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The Effect of Frequent Tests on the Academic Achievement of Non-English Major Students at the University Level

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Abstract

Educational assessment is a key aspect of higher education, with institutions frequently using tests to evaluate students' performance and qualifications. However, there is limited research on the impact of frequent testing specifically for non-English major students. This study investigates how frequent testing influences the academic performance of English for non-English major students at the university level. The population was non-English majors who enrolled at the University of Telafer, Department of Mathematics, College of Basic Education. A sample of 100 sophomore students was chosen. Employing a quantitative experimental design, data was collected through tests administered over six weeks. The collected data underwent a one-sample t-test analysis to evaluate outcomes. The mean score for each student was calculated, alongside an overall mean score for all participants, providing insights into their performance following reading assignments and conceptual teaching. The statistical analysis showed a significant difference in the experimental group's performance compared with the control group. These findings highlight the effectiveness of frequent testing in enhancing academic achievement among students. Based on the findings, the present study recommends that teachers, especially in English, integrate frequent testing into their teaching strategies to encourage student preparation and improve academic performance.

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أثر الأختبارات المتكررة على التحصيل الأكاديمي للطلبة غير المختصين باللغة الانجليزية عى المستوى الجامعي

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الملخص

التقييم التعليمي هو جانب رئيسي في التعليم العالي، حيث تعتمد المؤسسات بشكل متكرر الاختبارات لتقييم اداء الطلبة و مؤهلاتهم. و مع ذلك، هناك نقص في البحوث التي تتناول تاثير الاختبار المتكرر تحديداً لدى الطلبة غير المتخصصين في اللغة الانجليزية. هذه الدراسة تبحث في كيفية تاثير الاختبار المتكرر على الأداء الاكاديمي لدى طلبة المستوى الجامعي الذين يدرسون الانجليزية و لم يكن تخصصهم في اللغة الانجليزية. مجتمع البحث كانت الطلبة غير المختصين في اللغة الانكليزية المنخرطين في جامعة تلعفر، كلية التربية الاساسية، قسم الرياضيات. تم اختيار عينة الدراسة من 100 طالب من المرحلة الثانية. باستخدام تصميم تجريبي كمي، جمعت البيانات من خلال اختبارات اجريت على مدى ستة اسابيع. خضعت البيانات المجمعة لاختبار t لعينة واحدة لتحليل النتائج. تم حساب المتوسط لكل طالب، الى جانب المتوسط الاجمالي لجميع المشاركين، مما يوفر رؤى حول ادائهم بعد مهام القراءة و التعليم المفاهيمي. اظهر التحليل الاحصائي وجود فرق ذو دلالة احصائية في اداء المجموعة التجريبية مقارنة بالمجموعة الضابطة. تسلط هذه النتائج الضوء على فعالية الاختبار المتكرر في تعزيز التحصيل الاكاديمي بين الطلاب. بناءً على النتائج، توصي الدراسة الحالية المدرسين، خاصةً مدرسو اللغة الانجليزية، بدمج الاختبار المتكرر في استراتيجيات التدريس الخاصة بهم لتشجيع الطلبة على الدراسة و تحسين الأداء الاكاديمي

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1.0 Introduction

Educational test is an essential factor of higher education, providing a planned means for evaluating students' outcomes, progress, and understanding of course material. In latest years, the role of valuation has developed beyond mere qualification measures to become a critical driver of student engagement and learning performance, mainly in university settings. Traditional approaches of assessment, like mid-term and final exams, often do not satisfy to the continuous learning needs of students, sparking interest in alternative approaches, including frequent testing.

Frequent testing, categorized by the regular administration of short assessments, has gained acceptance as an instructional strategy aimed at strengthening material retention and improving student performance. Research suggests that such assessments can increase motivation and retention, leading to developed academic outcomes (Roediger and Butler, 2011; McDaniel, Howard and Einstein, 2017). However, much of the existing literature principally focuses on English major students, leaving a significant gap regarding the effect of frequent testing on non-English major students. The term “non-English major students” refers to students who are joined in a college or university but are not pursuing a degree particularly in English or English-related fields.

