

STUDENTS' TEST ANXIETY AND ITS CORRELATION WITH THEIR ACADEMIC PERFORMANCE

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Abstract: This study was aimed at finding out the test anxiety levels experienced by EFL students, factors that have caused EFL students' test anxiety, and the correlation between students' test anxiety and their academic performance. This study employed descriptive analysis method by using an ex post facto design. The research showed that the students experienced low, moderate, and high test anxiety level. As a whole, the students experienced the very low anxiety. Factors affecting their test anxiety in terms of test taker characteristics included self-image, others' view, pre-paration, future security, testing situation factors, the willingness to get a high score, personal problems, situational and subjective determinants of test anxiety. Meanwhile, in terms of test characteristics, factors affecting their test anxiety included item difficulty sequencing, item type, test taking information, length of test, and time pressure. Finally, the findings showed that the students' test anxiety had no significant correlation with their academic performance.

Key words: students' test anxiety, students' academic performance, the correlation between students' test anxiety and their academic performance.

Abstrak: Penelitian ini bertujuan mengidentifikasi tingkat kecemasan yang dialami siswa penutur bahasa Inggris sebagai bahasa asing saat menghadapi tes, faktor-faktor penyebab kecemasan mereka, dan korelasi antara kecemasan dengan prestasi akademik mereka. Penelitian ini menggunakan metode analisis deskriptif dengan desain *ex post facto*. Hasil penelitian menunjukkan bahwa para siswa mengalami kecemasan yang rendah, sedang, dan tinggi saat tes. Faktor-faktor penyebab kecemasan mereka sebagai pelaku tes meliputi persepsi diri, pandangan orang lain, persiapan, jaminan masa depan, faktor-faktor yang berkaitan dengan situasi tes, keinginan untuk mendapatkan nilai yang tinggi, masalah pribadi, dan penentu kecemasan dari segi situasi dan pelaku tes. Dari segi karakteristik tes, faktor-faktor penyebab kecemasan mereka meliputi urutan kesulitan item tes, jenis tes, informasi yang diberikan saat tes, jumlah tes, dan batasan waktu. Kecemasan siswa saat menghadapi tes tidak memiliki korelasi yang signifikan terhadap prestasi akademik mereka.

Kata-kata kunci: kecemasan siswa saat menghadapi tes, prestasi akademik siswa, korelasi antara kecemasan siswa saat menghadapi tes dengan prestasi akademik mereka.

In daily lives, tests become more essential (Chen and Wu, 2004:1), accordingly the wash back effects of tests cannot be ignored. Test anxiety, as one of factors that may affect test results, need to be taken into account. Hembree (1988) categorizes test anxiety as one of factors that

can give negative effects to the students academically.

Specifically, at the university levels, test anxiety does exist (Damer and Melendres, 2011). According to them, test anxiety may arise related to the students' poor study skills or their inadequate

preparation. Tenenbaum (2012:2) states that the trigger for test anxiety includes several situations like classroom-based and high-stakes testing, dramas and performances at school, class discussions and presentations, sport events, and many more.

Morris et al. (1981) conceptualize test anxiety as comprised of two primary components; worry and emotionality components. It is consistent with Liebert and Morris' (1967) concept of worry and emotionality. Leaving from the two component model of test anxiety, the definition of test anxiety for this study is a feeling of apprehension and discomfort accompanied by cognitive difficulties during a test. Additionally, the diagnostic instrument used in this study to measure test anxiety was Spielberger's Test Anxiety Inventory (TAI). It was developed by Charles Spielberger and colleagues in 1980 to measure worry and emotionality, two-component model of test anxiety (Lufi et al., 2004).

A literature survey on the empirical study of test anxiety reveals that so far factors affecting test anxiety include 1) test taker characteristics, such as language proficiency (Aydin, 2009:134), self cognition and perceived academic achievement (Horwitz et al. 1986; Hembree, 1988), attitudes (Aydin et al., 2006:145), and personal experiences (Chan and Wu, 2004:293), and 2) test characteristics, such as item difficulty sequencing, time pressure, item type, and test taking information (Xiaoping, 2009:108).

