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# Test Anxiety During Formative Assessment in English Learning: Insights from Islamic Boarding School Students

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### **Abstract**

In the context of increasing academic demands in language education, understanding students' emotional responses to assessment is essential for promoting effective learning. This study explores the phenomenon of test anxiety experienced by students at an Islamic Boarding School during formative assessments in English language learning. Adopting a qualitative case study design, participants were purposively selected to gain in-depth insights into their experiences. Data were collected through closed-ended questionnaires and semi-structured interviews. The findings indicate that a significant number of students suffer from test anxiety, which is primarily expressed through emotionality and worry. The study also identifies four major contributing factors to this anxiety: fear of academic failure, psychological distress, inadequate study skills, and low self-esteem. These findings highlight the urgent need for supportive strategies and pedagogical interventions to mitigate anxiety and foster a more positive and productive language learning environment. This study contributes to a deeper understanding of the emotional challenges faced by learners in Islamic boarding schools and underscores the importance of addressing affective factors in language assessment practices

**Keywords:** Test Anxiety; Formative Assessment, Islamic Boarding School, Learning English

### INTRODUCTION

Assessment is a critical component of the teaching and learning process<sup>1</sup>, including in the field of English language teaching (ELT), where it is intrinsically linked

<sup>&</sup>lt;sup>1</sup>Zi Yan & Gavin T. L. Brown, "Assessment for learning in the Hong Kong assessment reform: A case of policy borrowing", *Studies in Educational Evaluation*, Vol. 68. February 2021. 1-9

to instruction<sup>2</sup>. Effective instruction is inseparable from assessment, as the latter provides evidence of learners' comprehension and engagement with the material<sup>3</sup>. In ELT, assessment serves multiple purposes: it measures students' progress in language acquisition<sup>4</sup>, helps teachers determine the extent to which learners have mastered the targeted skills and concepts<sup>5</sup>, and offers valuable feedback on the effectiveness of the teaching process<sup>6</sup>.

Formative assessment is a crucial element in effective teaching and learning, as it provides ongoing, timely, and constructive feedback that helps students identify their strengths and areas for improvement<sup>7</sup>. Unlike summative assessment, which evaluates learning at the end of instruction, formative assessment occurs continuously throughout the learning process and serves to inform both teaching and learning activities<sup>8</sup>. It encompasses various instructional strategies and activities that allow teachers to gather evidence of student understanding and make necessary adjustments to enhance learning outcomes<sup>9</sup>. Through this process, students are encouraged to engage in self-monitoring, develop awareness of their progress, and become more motivated to improve their performance<sup>10</sup>. Furthermore, formative assessment fosters a responsive classroom environment where instructional decisions are guided by student needs, ultimately leading to improved academic achievement and deeper learning<sup>11</sup>.

In English language teaching, assessment plays a vital role in measuring learners' progress; however, excessive emphasis on assessment can heighten students' test anxiety levels<sup>12</sup>. Test anxiety is a form of situational anxiety characterized by emotional reactions to specific academic situations, particularly examinations. Sepehrian describes it as a state of emotional tension or stress that emerges before an exam and may persist throughout

<sup>&</sup>lt;sup>2</sup>Marry James, "Assessment, Teaching and Theories of Learning" in J. Gardner (Ed.) *Assessment and Learning* (First Edition). June 2006, 47–60

<sup>&</sup>lt;sup>3</sup>Birenbaum, M. "Assessment and instruction preferences and their relationship with test anxiety and learning strategies", *Higher Education*, Vol. 53(6), 2007. 749–768.

<sup>&</sup>lt;sup>4</sup>Marry James, Op. cit

<sup>&</sup>lt;sup>5</sup>Winna & Sabarun. "The Language Assessment In Teaching-Learning English". *DIAJAR: Jurnal Pendidikan dan Pembelajaran* Vol. 2 No. 4, Oktober 2023, 413-419

<sup>&</sup>lt;sup>6</sup>Malika Tridane, Said Belaaouad, Said Benmokhtar, Bouchra Gourja, & Mohamed Radid, "The impact of formative assessment on the learning process and the unreliability of mark for the summative evaluation", *Procedia - Social and Behavioral Sciences*, Volume 197, 25 July 2015, Pages 680-685

<sup>&</sup>lt;sup>7</sup>Vogt, K., Tsagari, D., Csépes, I., Green, A., & Sifakis, N., "Linking learners' perspectives on language assessment practices to teachers' assessment literacy enhancement (TALE): Insights from four European countries". *Language Assessment Quarterly*, 17(4), 2020 410–433. https://doi. org/ 10. 1080/ 15434 303. 2020. 17767 14.

<sup>&</sup>lt;sup>8</sup>Brown, H. D., & Abeywickrama, P. *Language assessment, principles and classroom practices*. New York: Pearson, 2019.

<sup>&</sup>lt;sup>9</sup>Black, P., & Wiliam, D., "Assessment and classroom learning. Assessment in Education: Principles, in the Primary Education sector". Paper presented at *the AARE/NZARE conference*, Auckland, New Zealand, 1998

<sup>&</sup>lt;sup>10</sup>Glazer, N. "Formative plus summative assessment in large undergraduate courses: Why both?" *International Journal of Teaching and Learning in Higher Education*, 26(2), 2014, 276–286.

<sup>&</sup>lt;sup>11</sup>Stein, M., & Bassett, E., *Staying ahead of the curve: A value chain analysis of the K-12 assessment market*. Boston, MA: Eduventures, Inc. 2004

<sup>&</sup>lt;sup>12</sup> Zeidner, M., & Matthews, G., Anxiety 101. Springer Publishing Company, 2010.

the testing period<sup>13</sup>. In foreign language learning, test anxiety can interfere with cognitive processing, reduce achievement, and hinder learning potential<sup>14</sup>. It can also create a gap between learners' test scores and their actual communicative ability in the target language<sup>15</sup>, and negatively affect overall language competence<sup>16</sup>. Research consistently indicates that many language learners experience test anxiety during assessments<sup>17</sup>, driven by factors such as fear of failure, insufficient preparation, and the perceived difficulty of language tests<sup>18</sup>.

