
Dressmaking Module as Supplementary Instructional Material for K To 12 Technology and Livelihood Education: An Assessment

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Abstract

This study aimed to assess a researcher-developed module in Dressmaking by evaluating its usability, adaptability, generalizability, and content validity. The research followed a descriptive-developmental approach and collected data through a questionnaire. Descriptive statistics, such as mean and standard deviation, were used to analyze the assessment data. Additionally, ANOVA was employed to determine if there were significant differences in the assessment between groups of respondents. The findings of the study revealed that the respondents were highly satisfied with all aspects of the module, including its external and internal features. The assessment of the module's usability, adaptability, generalizability, and overall features received an "extremely satisfied" rating from the participants. Furthermore, there were no significant differences in the assessment of the module among different groups of respondents, which included Tech-Voc. Faculty, Technology and Livelihood Education (TLE) students, and laboratory high school students. These results indicate that the developed module in dressmaking is deemed acceptable by various groups of participants and has the potential to be an effective instructional material for teaching Dressmaking among TLE students. The study suggests that further research should consider conducting pilot tests of the module to validate its effectiveness. By doing so, educators and curriculum developers can gather more evidence on the module's efficacy and make any necessary adjustments. In conclusion, this study contributes to the field of Dressmaking education by providing an assessment of a researcher-developed module. The positive evaluation from participants and the absence of significant differences among different groups of respondents support the module's potential as an instructional resource. Further research can build upon these findings to strengthen the evidence base and facilitate the integration of the module into Dressmaking curricula.

Keywords: Dressmaking, Assessment, Module, Internal features, External features.

1. Introduction

The need of the people and society is indeed a paramount concern for any government, and recognizing this, governments often prioritize enhancing and upgrading the education system to meet these needs. One such initiative aimed at fulfilling this mandate is the K to 12 Basic Education Program.

The K to 12 Basic Education Program (RA-No.-10533, 2013) upholds the constitutional mandate that "the state shall establish, maintain, and support a complete, adequate, and integrated system of education relevant to the needs of the people and society." In line with this objective, the program introduces changes to the education curriculum to better align it with the demands of the modern world. Within the K to 12 BEP framework, Technology and Livelihood Education (TLE) is one of the subjects to be taught from grade 7 to 10. TLE is further divided into three areas, namely Home Economics, Agriculture, Fishery Arts, and Industrial Arts, which collectively encompass practical arts or work education. The purpose of TLE is to impart technological knowledge that can be directly applied to students' daily lives, equipping them with practical skills that are essential for the world of work.

By incorporating TLE into the curriculum, the K to 12 BEP aims to produce graduates who are not only academically proficient but also possess vocational skills that can contribute to their personal development and the overall progress of society. This emphasis on practical arts and work education enables students to acquire hands-on expertise in various fields, ensuring they become productive members of society with the ability to apply their knowledge in real-world scenarios. Through the inclusion of TLE in the K to 12 BEP, students are provided with opportunities to explore and develop their interests and talents in different practical domains. By mastering these skills, they are better prepared to enter the workforce, pursue entrepreneurial ventures, or further their education in specialized vocational or technical fields. This comprehensive approach to education fosters a well-rounded and competent workforce that can adapt to the evolving needs of industries and contribute to the overall socio-economic development of the nation.

Moreover, the changing of the education curriculum, as exemplified by the inclusion of Technology and Livelihood Education in the K to 12 Basic Education Program, is a means to enhance and upgrade the education system. By incorporating practical arts and work education, students gain valuable skills and knowledge that are directly applicable to their daily lives and the demands of the workforce. This approach ensures that graduates become productive members of society, capable of contributing to the betterment of their communities and the nation as a whole.

The best learning environment is widely recognized as one that is learner-centered, where the teacher assumes the role of a facilitator rather than a mere dispenser of knowledge. In this approach, students are encouraged to take an active role in their own education, engaging in personal, hands-on discovery to learn and develop their skills. By doing so, learners become more responsive and responsible for their own learning process. Each learner possesses unique strategies, approaches, and capabilities for acquiring knowledge, influenced by their experiences and innate traits. In the present educational landscape, teachers are increasingly embracing their role as facilitators, becoming more creative, critical, analytical, and independent themselves. This shift empowers students to become active participants in their learning journey.