Considering that many language testing researchers, specifically test anxiety researchers, agree with the phenomena that the effect of test anxiety on test performance can infiltrate other aspects and cannot be underestimated (Xiaoping, 2009:109), therefore, it is necessary to investigate the students' test anxiety. In the Indonesian context, the study of test anxiety was conducted by Purnamasari (2012). The study, which involved 308 students in VII class of SMP Negeri I Haurgeulis,

showed that the students' test anxiety occurred in the level of mildly anxious and there was no significant correlation between their test anxiety and their academic performance. In addition, the study of test anxiety has been conducted by Tresna (2012). The result showed that the students of X class in SMA Negeri 2 Singaraja experienced very high test anxiety level and behavioral counseling with systematic desensitization techniques could effectively decrease their test anxiety level both in general and in terms of its aspects.

These chains of studies show how test anxiety that occurs in language teaching and learning process, particularly in Indonesia, still need to be explored. Therefore, to enrich the insight, this study took part in this foreign language teaching and learning issue. This study was intended to examine the general situation of EFL students' test anxiety, especially among undergraduate students at a private higher education institution in Bandung. There are some notions explored in this study: the test anxiety levels experienced by EFL students, factors that have caused EFL students' test anxiety, and correlation between students' test anxiety and their academic performance.

METHOD

Related to the research objectives, this study employed descriptive analysis method by using an ex post facto design. The populations of this study were undergraduate students at a private higher education institution in Bandung. The number of the samples involved from this higher education institution was obtained after grouping all the undergraduate students (541 students from eight classes) into high achievers and low achievers based on their academic reports. By using stratified random sampling, the researcher randomly took 20% of the total number of students. So, 108 undergraduate students at this higher education institution potentially became the sample of this study. How-

ever, due to some reasons, such as rejection from several students to be the sample of this study, students' leave-taking from this higher education institution, and their transfer from regular class to staff class, the sample of this study came to be 93 students.

In order to obtain adequate data for the study, the instruments used in this study were a battery of self report measures and a semi-structured interview. The self report measures included Spielberger's Test Anxiety Inventory (TAI) 1980 and a Test Anxiety Inventory retrieved and adapted from Academic Centers for Excellence. The first self report measure was employed to find out the test anxiety levels experienced by EFL students, whereas the second one was used to find out the factors that have caused EFL students' test anxiety. Meanwhile, a semi-structured interview was conducted to gain rich and meaningful data into EFL students' experience of anxiety in relation to their test.

The first self report measure, which was Spielberger's Test Anxiety Inventory (TAI) 1980, as elaborated by Toubiana (2005:63), is a self-report measure comprising of 20 item statements that are each rated on a four-point frequency scale, with response choices ranging from 1 (Almost never) to 4 (Almost always). Scores on the first TAI item ("I feel confident and relaxed while taking tests") that reflect a low test anxiety level are reversed (i.e., an item rating of 4 is scored as 1). The rest of 19 items are direct scored. The TAI test anxiety is scored based on the sum of 20 response choices, with a score ranging from 20 to 80.

The second self report measure, which was a Test Anxiety Inventory retrieved and adapted from Academic Centers for Excellence, was used in response to the situation and condition of the participants. The adaptation was done based on the judgment from experts; considering the clarity, efficiency, and practicality of the self report measure and also considering

the characteristics of the participants and in line with the problems investigated. The self report measure comprises of 23 statements that reflect the participants' experience in test taking. If the statement reflected their experience in test taking, they must place a check mark on the line next to the number of the statement. The individual scores of this self report measure were determined by circling the numbers to the statements that they had checked in the inventory. The areas they had answered "yes" to the most would help them identify the causes of their test anxiety in terms of test taker characteristics and social factors.

Regarding a battery of self report measures employed in this study, before asking the participants to fill in the self report measures, several clear instructions were given in both oral and written way. To avoid the participants' misunderstanding, the self report measures were also available in Bahasa Indonesia. The translation of self report measures from English to Bahasa Indonesia was done under the suggestion of the experts.

Meanwhile, to conduct a semi-structured interview, the interviewer focused on the analysis of self reports of the students' test anxiety and recalled of how their test anxiety took place. Thus, based on the results of Spielberger's Test Anxiety Inventory (TAI), two EFL students who exhibited high test anxiety were interviewed according to a set of semi-structured questions to find out factors that have caused their test anxiety, how strong each of those causal factors of test anxiety is for them, and how their actions are to each of those causal factors. In addition, two EFL students who exhibited moderate test anxiety and two EFL students who exhibited low test anxiety were interviewed as a comparison with the highly anxious students. This interview was conducted on a one-to-one and face-to-face basis and recorded (as suggested by Silverman, 2005) to provide a permanent record.