Dealing with the above issues, Horwitz, Horwitz, and Cope argue that students who are test-anxious in foreign language classes may experience considerable difficulty, as tests and quizzes are frequent, and even the brightest and most well-prepared students often make errors. In the context of English language learning, test anxiety—such as that experienced during oral examinations—is an inevitable part of the learning process. While a certain level of stress before and during exams is common, excessive test anxiety can hinder learning by impairing concentration and memory. This anxiety is often linked to a fear of negative evaluation, where students worry about how their performance will be judged. Consequently, concern over test results can heighten anxiety levels, which in turn may lead to poorer performance in English language learning. <sup>19</sup>

Although a number of studies about test anxiety in language teaching context have been conducted by many researchers such as Muliawati, et al., (2020), Aydin et al., (2020), Khoshhal (2021), Ironsi, (2021), Kılıçkaya, (2022), Ismail, et al (2022), Blondeel, et al., (2023), Alzahrani. & Alshaikhi, (2023), Almalki, (2023), Ali, (2023), Nazir, et al (2021), Chakraborty (2023), it seems that research exploring students' test anxiety during formative assessment in learning English in Islamic boarding schools is scarce. Most of the previous studies investigated universities' students. Therefore, this research needs to be conducted to give new insight from Islamic boarding schools students' perspective by exploring test-anxiety manifestation during formative assessment in learning English.

# 1. Literature review

# 1.1. The concept of test anxiety and its Factors

Test anxiety is an emotional and physiological response to evaluative situations, characterized by stress and concern over potential failure and others' perceptions. It can

<sup>&</sup>lt;sup>13</sup>Sepehrian, A. Self-Efficacy, achievement motivation and academic procrastination as predictors of academic, 2013

<sup>&</sup>lt;sup>14</sup>Julkunen, K., *Trait and test anxiety in the FL classroom*. The revised version of a paper presented at a Teaching Symposium, Helsinki, Finland, 1992.

<sup>&</sup>lt;sup>15</sup>Latulippe, L. & Light, M. L., *A complement to testing: skill-based appraisal*. Retrieved on September 25 2019 from https://eric.ed.gov/?id=ED234613 (ED234613), 1983.

<sup>&</sup>lt;sup>16</sup>Naveh-Benjamin, M., McKeachie, W. J., & Lin, Y.-g., "Two types of test-anxious students: Support for an information processing model". *Journal of Educational Psychology*, 79(2), 1987, 131–136. <a href="https://doi.org/10.1037/0022-0663.79.2.131">https://doi.org/10.1037/0022-0663.79.2.131</a>

<sup>&</sup>lt;sup>17</sup>Ironsi, C. S. "The Impact of Test Anxiety on EFL Pre-service teachers in Northern Cyprus". *Journal of Education*. 2021, 1-20.

<sup>&</sup>lt;sup>18</sup>Aydin, S., Akkaş, F. D., Türnük, T., Beydilli, A. B., & Saydam, İ., "Test Anxiety among Foreign Language Learners: A Qualitative Study". *Qualitative Report*, 25(12), 2020

<sup>&</sup>lt;sup>19</sup>Meily Ivane Esther Neman & Nurlita Lanny Ganap, *Student Anxiety in Learning English as a Foreign Language (EFL)*. The 65th TEFLIN International Conference, Universitas Negeri Makassar, Indonesia 12-14, July 2018

occur before, during, and after examinations, and involves psychological, physical, and behavioral reactions<sup>20</sup> (see also Zeidner, 1998; Putwain, 2008; Schnell et al., 2011). Theoretically, test anxiety is a combination of two cognitive and affective dimensions which are worry and emotionality. The mediating emotional and worried processes involved in responding to evaluative situations and the correlates and consequences of test anxiety<sup>21</sup>.

Emotionality refers to the individual's subjective awareness of heightened autonomic arousal and nervousness during examinations or assessments. The emotionality component of test anxiety includes heightened physiological activity and bodily symptoms provoked by evaluation such as elevated heart rate, dizziness, headaches, feelings of panic, and trembling<sup>22</sup>. Meanwhile worry is defined as a "cognitive component of test anxiety, such as negative and derogatory self-statements related to failure"<sup>23</sup>. In other words, it is the negative thoughts that young people have about their performance evaluation, feelings of unpreparedness for the exam, and the negative consequences of failure. Moreover, Thomas, et al., (2018) also identified worry as cognitive test anxiety refers to cognitive manifestations of test anxiety that concern learning and planning operations., and impaired study skills, inappropriate testing strategies, and poor working memory and cognitive processing. For example, comprehension, poor organization skills, acts as self-handicappers, leading to not having time to study, or to losing study books.<sup>24</sup>

Previous research has identified multiple factors that significantly influence test anxiety among foreign language learners. These factors can be broadly categorized into three main groups. First, subject variables include demographic and personal characteristics such as age, gender, academic grade, socioeconomic and educational background, as well as learners' achievement and proficiency levels. Second, independent variables encompass elements such as attitudes toward English as a Foreign Language (EFL) learning, study skills, test validity, and test-taking techniques, alongside contextual aspects including the testing environment, test length and format, time limits, and the way tests are introduced. Finally, extraneous variables refer to external influences such as teachers, course materials, and language teaching methods and techniques.<sup>25</sup>

#### 1.2. Formative assessment

Formative assessment is widely recognized as an integral component of the teaching and learning process rather than a separate activity. It encompasses various interactive evaluations conducted by teachers and students to generate feedback that

<sup>&</sup>lt;sup>20</sup> Sepehrian, A. (2013). *Op. cit* 

<sup>&</sup>lt;sup>21</sup>Denkci Akkaş, F., Aydın, S., Baştürk Beydilli, A., Türnük, T. & Saydam, İ., "Test anxiety in the foreign language learning context: A theoretical framework". *Focus on ELT Journal (FELT)*, 2(1), 2020, 4-19. https://doi.org/10.14744/felt.2020.00014

<sup>&</sup>lt;sup>22</sup>Thomas CL, Cassady JC, Finch WH. "Identifying severity standards on the Cognitive Test Anxiety Scale: Cut score determination using latent class and cluster analysis". *Journal of Psychoeducational Assessment*. 36(5), 2018, 492–508. doi: 10.1177/0734282916686004.