Adopting a quantitative experimental design, the present study seeks to fill the existing knowledge gap and offer insight into how frequent tests affect student achievements in a non-specialized context. Through the collection and analysis of test data over six weeks, the study will not only assess the academic performances of students but will also explore the implications of these findings for pedagogical practices in higher education. Finally, this research seeks to contribute to a more nuanced understanding of effective assessment strategies, encouraging for the integration of frequent testing as a powerful tool in fostering student learning and success.

1.1 Statement of the Problem

Despite the recognized importance of education assessment in higher education, there is a notable gap in understanding the specific effects of frequent testing on non-English major students’ academic performance in English courses. Existing research generally focuses on broader education assessments without isolation the impact that frequent testing may have on this particular demographic.

This study addresses the gap by examining how frequent testing affects the academic performance of those students at university level.

1.2 Objectives:

1. To investigate the effect of frequent testing on the academic performance of non-English major students.
2. To compare the test scores of students who underwent frequent testing (experimental group) with those who did not (control group).
3. To assess the relationship between frequent testing and students' preparedness for academic assessments.
4. To provide recommendations for educators regarding the incorporation of frequent testing in instructional practices.

1.3 Research Questions:

1. What is the effect of frequent tests on students' total preparedness and motivation for learning?
2. How does frequent testing affect the academic performance of non-English major students?
3. Is there any a statistically significant difference in the test scores of students who participate in frequent testing compared to those who do not?
4. How do students perceive the role of frequent testing in their academic achievement in English subject?

1.4 Hypotheses:

1. Frequent testing significantly enhances the academic performance of non-English major students.
2. Students subjected to frequent testing have significantly higher test scores than those who are not.

2.0 Literature Review

The significance of frequent tests in educational environments cannot be exaggerated, as it plays a critical role in shaping student learning performances and whole academic achievement. A vigorous body of research has constantly confirmed that students who are subjected to frequent tests tend to outperform their peers on culminating examinations, such as final exams. While many of these studies

predominantly focus on college students in certain countries, a wealth of international research supports the notion that frequent testing has broad educational implications across various contexts and cultures. This suggests that the benefits of such pedagogical strategies are likely universal, making it an essential area for further exploration, especially regarding its application in English language instruction.

Numerous studies highlight the effectiveness of frequent testing as a cornerstone in several educational models, most notably Bloom's mastery learning (Bloom:1971), and Keller's Personalized System of Instruction (Eyre: 2007). Within these frameworks, assessments serve multiple purposes: they measure students' understanding of the material, provide feedback on performance, and encourage a deeper engagement with the subject matter. Although the majority of previous studies indicates a generally positive influence of frequent testing on academic achievement, a small subset of studies present results that challenge the universality of this claim, raising important questions about the conditions under which frequent testing is most effective.

A noteworthy study conducted by Bangert-Drowns, Kulik, and Kulik (1991) found a generally positive impact of frequent testing on students' performance, though the reported effect sizes were modest. There is no question that testing is a vital part of education and can improve student learning, but certain conditions must be met for this to be effective. Taylor and Nolen (2008) outline essential conditions for assessment to effectively aid students and their learning. The first and most important one is “assessments should be conducted frequently enough for teachers to evaluate the effectiveness of their instruction and identify which students may require extra help”.

Rana and Zubair (2019) executed a study to investigate assessment practices within Saudi universities, giving a strong emphasis on continuous assessment strategies. Their findings showed that continuous assessment simplifies students' comprehension of challenging elements of EFL content. Moreover, it increases students' confidence and prepares them for final examinations.

The application of frequent testing within the particular context of English language instruction, especially for non-English major students, is an area still ripe for investigation. Earliest research suggests that students who take assessments on a weekly basis generally outperform those who are assessed on a monthly schedule, signifying a significant potential for academic growth through regular evaluation.