Aside from the battery of self report measures and semi-structured interview as instruments of the study, the Spearman correlation was used to determine the correlation between students' test anxiety and their academic performance. Thus, the test anxiety levels experienced by EFL students were correlated to the students' GPA. In this regard, the Statistical Package for Social Sciences (SPSS) version 17.0 was used to analyze and calculate the data.

In this study, the data that had been collected were analyzed based on the concept of data analysis given by Miles and Huberman (1984) in the following.

The analysis involves (1) selecting, focusing, simplifying, abstracting, and transforming the "raw" data which has been collected; (2) organizing and displaying the data, so as to allow conclusions to be drawn; and (3) drawing conclusions, by noting regularities, patterns, explanations, possible configurations, causal flows and proposi-

tions, and verifying those conclusions (pp. 21-22).

RESEARCH FINDINGS

This section is divided into three parts. The first part deals with the test anxiety levels experienced by EFL students. The next part describes the factors that have caused EFL students' test anxiety. The last one explains the correlation between students' test anxiety and their academic performance.

The Test Anxiety Levels Experienced by EFL Students

Table 1 represents the students' test anxiety level. According to Table 1, the highest score was 65, the lowest was 23, and the mean was 40.48. Undoubtedly, this condition revealed that the EFL students faced test anxiety.

Table 1 Descriptive Statistics for Spielberger's Test Anxiety Inventory (TAI) 1980

Descriptive Statistics									
	N	Minimum	Maximum	Mean	Std. Deviation	Skewness	Kurtosis		
	Statistic	Statistic	Statistic	Statistic	Std. Error	Statistic	Statistic	Std. Error	Std. Error
Students' test anxiety	93	23	65	40.48	.812	7.828	.510	.250	.450
Valid N (listwise)	93								.495

Overall, based on the scores the respondents gained through Spielberger's

TAI 1980, their test anxiety levels were as follows.

Table 2 EFL Students' Test Anxiety Levels

No.	Students' Test Anxiety Level	Range	Frequency (f)	Percentage
1	Low	20-40	49	52.69%
2	Moderate	41-61	42	45.16%
3	High	62-82	2	2.15%
	Total		93	100%

Table 2 shows that the students experienced low test anxiety level (49 out of 93 students or 52.69 % of the total of respondents) and moderate test anxiety level (42 out of 93 students or 45.16% of

the total of respondents). For two students (5.88 %), they were considered to have high test anxiety level.

The distribution of the students' test anxiety levels is illustrated on Chart 1.

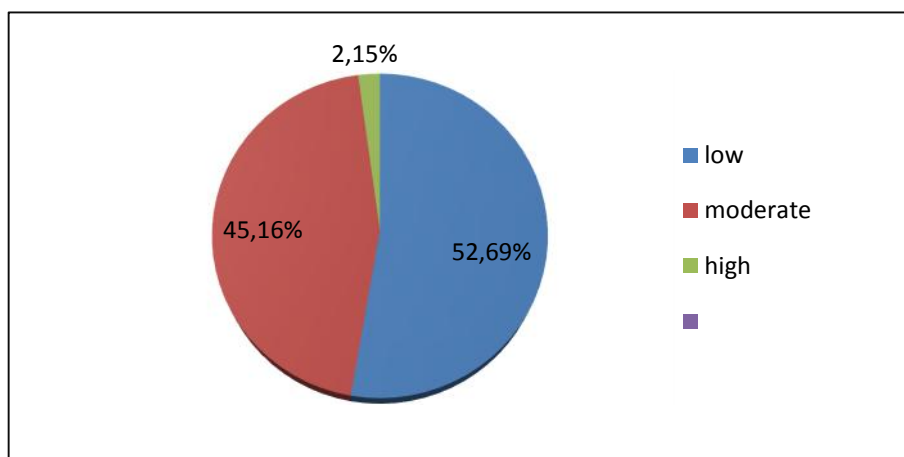


Chart 1 EFL Students' Test Anxiety Levels

The chart shows that as a whole, the students experienced very low anxiety. Besides, the percentages reflect the fact that the tests were low-stakes test for most students, no matter they included high achiever or low achiever.

The Factors that Have Caused EFL Students' Test Anxiety

From the data of Test Anxiety Inventory retrieved and adapted from Aca-

demic Centers for Excellence, it was found that factors that have caused the students' test anxiety were divided into four: (1) concerning others' view, (2) concerning self-image, (3) concerning future security, and (4) concerning preparation.

Table 3 shows the distribution of four main sources of students' test anxiety.