<sup>&</sup>lt;sup>23</sup>Putwain, D. *Test anxiety in UK schoolchildren: Prevalence and demographic patterns,* 2007.

<sup>&</sup>lt;sup>24</sup>Thomas CL, Cassady JC, Finch WH. Op.cit

<sup>&</sup>lt;sup>25</sup>Selami AYDIN, "Factors Affecting the Level of Test Anxiety among EFL Learners at Elementary Schools", *e-International Journal of Educational Research*, Volume: 4 Issue: 1 Winter 2013 pp. 63-81

informs instructional decisions and supports learners' ongoing development<sup>26</sup> <sup>27</sup> (see also Fox et al., 2016). This continuous feedback mechanism enables teachers to identify students' needs, adjust instruction accordingly, and assist learners in strengthening their competencies <sup>28</sup> (see also Glazer, 2014). As such, formative assessment functions as a dynamic process parallel to learning itself, providing insights into students' current learning positions and guiding them along their educational journey<sup>29</sup> (See also Kristiyanti, 2021; Mahshanian et al., 2019; Popham, 2008; Saleem, 2020).

Formative assessment plays a crucial role in providing information during the learning process, particularly prior to summative assessment<sup>30</sup> (see also Zia, 2019). It enables teachers to determine whether students have achieved the intended learning outcomes and guides them in planning subsequent lessons more effectively<sup>31</sup>. Substantial evidence demonstrates that formative assessment significantly enhances students' learning, as highlighted by Crooks<sup>32</sup>. In fact, it is widely regarded as one of the most impactful forms of evaluation within contemporary curricula<sup>33</sup>. Similarly, Karimi (2014) emphasizes that formative assessment constitutes one of the most influential components of the teaching and learning process<sup>34</sup>.

### 2. Method

### 2.1. Research design and participant

The present study employed a qualitative case study design to provide a detailed and holistic exploration of students' test anxiety during formative assessment, particularly in English lessons. This approach was chosen because qualitative research emphasizes the description of phenomena and the development of in-depth understanding of meanings derived from participants' experiences<sup>35</sup>. A case study, as a specific type of qualitative research, allows the researcher to examine a program, event, or group of

<sup>&</sup>lt;sup>26</sup>Black, P., & Wiliam, D. Op.cit

<sup>&</sup>lt;sup>27</sup>Brown, H. D. *Language assessment principles and classroom practices*. Oxford university press, 2003

<sup>&</sup>lt;sup>28</sup>Alahmadi, N., Alrahaili, M., & Alshraideh, D. "The impact of the formative assessment in speaking test on Saudi students' performance", *Arab World English Journal*, 10(1), 2019, 259–270.

<sup>&</sup>lt;sup>29</sup>Asamoah, D., Shahrill, M., & Latif, S. N. A. "A Review of Formative Assessment Techniques in Higher Education During COVID-19". *Qualitative Report*, 27(2), 2022, 475–487. https://doi.org/10.46743/2160-3715/2022.5145

<sup>&</sup>lt;sup>30</sup>Dilova, N. G. "Formative Assessment of Students' Knowledge – as a Means of Improving the Quality of Education". *Scientific Reports of Bukhara State University*, 5(3), 2021, 144–155. https://doi.org/10.52297/2181-1466/2021/5/3/13.

<sup>&</sup>lt;sup>31</sup>Wuest, D. A., & Fisette, J. L. *Foundations of physical education, exercise science, and sport* (17th ed.). New York, NY: McGraw-Hill, 2012.

<sup>&</sup>lt;sup>32</sup>Crooks, T. J., "The impact of classroom evaluation practices on students". *Review of educational research*, 58(4), 1988, 438-481.

<sup>&</sup>lt;sup>33</sup>Widiastuti, I. A. M. S., & Saukah, A. (n.d.). *Formative assessment in EFL classroom practices*. In journal2.um.ac.id. Retrieved February 20, 2021.

<sup>&</sup>lt;sup>34</sup>Karimi, M. N., "Iranian EFL teachers' perceptions of dynamic assessment: exploring the role of education and length of service". *Australian Journal of Teacher Education journal*, 39(8), 2014, pp. 143-

<sup>&</sup>lt;sup>35</sup>Creswell, J. W., Educational research: Planning, conducting, and evaluating quantitative and qualitative research (4th ed.). Boston, MA: Pearson, 2012

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individuals in depth<sup>36</sup>. Accordingly, the participants of this study were students from Aek Hayuara Sibuhuan Islamic boarding school who had direct experience with formative assessment in English. To capture comprehensive data, 20 students were purposively selected to complete a questionnaire, providing general insights into test anxiety, while 5 students were interviewed to obtain deeper, nuanced perspectives. This sampling strategy ensured both breadth and depth of information, allowing the study to portray the phenomenon more accurately.

### 2.2. Data collection

This research employed two data collection techniques, namely interviews and questionnaires. The primary source of data was in-depth interviews conducted with selected students to explore their experiences and perceptions of test anxiety during formative assessment. Interviews were chosen as the main method because they provide rich, detailed, and nuanced insights into participants' lived experiences, which are crucial for understanding the phenomenon holistically<sup>37</sup>. In addition, a questionnaire was administered to a larger group of students as preliminary data to obtain general information on the prevalence and patterns of test anxiety. The questionnaire findings served to guide the interview process by identifying key issues and themes that required further exploration. The use of multiple instruments in this way aligns with the principle of methodological triangulation, which enhances the credibility and validity of qualitative research findings<sup>38</sup>.

# 2.3. Data analysis

In this research, data analysis was conducted by following the framework of Miles and Huberman (1994), which consists of three interconnected activities: data reduction, data display, and conclusion drawing or verification. Data reduction involved organizing and simplifying the raw data into manageable units, while data display facilitated the systematic presentation of the findings, enabling the researcher to identify emerging patterns and relationships. The final stage, conclusion drawing and verification, was carried out to interpret the data and ensure the accuracy of the findings<sup>39</sup>. To enhance the credibility and validity of the study, triangulation was employed. As defined by Noble and Heale (2019), triangulation refers to strategies that strengthen the trustworthiness of research outcomes. In this study, triangulation was achieved by comparing the results from the questionnaires with the interview data. This integration of multiple sources not only ensured consistency but also provided a more comprehensive and reliable understanding of students' test anxiety during formative assessment<sup>40</sup>.

