

Level of Technology and Livelihood Education (TLE) subject: Basis for Assessment of Academic Performance of Grade 7 at Lyceum of Alabang

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ABSTRACT

The purpose of this study is to empirically assess the impact of technology integration on academic performance in the TLE curriculum at the Lyceum of Alabang. This research seeks to answer key questions about how technology affects learning outcomes in TLE and how it can be effectively harnessed to improve both teaching practices and student performance. This study aims to fill this gap by examining the correlation between technology integration and academic performance in TLE courses among Grade 7 high school students at Lyceum of Alabang. The specific objectives of this research are to assess the impact of digital tools on students' engagement, skill acquisition, and overall academic performance. Additionally, the study will explore the challenges and opportunities presented by technology in the TLE classroom setting. The convergence of technology and education has attracted a lot of attention lately, with the potential to completely change traditional learning environments. New educational paradigms have been sparked by the introduction of digital tools and platforms, which hold the potential to improve teaching and learning across a range of subject areas. With its emphasis on practical skills and vocational training, Technology and Livelihood Education (TLE) stands out among these as particularly fertile ground for the incorporation of technology. This study aims to investigate how junior high school students in TLE perform academically in relation to technology integration.

Keywords: *Technology Integration, Academic Performance, Technology Livelihood and Education*

INTRODUCTION

The integration of technology in education is transforming traditional learning, offering new ways to enhance teaching and student performance. In subjects like Technology and Livelihood Education (TLE), which focus on practical and vocational skills, digital tools can be especially useful. This study explores how technology integration affects the academic performance of Grade 7 students in TLE at Lyceum of Alabang.

A related study by Ababa et al. (2021) showed that educational applications improved academic performance among senior high school students in Marilao Bulacan. Their research used surveys and performance data, finding that digital tools supported students in completing tasks and understanding lessons more effectively.

In the Philippines, laws such as the Enhanced Basic Education Act of 2013 (RA 10533) support the use of technology in schools to improve learning outcomes. Additionally, the Data Privacy Act of 2012 (RA 10173) ensures that student information is protected when using digital platforms.

This research aims to assess how digital tools influence student engagement, skill development, and academic performance in TLE. It also looks at the challenges and opportunities of using technology in the classroom, with the goal of supporting policy and educational improvements.

HYPOTHESIS

There is no significant relationship between the technology integration and the performance of Junior High School students at the Lyceum of Alabang.

METHODOLOGY

This study used the quantitative method to evaluate the level of technology integration in the Technology and Livelihood Education (TLE) subject basis for assessment of the academic performance of Grade 7 students. This research aimed to understand the current level of technology integration in Technology Livelihood Education (TLE) for grade 7 students. The quantitative method of research was suitable for this study since it allowed for the collection and analysis of objective data, providing a clear picture of the current situation. The study focused on gathering information about the students' personal profiles, including their age, gender, and grade level to provide a comprehensive understanding of the factors influencing technology integration in TLE.

This study consisted of all 100 Grade 7 students (40 males and 60 females) from all 3 sections who enrolled at Lyceum of Alabang during the 2023-2024 academic year.

The researchers used purposive sampling to ensure that every Grade 7 student took part in the study. This sample approach was chosen since each student held unique characteristics or life experiences related to the study's aims. This careful selection method assured the inclusion of every Grade 7 student and allowed for a concentrated exploration of the subject.

The researchers used purposive sampling to select participants for the study, "Level in the Technology and the Basis of Livelihood Education (TLE) Evaluation of Academic Achievement of Grade 7 at Junior High School. Relevant factors, such as grade level, gender, and socioeconomic position, were discovered at the initial sampling stage. Alabang Junior High School Lyceum A range of academic dimensions are represented by students, and these factors were selected with care to represent those dimensions. Purposive sampling Choosing according to these criteria, the researchers aimed to produce distinctive and uniform groupings, offering a strong foundation for subsequent stages of the investigation.

The primary tool used to collect data for this study is a modified questionnaire. The questionnaire was used as the main instrument for gathering data. The instrument was based on the statement of the problem (SOP). The legend that the researcher used was a four-point scale as follows: 4 highly aware, 3 aware, 2 unaware, and 1 very unaware.

RESULTS AND DISCUSSION

Table 1

Summary of Mean and Standard Deviation of Technology Integration and The Academic Performance in TLE.