Moreover, breaking down assessments into smaller, more frequent tests not only facilitates better retention of information but also enhances total performance. However, the relationship between frequent testing and final exam performance can vary; some studies indicate that students in infrequent testing environments may manage to catch up before final assessments, stressing an intriguing dynamic worthy of closer analysis (Brown, Roediger and Mcdaniel, 2014; Bjork and Bjork, 2011; Ciseros, 2021).

Despite the substantial amount of research conducted over the past century, a broad synthesis of the existing knowledge base remains necessary. This gap is mostly evident given the methodological variations, contrasting educational contexts, and unexpected results observed in previous studies, all of which emphasize the need for further empirical investigation.

2.1 Impact on Attendance and Engagement

Beyond academic performance, frequent testing appears to have a transformative effect on student attendance and engagement in classroom settings. Studies conducted by Fitch, Drucker, and Norton (1951), Hovell, Williams, and Semb (1979), and Wilder, Flood, and Stromsnes (2001) illustrate that the consistent presence of quizzes and assessments significantly influences students to attend classes more regularly. These studies have jointly confirmed a strong correlation between the frequency of assessments and students' total attendance rates, signifying that when students know they will be evaluated regularly, they are more apparent to prioritize attendance as a key component of their academic responsibilities.

This key motivation to attend classes is often related to the increased accountability felt by students, as frequent tests create a structured environment where students realize that their participation directly influences their performance (Buechele: 2020). The sense of responsibility not only encourages students to involve more deeply with the material offered in classroom but also fosters an environment where students feel that their efforts are acknowledged and rewarded.

When students perceive a solid connection between their engagement in classroom and their performance on tests, they are more motivated to participate actively in discussions, seek illuminations, and collaborate with peers, thereby improving their whole learning experience.

Furthermore, the practice of administering frequent test supports a sense of urgency and responsibility among students. The organized nature of frequent quizzes and tests prompts students to prepare constantly rather than resorting to last-minute cramming. This stable engagement with the course material allows for a deeper understanding and retention of information, as students are encouraged to continuously review and integrate their learning. As a result, rather than viewing tests as isolated events occurring at the end of a unit or course l, students commence to see them as vital components of their learning journey, leading to a more continuous and through engagement with the subject matter.

Moreover, the effect of frequent testing on engagement extends to raising a collaborative learning environment. When tests are designed to encourage discussion and peer interaction, they can lead to effective group dynamics where students learn from one another, share visions, and collaboratively resolve problems. This interaction not only reinforces content comprehension but also builds a sense of community within the classroom, which in turn can further stimulate students to engage actively and feel connected to their peers and teachers.

The integration of frequent testing into educational practice holds considerable promise for positively affecting both students' attendance and whole engagement which is a key pointer of student success (Vale, Oliver, and Clemmer, 2020). By creating a sense of responsibility and urgency among learners, educators can encourage a more dynamic and interactive classroom environment. The resulting culture of constant learning not only supports academic success but also enables students to take ownership of their educational process, making them more advanced in their studies and more likely to persist in their academic activities. Thus, frequent tests emerge not only as a means for valuation but as a vigorous factor of a widespread approach to education that encourages active participation, collaboration, and long-term learning success.

2.2 English for Specific Purposes

Within the context of non-English major students, primarily those engaged in studying the English language, there is a distinctive focus on specialized English language instruction that aligns with their professional and academic occupations. Non-English major students course often aims to teach vocabulary and language structures that are relevant to certain fields such as mathematics, nursing, business, engineering, and tourism. This enables students to utilize their skills effectively in these diverse areas. This targeted approach, known as English for Specific Purpose (hence forth ESP), seeks to satisfy the unique and specialized needs of learners in varied academic and professional environments.