<sup>&</sup>lt;sup>36</sup>Creswell, J. W. *Research design: quantitative and qualitative and mixed methods approach* (4th ed.). Thousand Oaks, CA: Sage, 2014.

<sup>&</sup>lt;sup>37</sup>Creswell, J. W. Op.cit

<sup>&</sup>lt;sup>38</sup>Yin, R. K. Case Study Research and Applications: Design and Methods (6th ed.). Thousand Oaks, CA: Sage. 2018

<sup>&</sup>lt;sup>39</sup>Miles, M. B., & Huberman, A. M., *Qualitative data analysis: An expanded sourcebook*. Sage Publication, 1994.

<sup>&</sup>lt;sup>40</sup>Noble, N. & Heale, R., *Triangulation in research, with examples*. BMJ Journals, 22(3), 2019

### 3. FINDINGS AND DISCUSSION

### 3.1. Findings

The result of analysis of interviews and questionnaire data showed that the majority of the students felt test anxiety during formative assessment. most of students showed moderate level of anxiety, some students were at low level anxiety and no students were categorized into the high level of anxiety. Specifically, the manifestation of test anxiety can be described from two aspects namely emotionally factors and worry factors as follows.

The analysis of interview and questionnaire data indicated that the majority of students experienced test anxiety during formative assessment. Of the 20 participants, 12 students (60.00%) reported a moderate level of anxiety, while 8 students (40.00%) demonstrated a low level of anxiety. Notably, none of the students (0.00%) were categorized as experiencing a high level of anxiety. These results suggest that although test anxiety was evident, it generally remained within low to moderate levels rather than reaching an intense or debilitating stage. Furthermore, the manifestations of test anxiety among students were identified in two main dimensions: emotional factors and worry-related factors.

# 3.1.1 The manifestations of students' test anxiety from emotionality factors

Based on the questionnaire data, the majority of students reported experiencing emotional distress, jitteriness, tension, and anxiety during formative assessment. These findings were further supported by interview results, which provided deeper insights into how students experienced and expressed their test anxiety in English lessons. The following sections elaborate on these emotional manifestations, supported by direct statements from students.

## **Emotional Distress**

Several students described feelings of distress and uneasiness prior to formative assessments. Student 2 explained that his anxiety emerged when he was unprepared, particularly if he had missed lessons or had not studied beforehand: "If I've studied, I feel normal. And if I study, I get it. But if I don't study, I'm just a bit nervous because I don't study" (Interview, July 18, 2024). Similarly, Student 4 admitted to feeling anxious because of fear of not being able to answer questions correctly: "Hmm, sometimes I get a little anxious, because I'm afraid I cannot answer the question and I'm afraid I'll get it wrong" (Interview, July 18, 2024). However, Student 5 highlighted that her anxiety depended on the situation, noting that when lessons had been explained clearly, she felt calm: "Anxious, sis... But if the lesson is just explained by mister, even though suddenly the exercise, it's normal, sis" (Interview, July 18, 2024). In contrast, Students 1 and 3 reported little to no distress, as both felt confident due to prior preparation and strong English proficiency. Student 3 stated: "I think it's normal anyway, because I know I can speak English, because I always study hard and I also take lessons with mister" (Interview, July 18, 2024). Jitteriness

Jitteriness, particularly in oral assessments, was another recurring theme. Student 1 shared that she often felt jittery in oral tests, but not in written ones since she could consult her notes: "If the writing practice is not too jittery, sis. Because I can still look at the book again. But orally it's jittery even though it's been explained" (Interview, July 18, 2024). Student 2 also admitted to nervousness when waiting for his turn to speak: "Yes, sis, especially if it's verbal test, sis. Every time I wait for my turn, I'm always nervous"

(Interview, July 18, 2024). Student 3 noted that jitteriness increased when asked about previously taught material but was reduced when the lesson had just been explained: "Sometimes mister likes to ask random questions from the previous lesson as well... but if the lesson is already learned, I do not feel jittery, sis" (Interview, July 18, 2024). Student 4 felt jittery out of fear of grammatical mistakes even when she had prepared her answer: "Yes, sis, I'm afraid of making a mistake, even though I've designed the answer, but I'm still thinking maybe there's a mistake in the grammar" (Interview, July 18, 2024). Similarly, Student 5 reported persistent jitteriness after being scolded by the teacher for a wrong answer, which made her feel nervous in subsequent tests. Tension

Feelings of tension also emerged, particularly in oral and timed assessments. Student 1 expressed tension when waiting for her turn in oral practice: "I feel tense, sis. Because when it was about to be my turn later... afraid of being wrong" (Interview, July 18, 2024). Student 2 explained that tension occurred mainly when he did not understand the material: "If the exercise has been studied, understood, it's normal. But if the lesson is not understood yet, it will make me tense" (Interview, July 18, 2024). Student 3 echoed this view, noting that he felt relaxed with new material but tense when questioned about older lessons he had forgotten: "Especially new lessons... but if asked about old lessons, I feel tense because I forgot" (Interview, July 18, 2024). Student 4, on the other hand, linked her tension to strict deadlines and the threat of punishment: "If the time is tight, then if those who are not ready are punished, it will make me tense. Especially if it's an oral exam, I feel tense and afraid" (Interview, July 18, 2024). Meanwhile, Student 5 reported little tension when lessons were freshly explained, as she had not yet forgotten the material. Anxiety

Finally, students described feelings of anxiety, particularly when unprepared or when facing unexpected assessments. Student 1 admitted: "Sometimes, you suddenly have an exam. I haven't studied the lesson yet or sometimes I forget" (Interview, July 18, 2024). Similarly, Student 2 explained that he felt anxious only when the material was unclear: "I feel anxious if I don't understand the explanation" (Interview, July 18, 2024). Student 3 also shared that anxiety arose when facing difficult material or when he had missed classes: "Ever, sister, if the lesson is difficult and I don't understand it yet. Especially if I don't go to class, there is practice" (Interview, July 18, 2024). Student 4 reported anxiety when the teacher's explanation was unclear: "Sometimes it's because I don't understand the material, because sometimes I feel like the teacher's explanation isn't clear enough" (Interview, July 18, 2024). Student 5 described situational anxiety, especially during oral tests when her prepared answer was already taken by another student: "Sometimes the answer has been prepared, then it turns out that it has already been said by a friend. So that's where I'm worried" (Interview, July 18, 2024).

