Self-Learning Module in Dressmaking (Selmod): A Module in Teaching Technology and Livelihood Education

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Abstract

This study delves into the realm of Technology and Livelihood Education (TLE) Dressmaking in the Philippine secondary school curriculum, focusing on the challenges faced by educators and learners, particularly in terms of resource shortages and limited support. The study's primary aim is to address the identified gaps by developing a Self-Learning Module in Dressmaking (SeLMoD) and assessing its impact on students' academic performance. The ADDIE model is employed for module development, and the Technology Acceptance Model (TAM) is used to evaluate the module's acceptability. The results indicate positive perceptions among students regarding the module's usefulness, ease of use, and attitudes, but a significant gap in actual utilization. The intervention, represented by the SeLMoD, leads to a remarkable improvement in students' performance, emphasizing its efficacy. However, a correlation analysis suggests that certain aspects of technology acceptance, particularly perceived usefulness, attitude towards use, and actual use, significantly influence academic performance. The study concludes with recommendations for learners, teachers, school administrators, DepEd officials, and future researchers, emphasizing the need for active engagement with technology, alignment of teaching methods with positive attitudes, investment in professional development, and exploration of factors contributing to the gap between attitudes and actual usage. In conclusion, this study provides valuable insights into the dynamics of students' technology acceptance and academic performance, underscoring the importance of aligning positive attitudes with active utilization. The recommendations emphasize collaboration, professional development, and policy refinements to bridge existing gaps and enhance the educational experience. The study sets the stage for future research to explore further the intricacies of student behavior and technology integration in education.

Keywords: module, technology and livelihood education (TLE), dressmaking, addie model, technology acceptance model (TAM), and acceptability.

1. Introduction

Technology and Livelihood Education is one of the academic disciplines taught in Philippine secondary schools under the K-12 Basic Education Curriculum (DepEd, 2012). TLE as a high school subject essentially teaches the fundamental principles of technicalities encountered in people's daily lives. It is not merely a case of explaining concepts, procedures, and academic terms but also allowing students to experience themselves Ramel [1].

One of the common goals shared by all educators is to provide effective instruction, which can vary depending on factors influencing students' interests. Instructional Materials (IMs) are tools that teachers use to clarify learning objectives and facilitate teaching in the learning process. The lack and scarcity of learning materials (LMs) are major contributors to the shortcomings of the educational system and students' underperformance in schools, requiring expert validation for improvement. The K-12 Curriculum Act, also known as the Enhanced Basic Education Act, signed by the late President Benigno Simeon Aquino III, has been met with opposition as it extends the curriculum, but it aims to enhance education by offering a twelve-year program, including senior high school, to equip students with essential skills for higher education, advanced skill development, work opportunities, and entrepreneurship. While the K-12 Curriculum has gained popularity, concerns remain about the availability of learning resources, particularly in subjects like

Technology and Livelihood Education (TLE). Instructors and students seek more support in accessing necessary LMs, despite the Department of Education's online offerings.

Technology and livelihood education (TLE) is a critical part of the Philippines' K-12 curriculum, preparing students for careers and life skills, but TLE educators and learners face challenges like resource shortages and limited support. Studies have examined these issues and prospects. For instance, Ramel found that TLE teachers employed various engaging teaching methods, including hands-on activities and cooperative learning, yet faced issues like inadequate materials and large class sizes. Similarly, Almazan and Pascual [2] explored the challenges faced by TLE teachers in adapting to the curriculum changes, and they highlighted issues like a lack of support from school administration and budget constraints. Some studies focused on the effectiveness of TLE, such as Bautista and Pascual [3], who discovered that TLE learning modules improved academic achievement and student attitudes, suggesting the need for alignment with curriculum standards. Pascual and Almazan [4] found TLE students ready for the licensure examination for teachers and recommended additional review sessions. Finally, studies like Pascual and Bautista [5] examined factors affecting student performance in TLE, including access, attitude, and interest, with access and attitude significantly impacting performance. They suggested improving access to equipment, fostering positive teacher-student relationships, and enhancing student interest for better performance.

Data from the District of Lanuza shows that the Mean Percentage Score (MPS) for TLE 7 for the 3RD quarter in the school year 2021-2022 is only 34.35 in TLE 7. According to the Proposed Criteria of Achievement of the national Education Testing and Research of the Department of Education, this MPS belongs to the nearing low mastery level. To address the low mastery level of achievement of students in TLE, various strategies and methods were done in giving instruction inside the classroom. One of the strategies is teaching with the aid of instructional material.

Based on the above scenario, the researcher is motivated to develop Printed worksheets that will respond to the necessity of learning materials in the field. The least learned skills in the previous school year will be the basis of the study in choosing what lesson needs the development of worksheets.

Thus, the researcher developed Self-Learning Module in Dressmaking (SeLMoD) in Technology and Livelihood Education 7 (Exploratory). They utilized ADDIE [6] as the model in making the Module and TAM to measure the acceptability rating of the developed Module.