Indicators	Mean	Standard Deviation	Verbal Interpretation
1. Multimedia Platforms	3.32	0.66	Aware
2. Virtual Learning Environment	3.30	0.63	Aware
3. Educational Application	3.28	0.71	Aware
Composite Mean	3.44	0.60	Aware

Legend: 1.00-1.49= Very Unaware, 1.50-2.49=Unaware, 2.50-3.49=Aware, 3.50-4.00=Highly Aware

Table 1 reveals that the composite mean of the three indicators is 3.44, accompanied by a standard deviation of 0.60, which corresponds to an "aware" verbal interpretation. Among the individual items, "multimedia platforms" recorded the highest mean of 3.32 with a standard deviation of 0.66, followed by "virtual learning environment" with a mean of 3.30 and a standard deviation of 0.63. Lastly, "educational application" has the lowest mean of 3.28 with a standard deviation of 0.71. Despite slight differences, all indicators fall under the "aware" category.

Table 2

Summary of Mean and Standard Deviation of Technology Integration and The Academic Performance in TLE.

Indicators	Mean	Standard Deviation	Verbal Interpretation
1. Written Task	3.23	0.67	Aware
2. Performance Tasks	3.27	0.69	Aware
3. Quarterly Examination	3.34	0.67	Aware
Composite Mean	3.29	0.67	Aware

Legend: 1.00-1.49= Very Unaware, 1.50-2.49=Unaware, 2.50-3.49=Aware, 3.50-4.00=Highly Aware

Table 2 reveals that the composite mean across the three indicators is 3.29, with a standard deviation of 0.67, corresponding to an "Aware" verbal interpretation. Among the individual items, "Quarterly Examination" stands out with the highest mean of 3.34 and a standard deviation of 0.67. This is followed by "Performance Tasks," which has a mean of 3.27 and a standard deviation of 0.69. Lastly, "Written Task" received the lowest mean score of 3.23 with a standard deviation of 0.67. All indicators reflect an "aware" level of interpretation.

Table 3

Test of Significant Relationship between Technology Integration and the Level of Performance of Junior High School Students.

Technology Integration	Performance of Junior High School Students		
	Written Task	Performance Task	Examination
Multimedia Platforms	0.520**	0.528**	0.513**
Virtual Learning Environment	0.541**	0.5187**	0.520**
Educational Application	0.534**	0.526**	0.526**

* Correlation is significant at the 0.01 level

CONCLUSION

Table 9 shows the significant relationship between different forms of technology integration and junior high school students' academic performance across written tasks, performance tasks, and examinations. It highlights that the use of Multimedia platforms has a positive and significant correlation with students' performance in all three assessment types, with r-values of 0.520 for written tasks, 0.528 for performance tasks, and 0.513 for examinations, all significant at the 0.01 level. This suggests that multimedia resources, such as videos, animations, and interactive content, contribute positively to students' learning outcomes by providing diverse ways to engage with the material. Similarly, virtual learning environments show significant positive correlations with academic performance across all assessment types, with r-values of 0.541 for written tasks, 0.518 for performance tasks, and 0.520 for examinations, each significant at the 0.01 level. This indicates that virtual learning settings, which often include online classes, discussion boards, and collaborative tools, play a crucial role in supporting students' academic success by fostering a flexible and interactive learning experience. Educational applications also demonstrate a strong positive relationship with student performance, as reflected by significant r-values of 0.534 for written tasks, 0.526 for performance tasks, and 0.526 for examinations, all at the 0.01 level. This shows that educational apps—ranging from quiz tools to learning management systems—are effective in reinforcing knowledge and aiding students in various assessments.

In conclusion, these findings illustrate that technology integration through multimedia platforms, virtual learning environments, and educational applications significantly enhances junior high school student's performance in written tasks, performance tasks, and examinations. This aligns with research emphasizing that technology-enriched learning environments provide accessible, varied, and interactive resources that support students' understanding and retention, ultimately leading to improved academic outcomes.

The results align with the study by Tamim et al. (2011), which found that technology integration, particularly through multimedia resources, has a positive impact on students' learning and engagement across educational levels. Their meta-analysis supports the idea that technology-enriched learning environments enhance understanding and retention by offering varied formats and interactive elements, similar to the positive correlations observed here. Additionally, the findings are consistent with those of Bernard et al. (2004), who reviewed the effects of distance education and virtual learning, concluding that these settings often lead to better academic outcomes due to increased accessibility and interaction opportunities.

Furthermore, a study by Cheung and Slavin (2013) on the use of educational technology in K-12 classrooms supports the significant relationship found between educational applications and student performance. They noted that applications that provide personalized feedback and practice contribute significantly to improving students' test scores and overall achievement. Together, these studies highlight the value of integrating technology—through multimedia, virtual learning, and educational apps—into educational practices to boost academic performance across multiple assessment types.

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