# 3.1.2. The manifestations of students' test anxiety from worry factor

The results of the questionnaire and interviews indicated that students experienced worry during formative assessment, manifested in three main forms: fear of failing the test, comparisons with peers' abilities, and concerns about performing poorly.

# Fear of Failing the Test

Several students expressed fear of failing, particularly when they had not adequately prepared for the test. Student 1 reported feeling anxious if she had forgotten the material, but not when the lesson had been recently explained: "Ever sis, if I've forgotten the lesson; if I've learned it, never..." (Interview, July 18, 2024). In contrast,

Student 2 did not fear failure because he believed he had done his best: "...I don't think like that... I've done my best..." (Interview, July 18, 2024). Student 3 acknowledged occasional fear when unsure about his answers: "I have. I doubt the answer, I'm afraid it's wrong, sis" (Interview, July 18, 2024). Student 4 felt relaxed, perceiving the test as mere practice: "Because it's just an exercise... just normal..." (Interview, July 18, 2024). Meanwhile, Student 5 reported fear of failing due to her desire to maintain top performance, noting that her teacher also considered daily grades: "Ever sis, I am afraid of not being the champion again, sis, because the teacher also judges based on daily scores..." (Interview, July 18, 2024).

# Thinking about how much brighter others are

Students also reported comparing themselves with peers, often worrying about others' performance. Student 1 admitted occasionally thinking about peers' abilities: "Yes, sis" (Interview, July 18, 2024). Student 2 experienced this when his friends successfully answered questions he could not during oral exams: "I have, sis. During the oral exam... they were able to answer the questions but I couldn't" (Interview, July 18, 2024). Conversely, Student 3 did not feel that others were smarter, as he was confident in his answers and often asked by classmates for guidance: "No, sis... because I was already confident with my answer, and that person asked me again..." (Interview, July 18, 2024). Student 4 reported frequent comparisons, particularly when she did not understand the material: "Often sis... sometimes I don't understand the material and explanation... why can people answer, why can't I..." (Interview, July 18, 2024). Student 5 noted that some peers' use of cell phones for answers influenced her perception of their abilities: "I have, sometimes I see someone on Google so I think if their answer is definitely correct..." (Interview, July 18, 2024).

# Thinking about how poorly they are doing

Finally, students expressed worry about performing poorly, particularly when their answers differed from peers. Student 1 reported anxiety when her answers did not match others': "Ever sis... different answer sis..." (Interview, July 18, 2024). Student 2 and Student 4 shared similar concerns, feeling their answers were wrong when they differed from classmates' responses (Interview, July 18, 2024). Student 3 indicated that his worry depended on his confidence level: "No. Because I'm sure that's the answer. But if I'm not sure that's the answer, I feel wrong, sis" (Interview, July 18, 2024). Student 5, although confident in her answers, admitted that nervousness sometimes led to mistakes: "I never thought that I was wrong, but because I was so nervous, I often wrote things wrong and my answers were lacking" (Interview, July 18, 2024).

# 3.1.3. Reason for Test Anxiety

The analysis of interview and questionnaire data revealed that students experienced test anxiety during formative assessment due to a combination of emotional and worry-related factors. These factors can be categorized into four interrelated themes: fear of failing the course, psychological distress, poor study skills, and low self-esteem. Together, they reflect the complex interplay between students' emotional states, learning behaviors, and perceptions of evaluation.

# Fear of failing the course

Fear of failure emerged as one of the strongest contributors to test anxiety. Many

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students expressed concerns about not being able to answer questions correctly or forgetting what they had learned, particularly when unexpected tests were administered. Student 1 admitted: "Ever sis, sometimes suddenly there is an exam and the lesson hasn't been studied or sometimes I have forgotten" (Interview, July 18, 2024). Student 2 explained that his anxiety was tied to a lack of understanding: "...don't know where the explanation is, so my brain is spinning around trying to figure out how to explain it... then I feel anxious if I don't understand the explanation" (Interview, July 18, 2024). Similarly, Student 3 described becoming anxious when lessons were difficult or when he missed class: "...if the lesson is difficult and I don't understand it yet. Especially if I don't go to class and there is practice..." (Interview, July 18, 2024). These examples show that students' fear of failure was closely connected to their preparation and comprehension of the material.

# Psychological distress

Psychological distress also contributed significantly to test anxiety, particularly in oral tests, time-limited tasks, or when students had negative prior experiences. Student 1 highlighted the pressure of direct interaction with teachers: "...because it was an oral exam... there would be eye contact and not writing, so I was afraid of answering it, I don't know what I did wrong" (Interview, July 18, 2024). Likewise, Student 4 emphasized time pressure: "I'm nervous, sis, there's a time limit to complete it and there's a punishment if I don't finish it" (Interview, July 18, 2024). Student 5 recalled being reprimanded in the past, which heightened her nervousness in subsequent assessments: "...I got scolded by that mister, so next time when I practice I'll be nervous like 'Is that wrong? I'll get scolded again'" (Interview, July 18, 2024). These findings suggest that beyond academic readiness, test anxiety was also shaped by situational stressors and relational factors.

### Poor study skills

A further factor influencing anxiety was students' limited study skills. Some students reported struggling to understand lessons despite paying attention, while others admitted to daydreaming or disengaging when faced with difficult tasks. Student 2 explained: "I'm worried, I don't know what's going on. Sometimes I've listened but I still don't understand, then mister asks but I don't know how to answer" (Interview, July 18, 2024). Student 4 described similar difficulties: "...because I don't really understand the explanation, so I find it difficult to answer it and when I collect it, I still feel anxious..." (Interview, July 18, 2024). These findings indicate that ineffective learning strategies and lack of comprehension amplified students' test anxiety.