Table 3 Four Main Sources of EFL Students' Test Anxiety

No.	Four Main Sources of Students' Test Anxiety	Statement	Frequency (f)	Percentage
1	Concerning others' view	3, 9, 13, 16, 21, 22	361	26.92%
2	Concerning self-image	2, 5, 8, 12, 15, 18, 19	377	28.11%
3	Concerning future security	1, 7, 11, 23	283	21.11%
4	Concerning preparation	4, 6, 10, 14, 17, 20	320	23.86%
Total			1341	100%

Most of the students stated that their cause of feeling anxious was concerning self-image (28.11%). Then, it was followed by concerning others' view

(26.92%), preparation (23.86%), and future security (21.11%).

To be clearer, Chart 2 in the following illustrates the distribution of those four main sources of students' test anxiety.

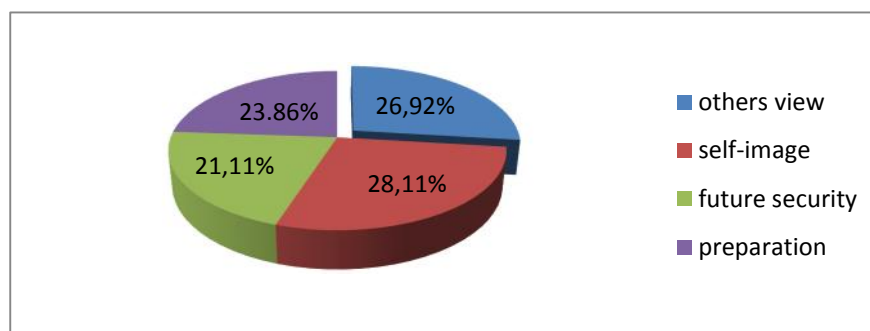


Chart 2 Four Main Sources of EFL Students' Test Anxiety

In line with the data of Test Anxiety Inventory retrieved and adapted from Academic Centers for Excellence, from the data of interview, the researcher found

some factors that have caused the EFL students' test anxiety. The details can be found in Table 4.

Table 4 Causal Factors of EFL Students' Test Anxiety (from the Data of Interview)

No.	Interviewee	Causal Factors of Test Anxiety
1	Student 1	1.1. The test is difficult. 1.2. I'm not done yet, but my friends have collected the result of the test to the lecturer. 1.3. Less preparation.
2	Student 2	2.1 I'm confident, but I'm afraid of making mistake. Besides, my answer is different from my friend's answer. 2.2 The condition of my parents who are sick often comes to my mind during the test.
3	Student 3	3.1 My health condition 3.2 Less preparation 3.3 The influence of my friends and family 3.4 The willingness to get a high score
4	Student 4	4.1 Less preparation 4.2 Some problems that come at the inappropriate time 4.3 The environment that does not support me to do the test (i.e. noisy place or something that can make me unable to concentrate).
5	Student 5	5.1 Less confidence
6	Student 6	6.1 Less preparation

Aside from those causal factors of students' test anxiety mentioned above, based on the data of interview, the researcher found other factors that have caused the EFL students to feel anxious, specifically in terms of test characteris-

tics—as stated by Xiaoping (2009:108) and Young (cited in in Aydin, 2009:130). In this regard, Table 5 illustrates how those factors contributed to affect the students' test anxiety.

Table 5 Test Characteristics Affecting the Test Anxiety Level of Each Interviewee

No.	Interviewee	Test Characteristics				
		Item Type	Time Pressure	Length of Test	Item Difficulty Sequencing	Test Taking Information Given
1	Student 1				-	-
2	Student 2	-				
3	Student 3		-	-		
4	Student 4	-			-	
5	Student 5					
6	Student 6	-		-	-	-

An examination of the data in Table 5 reveals that all of the interviewees reported to be affected by at least one test characteristic. However, only 1 of the 6 interviewees (i.e. student 5) reported to be affected by all test characteristics, while the others (i.e. student 1, 2, 3, 4, and 6)

reported to be affected by some of the test characteristics but not others.

Henceforth, Table 6 displays test characteristics that have been reported in affecting the students' test anxiety and the number of interviewees who have reported each test characteristic.

