with high self-evaluation of speaking abilities perceived lower test anxiety in CBSET and achieved higher test scores and vice versa. Besides, it still could be found that students' perception of task importance did not have much influence on the test anxiety but had a significantly positively correlation with the test performance. That was, whether students valued the test or not, their reaction would not significantly affect the test anxiety in CBSET but their attitude could greatly influence their performance. Students who attached much more importance to the test would achieve higher scores and those who attached less importance to the test would get lower scores.

Discussion

Findings of the study indicated that students did not perceive or show much more anxiety about spoken English test based on computers as what we originally believed. During the test, students perceived less anxiety towards the adoption of computers in spoken English test than that generated from the self-efficacy of their speaking abilities and apprehension of failure in the test. The results were in agreement with some researches (Zhang, 2001; Rahimi & Zhang, 2016). In view of this finding, it could be explained that what students were really concerned about more were their poor speaking abilities and apprehension of failing in the spoken English test. With regard to the correlation between test anxiety and performance in CBSET, the results indicated that students' test performance was significantly influenced by spoken English test anxiety (Chapell et al., 2005;

Rezazadeh & Tavakoli, 2009) rather than the anxiety aroused by the adoption of computers in the test. The findings were in line with the results of previous studies (Ortner & Caspers, 2011; Trifoni & Shahini, 2011; Iroegbu, 2013). Though attitude toward computer-based spoken English test had a weak relationship with test performance, it was found that there existed a significantly negative relationship between spoken English test anxiety, which was consistent with the finding of Ortner and Caspers (2011). In other words, students with higher spoken English test anxiety would hold negative attitude toward CBSET and vice versa. It has a strong negative correlation with spoken English test anxiety which has a strongly adverse effect on test performance. Thus, the attitude towards computer-based spoken English test could not be neglected but should be taken into account in test.

Concerning to anxiety differences of genders and different language proficiency levels in CBSET, the results appeared that gender test anxiety differences were not significant, though female students perceived a little more test anxiety than that of male students. As expected, the findings were consistent with those obtained in studies of Sam, Othman and Nordin (2005), and Kannan, Muthumanickam and Chandrasekaran (2012). This could be explained by the higher level of emotional response and perceptions of threat for females in testing environment. As to the question of test anxiety difference in different language proficiency level, the study showed that the higher language proficiency level students had, the less anxiety they would perceive. The findings were in agreement with research results of Kitano (2001). Students with higher language proficiency levels had more confidence in spoken English abilities and students with lower language proficiency levels had less confidence in spoken English abilities. Besides, no matter what language proficiency levels students have, their choices for major anxiety source were consistently the lower spoken language abilities and choices for minor anxiety source were the inadaptability in CBSET. Thus, it could be concluded that the result was another supplement to prove that adoption of computers in spoken English test did not construct much effect on test takers' performance in CBSET.

The findings of the research can be applicable in both language test field and language teaching pedagogy. In consideration of the adverse effect of spoken English test anxiety on students' test achievement in CBSET, it is necessary to enhance the awareness of spoken English test anxiety and take measures to reduce the anxiety. However, test takers' feelings and emotions can be affected by many factors, external or internal ones. And these factors cannot be checked in an all-round way in the study. This paper just touched the tip of the iceberg of the computer-based spoken English test. Thus, more investigations and researches need to be done in the field of examinees' anxiety and a further study of how to reduce test anxiety in CBSET will be conducted.

Conclusion

This paper has provided evidence for the discussion of test anxiety of spoken English in computer-based testing environment. The research results showed that the major anxiety perceived by test takers was the spoken English test anxiety. The results told that of the test anxiety in CBSET, spoken English test anxiety and communication apprehension were the two major anxiety components. Although the current study was insufficient and cannot cover all the aspects of the test anxiety issues in CBSET, its results and conclusions were expected to increase students' awareness of spoken English test and alter peoples' traditional ideas against the adoption of computers in spoken English test. It was also expected that this paper would usher in more researches on the test anxiety and relief measures of test anxiety in computer-based spoken English test.

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Appendix 1

Independent Samples Test

*Table 9.*Levene's test for equality of variances (*t*-test for equality of means, 95% confidence interval of the difference)

Test anxiety	<i>F</i>	Sig.	<i>t</i>	<i>df</i>	Sig.(2-tailed)	Mean difference	Std. error difference	Lower	Upper
Equal variance assumed	2.427	.121	1.810	227	.072	3.226	1.782	-.285	6.738
Equal variance not assumed			1.647	67.887	.104	3.226	1.959	-.684	7.136

Appendix 2

Questionnaire for Test Anxiety in Computer-based Spoken English Test

Student No.: _____ Age: _____ Sex: _____

Part A:

Direction: Read the following statements and make a ✓ in the box next to the statement that fits your ideas.

1. Your attitude toward learning spoken English: like; uncertain; dislike
2. Self-evaluation of speaking abilities:
 - Good. I can speak English very fluently.
 - Medium. Although I find it a bit difficult in speaking English, I can basically express my ideas in daily conversations.
 - Bad. I can only speak a few and simple words in communication.
3. Importance perception of this test: value; uncertain; not value

Part B:

Direction: Read each items below to see if it reflects your experience in test taking. If it does, place a check mark on the line next to the number of the statement. Check as many as seem fitting. Be honest with yourself.

1=totally disagree, 2=disagree, 3=uncertain, 4=agree, 5=totally agree

1. Before taking a test, I thought other students' speaking abilities are higher than mine.
2. I have an uneasy, upset feeling before taking the examination.
3. Before taking a test, I felt relaxed and confident.
4. In the test, I found myself thinking of things unrelated to the test.
5. In the test, I found myself thinking of the consequence of failing.
6. In the test, I felt my heart beating very fast.
7. After taking a test, I always feel I could have done better than I actually did.
8. I usually get depressed after taking a test.
9. During the examination, I frequently get so nervous that I forget facts I really know.
10. The harder I work at taking the test or studying for one, the more confused I get.
11. I wish examinations did not bother me so much.
12. I think I could do much better on tests if I could take them alone and not feel pressured by time limits.
13. I really don't see why some people get so upset about tests.
14. Thoughts of doing poorly interfere with my performance on tests.
15. Even when I'm well prepared for a test, I feel very anxious about it.
16. I am unconfident of myself when I speak in English.
17. I'm afraid of being looked down if I fail in the test.
18. I hope I can take computer-based spoken English test.
19. I feel uneasy when I take computer-based test.
20. I think computer-based spoken English test can assess my real speaking abilities.
21. I have confidence in taking computer-based test.
22. Practice in computer-based test can improve test performance.
23. I think I can be accustomed to computer-based test if I have more practice.
24. I'm afraid that lacking of computer experience or skills would influence my test performance.
25. Computer-based test increases my test anxiety.
26. Speaking English at the same would interfere with my thoughts.