# Low self-esteem and peer comparison

Finally, low self-esteem and peer comparison emerged as important dimensions of test anxiety. Several students expressed doubt about their own answers when they differed from those of classmates. For example, Student 1 explained: "...because my friends said 'this is the answer' so I thought I was wrong because the answer was different. So I felt like I was wrong" (Interview, July 18, 2024). Student 2 shared a similar concern: "...sometimes when I take a test my friend said the answer is different. Then I think my answer is wrong, because the answers are different I think my friend's answer is the right one" (Interview, July 18, 2024). Likewise, Student 4 noted: "...Sometimes someone said a different answer, then I feel wrong because my answer is different from theirs" (Interview, July 18, 2024). Such peer comparisons often undermined students' confidence, reinforcing anxiety and self-doubt.

#### 3.2. Discussion

The findings from the analysis of both questionnaire and interview data revealed that the majority of students experienced test anxiety during formative assessments in English lessons, though at varying levels of intensity. Specifically, most students reported moderate levels of anxiety, while a smaller proportion demonstrated low levels, and none were categorized as experiencing high levels of anxiety. The manifestations of this test anxiety were classified into two key dimensions, namely emotionality and worry. From the emotionality aspect, the data indicated that students commonly experienced emotional distress, jitteriness, tension, and general anxiousness. For instance, among the five participants interviewed, three reported feeling distressed and four reported experiencing tension; however, all participants reported feelings of jitteriness and anxiousness during formative assessments, albeit for different reasons and in different contexts.

In relation to the worry component, students demonstrated moderate levels of cognitive anxiety, particularly in terms of fear of failure, self-comparisons with peers, and negative self-appraisal. The interviews further revealed that four participants explicitly expressed fear of failing the test and self-perceptions of inferiority when comparing themselves to brighter peers, while all participants admitted to feeling that they performed poorly during formative assessments. These findings support the theoretical assertions of Zeidner and Matthews (2010), who argue that the emphasis on assessments can heighten students' test anxiety, which manifests in the form of nervousness, worry, fear, or tension (Sepehrian, 2013), and aligns with Zeidner's (1998; 2007) conceptualization of test anxiety as a combination of emotional and behavioral responses to potential failure in evaluative contexts.

The results also resonate with previous studies. Aydin et al. (2020) found that foreign language learners often experience test-related anxiety with accompanying physical symptoms, while Alzahrani and Alshaikhi (2023) reported that students frequently experience cognitive anxiety—particularly in writing tasks—as the most dominant form of test anxiety. Similarly, studies by Khoshhal (2021), Ironsi (2021), and Ali (2023) confirmed that test anxiety among students is shaped by a range of situational and individual factors. Consistent with these findings, the current study identified that emotionality factors contributing to test anxiety included fear of failing the course, psychological distress, and poor study skills, while worry factors included fear of failure, psychological distress, poor study skills, and low self-esteem. This supports Minor and Gold's (1985) theoretical distinction between the emotionality and worry components of test anxiety, as well as Putwain's (2007) view of worry as the cognitive dimension of test anxiety characterized by negative self-statements and fear of failure.

Furthermore, deeper analysis of the interviews identified the nuanced ways in which these factors manifested in the specific context of formative assessment in English lessons. For emotionality, fear of failure was often attributed to inadequate preparation and lack of understanding of the material, compounded by the unexpected nature of assessments. Psychological distress was linked to oral examinations and verbal interactions with teachers, where students reported panic due to time limitations and fear of being reprimanded. Poor study skills, such as difficulties in comprehending lessons and organizing study strategies, further contributed to heightened anxiety levels, echoing findings by Ayesha and Khurshid (2013), Ergene (2011), and Numan and Hasan (2017), who linked poor study habits to both test anxiety and lower academic achievement.

On the other hand, the worry component included fear of failing the test due to

memory lapses, difficulties with challenging questions, and the constant apprehension of making mistakes. Students also reported psychological distress in the form of distraction, daydreaming, and diminished focus during assessments, often caused by time pressure and perceived teacher or peer expectations. Poor study skills contributed to worry when students felt unprepared or unable to address difficult questions. Additionally, low self-esteem emerged as a salient factor, with students expressing a lack of confidence in their answers and assuming their responses were incorrect if they differed from peers, supporting Blascovich and Tomaka's (1991) assertion that self-esteem significantly influences both academic performance and test anxiety<sup>41</sup>.

Taken together, these findings corroborate earlier study (e.g. Chakraborty, 2023), which identified test anxiety as a multifaceted phenomenon influenced by individual, social, and contextual factors such as gender, parental education, prior experiences, and course difficulty. However, the novelty of this research lies in its focus on test anxiety within the specific context of formative assessments in English lessons at an Islamic boarding school (pesantren) in Indonesia, a setting that has received limited attention in the existing literature. By integrating both questionnaire and in-depth interview data, this study not only reinforces established theoretical frameworks of emotionality and worry but also extends them by identifying unique contextual factors—such as the role of oral assessments, teacher-student interaction, and religious learning environments—that shape students' experiences of test anxiety. This contribution provides new insights into the interplay between emotional and cognitive dimensions of test anxiety in a formative assessment setting, thereby offering practical implications for educators to design more supportive, low-anxiety assessment strategies in English language teaching.

### 4. CONCLUSION

Based on the findings and discussion, it can be concluded that the majority of students experienced test anxiety during formative assessment, which manifested through two main aspects: emotionality and worry. From the emotionality aspect, students reported feelings of distress, jitteriness, tension, and general anxiety. From the worry aspect, many students expressed fear of failing the test, concern that their peers were more competent, and negative self-perceptions regarding their own performance. Further analysis revealed four underlying factors contributing to test anxiety during formative assessment: fear of failing the course, psychological distress, poor study skills, and low self-esteem.

In light of these findings, several recommendations are proposed for students, teachers, and future researchers. For students, it is essential to recognize that test anxiety can hinder their performance during formative assessments. By identifying the factors that trigger their anxiety, students are encouraged to develop better study strategies, enhance self-confidence, and practice stress-management techniques to reduce or even overcome anxiety. For teachers, greater attention should be given to students' test anxiety during formative assessments. Teachers are advised to foster a supportive and low-pressure classroom environment, provide clear instructions, and assist students in identifying the sources of their anxiety as well as the ways it influences their academic performance.