2. Methodology

This study utilized a single-group pretest-posttest research design to assess the effectiveness of a developed module in TLE-7 Dressmaking using the ADDIE model. Conducted at Bunga Integrated School in Barangay Bunga, Lanuza, Surigao del Sur, the study involved 42 Grade 7 students (13 boys and 29 girls) selected through purposive sampling.

The evaluation tool measured student performance before and after using the module, with a researcher-made questionnaire assessing its acceptability. The Technology Acceptance Model (TAM) was adopted for summative evaluation through a checklist with 26 items covering content, organization, structure, motivation, and learning impact.

3. Results

Table 1: Level of Technology Acceptance of the students

Indicators	Mean	Description
Perceived usefulness	3.61	Agree
Perceived ease of use	4.48	Strongly agree
Personal Innovativeness	3.69	Agree
Attitude towards using	4.17	Agree
Actual use	2.23	Disagree

Table 2: Performances of the Students

Test	N	Mean	SD
Pre test	42	20.64	6.46
Post test	42	41.24	5.69

Group	Mean	SD	t-value	p-value	Decision	Interpretation
Pre	20.64	6.46	-19.17	<0.001	Reject H_1	Significant
Post	41.24	5.69				

Table 3. Significance difference in the performance of the Students

Performance	r-value	p-value	Decision	Interpretation
Perceived usefulness	0.56	0.02	Reject H2	Significant
Perceived ease of use	0.32	0.15	Failed to Reject H2	Not Significant
Personal Innovativeness	-0.1	0.65	Failed to Reject H2	Not Significant
Attitude towards using	0.45	0.05	Reject H2	Significant
Actual use	0.62	0.01	Reject H2	Significant

Table 4: Significant relationship of the level of students' performance and technology acceptance

4. Discussion

The table 1 reveals that students have a generally positive perception of the module, particularly regarding its perceived usefulness (3.61), ease of use (4.48), personal innovativeness (3.69), and attitude towards using it (4.17). Despite these favorable views, the actual use of the module (2.23) is notably low, suggesting a disconnect between students' positive attitudes and their actual engagement. This gap highlights the need for further investigation to identify potential barriers, such as access, time constraints, or support systems, that could be hindering its use.

These findings are consistent with previous studies, such as those by Al-Azawei et al. [7], Al-Rahmi et al. [8], and Chen et al. [9], which emphasize the importance of both internal and external factors in influencing technology adoption and use. To bridge the gap between perception and actual usage, interventions such as improved access, training, and institutional support are recommended.

In Table 2, the students' performance on the pre-test and post-test assessments is presented. The pre-test mean score is 20.64, indicating the students' average knowledge before the intervention, while the post-test mean score shows a significant increase to 41.24, demonstrating a marked improvement in their performance. The lower standard deviation in the post-test (5.69) compared to the pre-test (6.46) suggests greater consistency in the post-test scores, indicating more uniform outcomes following the intervention.

In Table 3, the significance of the difference in students' performance between the pre-test and post-test is analyzed. The pre-test mean score is 20.64, and the post-test mean score is 41.24. The t-value of -19.17 and the p-value of <0.001 indicate a statistically significant difference between the two sets of scores. Since the p-value is very low, the null hypothesis (H0) is rejected, confirming that the intervention led to a significant improvement in student performance. This result suggests that the intervention had a positive impact on the students' academic progress.

In Table 4, the correlation analysis between students' performance and technology acceptance factors reveals significant relationships for perceived usefulness, attitude towards using, and actual use, with r-values of 0.56, 0.45, and 0.62, respectively. These factors are positively correlated with academic performance, suggesting that students who find technology useful, have a positive attitude, and actively use it perform better. However, no significant relationship was found for perceived ease of use or personal innovativeness, as their p-values were high.

The results imply that promoting technology as a useful tool, fostering a positive attitude towards its use, and encouraging active engagement can improve students' academic performance. These findings align with previous research indicating that module utilization enhances learning outcomes and skills development.

5. Conclusions

In conclusion, this study yields valuable insights into the dynamics of students' technology acceptance, their academic performance, and the relationships between these variables. Students generally exhibit positive perceptions of the module's usefulness, ease of use, and openness to innovation, yet this optimism doesn't consistently translate into active utilization of the technology. The intervention introduced to enhance academic performance resulted in a significant and notable improvement, emphasizing its effectiveness in achieving educational objectives. The tighter clustering of scores in the post-test indicates more consistent outcomes. Additionally, the correlation analysis highlights the significance of perceived usefulness, a positive attitude towards technology usage, and active engagement in influencing academic performance. These findings underscore the importance of promoting the perceived value of technology, fostering a positive attitude, and encouraging active utilization in educational settings. However, it also underscores the need for further exploration into the discrepancy between perceived ease of use and personal innovativeness and their direct impact on academic performance. This study lays the foundation for informed decision-making and ongoing enhancements in educational practices.

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