Hutchinson and Waters (1987) stress the necessity of adapting language instruction to align with real-world demands, emphasizing that the teaching of language should be as relevant and applicable to students' lives as possible. ESP distinguishes itself from traditional General English by providing specialized content that is designed to meet the exacting demands of disciplines such as Science, Medicine, Tourism, and Law. According to Paltridge and Starfield (2012), ESP courses are explicitly designed to focus on the specific vocabulary, skills, and knowledge that are pertinent to students' professional tasks. The primary objective is to equip these learners with the language proficiency necessary for success in their fields, ultimately preparing them to excel in both academic pursuits and real-world applications (Fitria, 2020).

Investigating the effectiveness of this academic approach within the context of specialized English instruction not only presents an opportunity to gain deeper insights into its effectiveness but also has the potential to inform best practices in language education across diverse learning environments. As educators seek to adapt to the evolving demands of the global landscape, understanding the implications of frequent testing will be crucial in developing targeted, effective teaching strategies that empower students to achieve their fullest potential.

4.0 Methodological Framework

The present study adopts an experimental design approach which combines both pre and post-tests to assess the effectiveness of the instructional intervention. Richards and Schmidt (2010), outline that the pre-test was administered prior to the learning experience, while the post-test followed the intervention, serving as a means to measure any changes in participants' understanding and skills. Both assessments were conducted within a classroom setting, emphasizing clear communication of instructions to all participants to ensure consistency in their responses.

4.1 Population and Sample Description

The study's population was non-English majors (350 N.) who enrolled at the University of Telafer, Department of Mathematics, College of Basic Education, during the 2023–2024 academic year. The sophomore class was diverse. A sample of 100 students was chosen for this study and split equally into two groups, the experimental group (EG) and the control group (CG), each of which had 50 students. The study divided participants into groups according to age (19–22 years), gender distribution, and comparable educational backgrounds in order to guarantee a fair comparison. The primary difference in the groups' treatment was the frequency of assessments; the EG was tested weekly, whereas the control group was not subjected to this extra testing schedule.

4.2 Statistical Analysis Procedures

To evaluate the data collected throughout this research, a t-test for two independent samples was applied. This statistical tool was essential for determining any significant differences in the performance of the EG compared to the CG concerning the defined variables. The formula employed for the t-test is:

$$T = \frac{\overline{x_1} - \overline{x_2}}{\sqrt{\frac{(n_1-1)S_1^2+(n_2-1)S_2^2}{n_1+n_2-2}\left(1/n_1 + 1/n_2\right)}}$$

In this formula:

- x_1 represents the mean score of the experimental group,
- x_2 indicates the mean score of the control group,
- n_1 and n_2 denote the number of participants in the experimental and control groups, respectively,
- S_1^2 and S_2^2 signify the variances of the experimental and control groups.

This calculated value of t will help ascertain whether the differences in group performances are statistically significant, providing insights into the effectiveness of the instructional strategies employed in the experimental group (Class & Stanley, 1970, p. 234).

4.3 Results and Findings

The current section provides a detailed analysis of the results obtained from the experimental analysis, explicitly focusing on the comparison between the pre-test and post-test comparisons between CG and EG.

4.3.1 Comparison between the pre-test Scores of the Control Group and Experimental Group

To determine if there was a significant difference in achievement levels between the CG and EG at the outset of the study, their pre-test scores were compared. An independent samples t-test was conducted to analyze the mean scores of the groups.

A. Mean Scores:

- CG: **25.60**
- EG: **24.90**

B. Statistical Analysis Results:

- Calculated t-value: **1.665**
- Tabulated t- value Tabulated (at $p < 0.05$): **2.625**

According to the data achieved, the results indicate that there was no statistically significant difference between the pre-test scores of the two groups. As the calculated t-value (1.665) was lower than the tabulated t-value (2.625). It concludes that the differences in pre-test scores are not significant.

The findings suggest that both groups were comparable in terms of their initial achievement levels, establishing a baseline for attributing any subsequent differences in achievement to the intervention of frequent testing rather than to pre-existing disparities.