Finally, this study acknowledges its limitations and emphasizes the need for further

<sup>&</sup>lt;sup>41</sup>Blascovich, J., & Tomaka, J. Measurement of self-esteem. In J.P. Robinson, P.R. Shaver, & L.S. Wrightsman (Eds). *Measures of Personality and Social Psychological Attitudes*, 1. San Diego, CA: Academic Press, 1991

research. Future studies should investigate test anxiety more comprehensively in the context of English language learning, as well as explore practical and evidence-based interventions that can help reduce students' anxiety levels during formative assessment. Such studies would not only enrich the theoretical understanding of test anxiety but also provide practical strategies for enhancing student performance and well-being in language education.

# REFERENCES

- Alahmadi, N., Alrahaili, M., & Alshraideh, D. "The impact of the formative assessment in speaking test on Saudi students' performance", *Arab World English Journal*, 10(1), 2019, 259–270.
- Ali, J. K. M. "An Exploration of Online Test Anxiety During COVID-19: EFL Learners' Perspectives". *Dirasat: Human and Social Sciences*, 50(2), 2023, 342-353
- Almalki, M.S. "Miltiple Choice Test-Taking Strategies, Test Anxiety, and EFL Students' Achievement". *World Journal of English Language*, Vol. 13, No. 2, 2023, 248-259
- Alzarani, E. M. & Alshaikhi, A.M. "Exploring Writing Test Anxiety Among EFL University Students in the Saudi Context", *International Journal of English Language Education*. Vol. 11, No. 2, 2023, 1-15
- Asamoah, D., Shahrill, M., & Latif, S. N. A. "A Review of Formative Assessment Techniques in Higher Education During COVID-19". *Qualitative Report*, 27(2), 2022, 475–487. <a href="https://doi.org/10.46743/2160-3715/2022.5145">https://doi.org/10.46743/2160-3715/2022.5145</a>
- Aydin, S., Akkaş, F. D., Türnük, T., Beydilli, A. B., & Saydam, İ., "Test Anxiety among Foreign Language Learners: A Qualitative Study". *Qualitative Report*, 25(12), 2020
- Aydin, S., Akkaş, F. D., Türnük, T., Beydilli, A. B., & Saydam, İ. Test Anxiety among Foreign Language Learners: A Qualitative Study. *Qualitative Report*, 25(12), 2020
- Ayesha, B., & Khurshid, F. "The relationship of multiple intelligence and effective study skills with academic achievement among university students". *Global Journal of Human Social Science Linguistics and Education*, 13(1), 2013, 20-32
- Birenbaum, M. "Assessment and instruction preferences and their relationship with test anxiety and learning strategies", *Higher Education*, Vol. 53(6), 2007. 749–768.
- Black, P., & Wiliam, D., "Assessment and classroom learning. Assessment in Education: Principles, in the Primary Education sector". Paper presented at *the AARE/NZARE conference*, Auckland, New Zealand, 1998
- Blascovich, J., & Tomaka, J., "Measurement of self-esteem". In J.P. Robinson, P.R. Shaver, & L.S. Wrightsman (Eds). *Measures of Personality and Social Psychological Attitudes*, 1. San Diego, CA: Academic Press, 1991
- Blondeel, E., Everaert, P., &Opdecam, E. "Does Practice Make Perfect? The Effect of Online Formative Assessments on Students' Self-Efficacy and Test Anxiety". *The British Accounting Review*, 56(4), 2024, 101-189.
- Brown, H. D. *Language assessment principles and classroom practices*. Oxford university press, 2003
- Brown, H. D., & Abeywickrama, P. Language assessment, principles and classroom practices. New York: Pearson, 2019.
- Chakraborty, A., "Exploring the root causes of examination anxiety: effective solutions and recommendations". *International Journal of Science and Research* (*IJSR*), 12(2), 2023
- Creswell, J. W. Research design: quantitative and qualitative and mixed methods approach

- e-ISSN: 2714-6200, p-ISSN:2086-4841 Vol.16. No.2 Mei-Agustus 2025
- (4th ed.). Thousand Oaks, CA: Sage, 2014.
- Creswell, J. W., Educational research: Planning, conducting, and evaluating quantitative and qualitative research (4th ed.). Boston, MA: Pearson, 2012
- Crooks, T. J., "The impact of classroom evaluation practices on students". Review of educational research, 58(4), 1988, 438-481.
- Denkci Akkaş, F., Aydın, S., Baştürk Beydilli, A., Türnük, T. & Saydam, İ., "Test anxiety in the foreign language learning context: A theoretical framework". Focus on ELT Journal (FELT), 2(1), 2020, 4-19, https://doi.org/10.14744/felt.2020.00014
- Dilova, N. G. "Formative Assessment of Students' Knowledge as a Means of Improving the Quality of Education". Scientific Reports of Bukhara State University, 5(3), 2021, 144-155. https://doi.org/10.52297/2181-1466/2021/5/3/13.
- Ergene, T. "The relationships among test anxiety, study habits, achievement, motivation, and academic performance among Turkish high school students". Education and Science, 36, 2011, 20-330
- Glazer, N. "Formative plus summative assessment in large undergraduate courses: Why both?" International Journal of Teaching and Learning in Higher Education, 26(2), 2014, 276-
- Glazer, N., "Formative plus summative assessment in large undergraduate courses: Why both?" *International Journal of Teaching and Learning in Higher Education*, 26(2), 2014, 276–286.
- Ironsi, C. S. "The Impact of Test Anxiety on EFL Pre-service teachers in Northern Cyprus". Journal of Education. 2021, 1-20.
- Ironsi, C. S. "The Impact of Test Anxiety on EFL Pre-service teachers in Northern Cyprus". Journal of Education. 1-20, 2021
- Julkunen, K., Trait and test anxiety in the FL classroom. The revised version of a paper presented at a Teaching Symposium, Helsinki, Finland, 1992.
- Karimi, M. N., "Iranian EFL teachers' perceptions of dynamic assessment: exploring the role of education and length of service". Australian Journal of Teacher Education journal, 39(8), 2014, pp. 143-162.
- Khoshhal, Y., "Test Anxiety among English Language Learners: A Case of Vocabulary Testing Using Multiple-Choice Items and Error Identification Tests". REIRE Revistad'Innovació i Recerca en Educació, 14(1), 2021, 1-11.
- Kılıçkaya, F., "Pre-Service EFL Teacher Candidates' Concerns Over Digital Language Assessment and Test Anxiety", English as a Foreign Language in a New-Found Post-Pandemic World, 2022, 164-181
- Kristiyanti, K. L. "The Implementation of Online Formative Assessment in English Learning". Journal of Educational Study, 1(2), 2021, 68–76.
- Latulippe, L. & Light, M. L., A complement to testing: skill-based appraisal. Retrieved on September 25 2019 from https://eric.ed.gov/?id=ED234613 (ED234613), 1983
- Mahshanian, A., Shoghi, R., & Bahrami, M. "Investigating the differential effects of formative and summative assessment on EFL learners' end-of-term achievement". *Journal of Language Teaching and Research*, 10(5), 2019,1055–1066.
- Malika Tridane, Said Belaaouad, Said Benmokhtar, Bouchra Gourja, & Mohamed Radid, "The impact of formative assessment on the learning process and the unreliability of mark for the summative evaluation", Procedia - Social and Behavioral Sciences, Volume 197, 25 July 2015, Pages 680-685
- Marry James, "Assessment, Teaching and Theories of Learning" in J. Gardner (Ed.) Assessment and Learning (First Edition). June 2006, 47–60