Table 6 Test Characteristics Affecting Test Anxiety Reported by the 6 Interviewees

No.	Test Characteristics	Number of Interviewees	Percentage of Interviewees
1	Item type	3	50%
2	Time pressure	5	83.33%
3	Length of test	4	66.67%
4	Item Difficulty Sequencing	3	50%
5	Test Taking Information Given	4	66.67%

Overall, all of the five test characteristics had an effect on students' test anxiety level. However, this general effect was not across the board. From Table 6, it can be seen that for different test characteristics, a different number of interviewees have reported their effect on their test anxiety levels. In other words, not all factors would have the same effects on different interviewees as test takers in terms of test anxiety. The anxiety levels of most interviewees (5 out of 6) have been affected by time pressure. Meanwhile, length of test,

followed by test taking information given, item type, and item difficulty sequencing had an effect on most interviewees, 66.67%, 66.67%, 50%, and 50% of the total interviewees respectively.

The Correlation between Students' Test Anxiety and Their Academic Performance

From the computation by using the computer statistical analysis package program, SPSS, it was found as follows.

Table 7 The Correlation between the Students' Test Anxiety and Their Academic Performance

Correlations				
Spearman's rho	students' test anxiety	Correlation Coefficient	1.000	Students' test anxiety
		Sig. (2-tailed)	.	Students' academic performance
		N	93	
	students' academic performance	Correlation Coefficient	-.192	
		Sig. (2-tailed)	.065	
		N	93	

Based on Table 7, the Spearman correlation coefficient between students' test anxiety and their academic performance was -0.192 . It indicated that both variables were negatively correlated. The negative correlation between both variables meant that the highest the test anxiety of the students (the undergraduate students of a private higher education institution in Bandung) was, the lowest their academic performance was. Besides, those two variables had a small correlation.

Henceforth, since the p -value (0.065) was larger than 0.05 , the students' test anxiety had no statistically significant correlation with their academic perform-

ance. Therefore, the null hypothesis of this study was accepted.

DISCUSSIONS

In line with the findings mentioned above, this section is also divided into three parts: (1) the test anxiety levels experienced by EFL students, (2) the factors that have caused EFL students' test anxiety, and (3) the correlation between students' test anxiety and their academic performance.

The Test Anxiety Levels Experienced by EFL Students

Based on Table 1, it was found that there was no student that had no test anxi-

ety. This finding is in line with Horwitz et al.'s statement (1986:127—128) that test anxiety is a distinct phenomenon particularly to language learning.

Chart 1 shows that as a whole, the students experienced very low anxiety. It could be argued that a number of reasons, such as test preparation (Damer and Melendres, 2011; Jaradat, 2004:8; Zeidner, 1998), students' familiarity with testing condition (Birjandi and Alemi, 2010), and maturity in terms of ages (Zeidner, 1998) accounted for the students' very low test anxiety.

More importantly, test anxiety does affect the performance of students on a high-stakes test (Chang and Read, 2008:2). In other words, the percentages reflect the fact that the tests were low-stakes test for most students, no matter they included high achiever or low achiever. Regarding to this, Samelian (2010:5) identifies "a perceived threat to self-worth" as a key aspect of the test anxiety construct. In other words, when students consider their performance on a certain test as less important, then the worry component will most likely not affect them—as stated by Burns (2004:122).

The Factors that Have Caused EFL Students' Test Anxiety

Chart 2 illustrates the distribution of four main sources of students' test anxiety. Most of the students stated that their cause of feeling anxious was concerning self-image. Then, it was followed by concerning others' view, preparation, and future security. It is supported by Raof and Nasir (2010) that test anxiety occurs when the students are to do with others' view, self-image, future security, and preparation.

Meanwhile, from the data of the interview identified in Table 4, factors that have caused the students' test anxiety were to do with others' view (indicated from 3.3), self-image (indicated from 5.1), and preparation (indicated from 1.3, 3.2, 4.1, and 6.1). Moreover, they would be

anxious when they faced a difficult test (1.1). Jaradat (2004) categorizes it as situational determinant of test anxiety. They also felt anxious when they have not finished the test yet; on the contrary, their friends have done it (1.2). Besides, they were anxious because they were afraid of making mistake (2.1). These two items showed the subjective determinants of test anxiety (Jaradat, 2004).

Meanwhile, concerning the results of the interview that they were anxious when they were in poor health (3.1) and they were in environment that did not support them to do the test (4.3), Chen (2004:53) categorized them as testing situation factors. In addition, they were anxious when they wanted to get a high score (3.4) and this situation is in accordance with Horwitz et al. (1986) who state that test anxiety usually occurs when students have too high expectations on themselves and think that it would be a success when they can do the test perfectly. They were also anxious since they thought about their parents who were sick (2.2) and they faced a problem (4.2). According to Busari and Osiki (2002:3), personal problems are known to make individuals be anxious when they do the test.