Table 1: The Mean, Standard Deviation, and T-value of CG and EG Pre-test Scores

Group	Tests	N	Mean	SD	DF	T-cal.	T-tab.	Sig.
Pre-Control	**40**	**25.60**	**10.89**	**78**	**1.665**	**2.625**	**0.08 NS**	
Pre-Experiment	**40**	**24.90**	**10.66**					

NS refers to the non-significant difference between groups at $p < 0.05$.

4.3.2 Comparison between the Post-test of the Control Group and Experimental Group

A comparison of the post-test scores between the CG and EG was conducted to measure the effectiveness of frequent testing. The results confirm that there was a significant difference in achievement levels between the two groups.

A. Mean Scores:

- CG: **39.50**
- EG: **55.30**

B. Statistical Analysis Results:

- Calculated t-value: **4.476**
- Tabulated t-value (at $p < 0.05$): **2.626**

The calculated t-value (4.476) exceeded the tabulated t-value (2.626), indicating a statistically significant difference in achievement. The results demonstrate that the EG, which underwent frequent testing, achieved higher scores than the CG, thereby validating the intervention's effectiveness.

Table 2: The Mean, Standard Deviation, and T-value of the CG and EG's Post-tests

Test	N	Mean	SD	DF	T-cal.	T-tab.	Sig.
Post Control	**40**	**39.50**	**11.09**	**78**	**4.476**	**2.626**	**0.05***
Post Experiment	**40**	**55.30**	**15.53**				

* refers to a significant difference between groups at $p < 0.05$.

4.3.3 Discussion of the Results

The analysis of pre-test scores indicates that both the CG and EG began the study with comparably low achievement levels, with mean scores in the mid-20s. The lack of significance summarizes that the potential differences observed in their academic performances can be primarily attributed to the intervention. Thus, both groups were comparable before the study's implementation.

In contrast, the post-test results clearly reveal that the EG, which was subjected to frequent testing, scored significantly higher, with a mean of 55.30 compared to 39.50 for the CG. The substantial increase in the EG's scores illustrates the positive

impact of the frequent testing regimen on students' learning and retention of material. The t-test confirms the hypothesis that frequent testing contributes to better academic outcomes, as evidenced by the significant t-value difference.

The results from this experimental design support the assertion that frequent testing enhances academic achievement among students. By comparing the pre-test and post-test scores, this study provides strong evidence for the value of implementing regular assessments as part of instructional strategies.

The results can guide educators in refining their teaching practices to improve student performance, supporting the notion that strategic assessment plays a critical role in educational success.

5. Conclusion

The current study sets out to investigate the effect of frequent testing on student achievement in two comparable groups of sophomore students in College of Basic Education at the University of Telafer. The findings show that the introduction of frequent two-week tests in the EG meaningfully enhanced their learning outcomes compared to the CG, which did not receive the same level of assessment. Both groups showed improvements from pre-test to post-test; however, the EG demonstrated a highly significant increase in their scores, suggesting that the frequent tests contributed positively to their academic achievement.

The results indicate that while both groups began with slightly the same pre-test scores, the EG got higher achievement than the CG in the post-test, underlining the prospective benefits of frequent tests in promoting a deeper understanding and retention of course material. The considerable difference in the mean scores between the pre-test and post-test for the EG, alongside the statistical analysis ratifying these differences, reinforces the hypotheses that frequent testing can lead to improved academic achievement.

6. Recommendations

1. **Using Frequent Tests and Diverse Assessments**: To improve student engagement, accommodate different learning styles, and promote a thorough understanding of the subject matter, academic institutions should incorporate regular assessments—such as projects and quizzes—into their curricula.
2. **Periodically Provide Feedback**: In order to strengthen learning and assist students in pinpointing areas for development, institutions must place a high priority on providing constructive feedback on assessment performance.
3. **Improve Educator Training**: Methods for conducting frequent assessments efficiently and applying them to improve student learning and engagement should be emphasized in teacher training programs.

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