- Meily Ivane Esther Neman & Nurlita Lanny Ganap, Student Anxiety in Learning English as a Foreign Language (EFL). The 65th TEFLIN International Conference, Universitas Negeri Makassar, Indonesia 12-14, July 2018
- Miles, M. B., & Huberman, A. M., *Qualitative data analysis: An expanded sourcebook*. Sage Publication, 1994.
- Minor, S., & Gold, S., Worry and emotionality components of test anxiety. *Journal of Personality Assessment*, 49(1), 1985, 82–85.
- Muliawati, I., Ismail, N. M., Lismalinda, B. R., & Rizka, B., "Test-Taking Anxiety among EFL University Students in TOEFL Test: A case study from Indonesian Context". *Humanities & Social Sciences Reviews*, 8(3), 2020, 200-208.
- Naveh-Benjamin, M., McKeachie, W. J., & Lin, Y.-g., "Two types of test-anxious students: Support for an information processing model". *Journal of Educational Psychology*, 79(2), 1987, 131–136. https://doi.org/10.1037/0022-0663.79.2.131
- Nazir, M. A., Izhar, F., Talal, A., Sohail, Z. B., Majeed, A., & Almas, K., "A quantitative study of test anxiety and its influencing factors among medical and dental students". *Journal of Taibah University Medical Sciences*, 16(2), 2021
- Noble, N. & Heale, R., Triangulation in research, with examples. BMJ Journals, 22(3), 2019
- Numan, A. & Hasan, S. S. "Effect of Study Habits on Test Anxiety and Academic Achievement of Undergraduate Students", *Journal of Research and Reflections in Education*. Vol. 11, No. 1, 2017, pp. 1-14.
- Popham, W. J. "All About Accountability/Phony Formative Assessments: Buyer Beware" [Electronic version]. *Educational Leadership*, 64, 2006, 86-87.
- Putwain, D. Test anxiety in UK schoolchildren: Prevalence and demographic patterns, 2007
- Putwain, D. W. "Deconstructing test anxiety. Emotional and Behavioural Difficulties, 13(2), 2008, 141-155
- Saleem, "The negative impact of giving grades to students". *Umm-Al-Qura Journal of Social Sciences*.20, 2020, 23-36.
- Schnell, K., Tibubos, A., Rohrmann, S., Schienle, A., & Hodapp, V. "Test Anxiety in Highschool students: Self-reports and Student-teacher agreement". In P. Buchwald, K. A. Moore & T. Ringeisen (eds.), *Stress and anxiety: application to education and health* (pp. 45-54). Logos Verlag Berlin GmbH, 2011
- Selami AYDIN, "Factors Affecting the Level of Test Anxiety among EFL Learners at Elementary Schools", *e-International Journal of Educational Research*, Volume: 4 Issue: 1 Winter 2013 pp. 63-81
- Sepehrian, A. Self-Efficacy, achievement motivation and academic procrastination as predictors of academic, 2013
- Stein, M., & Bassett, E., *Staying ahead of the curve: A value chain analysis of the K-12 assessment market*. Boston, MA: Eduventures, Inc. 2004
- Thomas CL, Cassady JC, Finch WH. "Identifying severity standards on the Cognitive Test Anxiety Scale: Cut score determination using latent class and cluster analysis". *Journal of Psychoeducational Assessment*. 36(5), 2018, 492–508. doi: 10.1177/0734282916686004.
- Vogt, K., Tsagari, D., Csépes, I., Green, A., & Sifakis, N., "Linking learners' perspectives on language assessment practices to teachers' assessment literacy enhancement (TALE): Insights from four European countries". *Language Assessment Quarterly*, 17(4), 2020 410– 433. https://doi.org/10.1080/15434303.2020.1776714.
- Widiastuti, I. A. M. S., & Saukah, A. (n.d.). *Formative assessment in EFL classroom practices*. In journal2.um.ac.id. Retrieved February 20, 2021.

- Winna & Sabarun. "The Language Assessment In Teaching-Learning English". *DIAJAR: Jurnal Pendidikan dan Pembelajaran* Vol. 2 No. 4, Oktober 2023, 413-419
- Wuest, D. A., & Fisette, J. L. Foundations of physical education, exercise science, and sport (17th ed.). New York, NY: McGraw-Hill, 2012.
- Yin, R. K. Case Study Research and Applications: Design and Methods (6th ed.). Thousand Oaks, CA: Sage. 2018
- Zeidner, M., & Matthews, G., Anxiety 101. Springer Publishing Company, 2010
- Zeidner, M., Test anxiety: The state of the art. New York: Plenum Press, 1998
- Zi Yan & Gavin T. L. Brown, "Assessment for learning in the Hong Kong assessment reform: A case of policy borrowing", *Studies in Educational Evaluation*, Vol. 68. February 2021. 1-9
- Zia, F., Sarfraz, S., & Mufti, N., "Students' perceptions of the effectiveness of formative assessment and feedback for improvement of the English writing composition skills: A case study of secondary level ESL students of private schools in Lahore, Pakistan". *Journal of Education and Practice*, 10(6), 2019.