In terms of test characteristics, based on the data of interview identified in Table 6, the researcher found that the anxiety levels of most interviewees have been affected by time pressure. This situation was in line with Xiaoping's statement (2009:123) that time pressure is considered most to be the source of test anxiety. Afterwards, length of test, followed by test taking information given, item type, and item difficulty sequencing had an effect on most interviewees.

The Correlation between Students' Test Anxiety and Their Academic Performance

Table 7 shows that the students' test anxiety had no statistically significant correlation with their academic performance. This finding was compatible with many

similar studies examining the effect of test anxiety on students' performance (e.g. Birjandi and Alemi (2010), Ndirangu et al. (2009), Zimmer and Hocevar (1994)), all of which conclude that there is no significant relationship between the test anxiety and academic performance.

Nevertheless, the finding of this study contrasted with the existence of relationship between students' test anxiety and their academic performance reported in some other studies (e. g. Yousefi et al. (2010:100); Aydin et al. (2006:145); Lowe et al. (2011: 504); Rezazadeh and Tavakoli (2009:68); Rana and Mahmood (2010:63); Chapell et al. (2005:268). This study had different findings from those studies as the context of tests used in this study were different from that used in those studies. The tests used in this study were course tests. Sarason (1983:136) differentiates between course tests and college entrance tests in that the content of the former is usually more predictable by the students than is the latter. Therefore, it can be stated that course tests belong to low-stakes test.

Understandably, test anxiety does affect the performance of students on a high-stakes test (Chang and Read, 2008: 2). According to Bodas and Ollendick (2005:22), high stakes test is a test that has dramatic effect on their lives since their performance on the test is important, for instance, to seek admission for higher education and to get access to expected professional careers. Regarding to this, Samelian (2010:5) identifies "a perceived threat to self-worth" as a key aspect of the test anxiety construct. In other words, when students consider their performance on a certain test as less important, then the worry component will most likely not affect them—as stated by Burns (2004:122). Hence, it is no wonder that this study found out that the students' test anxiety had no statistically significant correlation with their academic performance.

Due to the result of hypothesis of this study, whether or not the students' test anxiety had statistically significant correlation with their academic performance, reducing the discomfort that some highly anxious test takers experienced would seem to be a laudable goal.

CONCLUSIONS AND SUGGESTIONS

Conclusions

Based on the scores the respondents gained through Spielberger's TAI 1980, the researcher found that the students experienced low, moderate, and high test anxiety level. As a whole, the students experienced a very low anxiety. It could be argued that a number of reasons, such as test preparation, students' familiarity with testing condition, maturity in terms of ages, and particularly low-stakes tests accounted for the students' very low test anxiety.

From the data of Test Anxiety Inventory retrieved and adapted from Academic Centers for Excellence, it showed that most of students stated that their cause of feeling anxious was concerning self-image. Then, it was followed by concerning others' view, preparation, and future security.

Meanwhile, from the data of interview, factors that have caused the students' test anxiety are concerned with others' view, self-image, and preparation. Besides, there were situational and subjective determinants of test anxiety. They were also anxious because of testing situation factors. In addition, they were anxious when they wanted to get a high score and when they faced personal problems.

Aside from those causal factors of students' test anxiety mentioned above, based on the data of interview, the researcher found other factors that have caused the EFL students to feel anxious, specifically in terms of test characteristics. In ascending order in terms of their effect on students' test anxiety level, those

factors were item difficulty sequencing, item type, test taking information, length of test, and time pressure. Finally, it was found out that the students' test anxiety had no statistically significant correlation with their academic performance.

Suggestions

Due to the finding of this study, whether or not the students' test anxiety had statistically significant correlation with their academic performance, reducing the discomfort that some highly anxious test takers experienced would seem to be a laudable goal. Particularly for teachers, it is wise for them to be aware of the phenomenon that happens to their students and try to find the best solution for the test anxiety experienced by the students. For the next researchers, there is a need for further studies in this area by using the different methods, instruments, and subjects of the study. Therefore, those studies can enhance the richness of aspects related to the students' test anxiety. Furthermore, further studies should narrow down the definition of academic performance term, so that they can result in varied findings to enrich the insight in the foreign language teaching and learning issue, particularly in the students' test anxiety and academic performance issue.

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