One effective instructional material that aligns with learner-centered learning is the module. Modules provide learners with the flexibility to progress through the content at their own pace, catering to individual learning styles and preferences. They offer opportunities for independent

learning, allowing students to explore concepts and topics in depth and engage in self-directed activities. Therefore, the aim of the study is to evaluate a specific learning module focused on dressmaking. This evaluation is conducted with the intention of assessing the module's effectiveness in supporting learner-centered learning, considering its internal (content and structure), external (presentation and accessibility), and overall aspects. The evaluation framework provides a structured approach to analyze and measure the module's alignment with learner-centered principles. Additionally, the study seeks to determine if significant differences exist in the perceived assessment of the learning module among different groups of respondents. This analysis allows for a deeper understanding of how various individuals, such as students with different learning styles or teachers with varying experiences, perceive and benefit from the module.

By conducting this study, valuable insights can be gained regarding the effectiveness of the module in promoting learner-centered learning and its impact on different groups of learners. The findings can inform educators and curriculum developers about the strengths and areas for improvement in the module, enabling them to refine and enhance instructional materials to better support learner-centered approaches.

Furthermore, the learner-centered approach emphasizes the active participation of students in their own learning process, with teachers serving as facilitators. Modules, as instructional materials, offer a valuable tool for implementing this approach by allowing learners to learn at their own pace and engage in independent learning. Evaluating the effectiveness of a dressmaking module within a learner-centered framework and exploring potential differences in perceptions among different groups of respondents can provide valuable insights for improving instructional practices and promoting effective learning experiences.

2. Literature Review

The inadequacy of the educational system was noted during the American occupation and became the core of the Monroe and Prosser Survey, which recommended an improved phase of vocational education and incorporating Home Economics, Placement work, Gardening, and Agricultural Education into the curriculum in 1982. According to the Philippine Constitution, "the state shall establish, maintain, and support a complete adequate and integrated system of education relevant to the needs of the people and society." (Constitutions of 1935, 1973, and 1987)

According to Sadiq & Zamir (2014), the teacher planning program is expanding, making it necessary for all teachers to create their own instructional materials, practical manuals to enhance learning, and designs to target various national markets. Individual uniqueness and distinctions are anchored in the learning style strengths and learning style (Siudad & Alias, 2022). Each has their own method of reacting to diverse stimuli from various environmental, social, physical, psychological, and emotional strands, resulting in various reactions and responses (Carada et al., 2022).

Following the study of Ansayam & Tan (2021) which stated that self-made educational material such as modules might be performed by individuals, peers, or groups. This supported Yusri et al. (2020)' contention that students respond differently to various stimuli posed by

environmental, emotional, sociological, and psychological components. The module encourages learners to work on their own initiative. This has proven to be an effective remedial approach for slow learners because it encourages them to study at their own pace or phase. This also acts as supplemental material for previous students (Ioannou, 2018).

It has been observed in both developing and rich countries that learning using modules is gaining traction and acceptance as an innovative method (Kuleto, et al., 2021). This was further highlighted by Shim & Lee (2020) in their study that modular learning is significantly popular among college instructors since it preserves learners' unique characteristics. These distinctions reflect how students perceive learning, engage with, and respond to the learning environment.

Dimaunahan & Panoy (2021) confirmed in their studies that the produced modules are very successful as a means of resolving the students' challenges. This supports the findings of Gardenhire et al. (2016), that the built modules assisted pupils in learning each lesson at their own pace. They recognized individual diversity and allowed kids to learn without teacher interference.

In their study, they determined that modular is more effective instructional resources in teaching than the lecture method of teaching necessary concepts and abilities in textile crafts. She suggested the following. (1) To alleviate the existing difficulty, teaching-learning should be addressed using modules and sufficient teaching materials. (2) The administrator should support module writing; (3) A seminar work-shop on module development should be held in each school to provide basic knowledge to teachers so that other modules can be produced; (4) Similar studies should be conducted in other areas of garment trades; and (5) The developed modules should be tested in other schools that offer garment trades to cross validate the said instructional materials.

Dressmaking is one of the areas of Homemaking, Technology, and Livelihood Education that could help to alleviate, if not completely eliminate, the causes of poverty in our society. Because education is a tool for growth and development, the government is saddled with the growing cost of updating the curriculum, which is the gold standard of great education. The increased size and variety of the student body has had an impact on the course design process. According to Khatri, et al. (2016), the teacher's planning program is insufficient and thus requires cooperation from stakeholders such as teachers and communities to produce instructional materials of practical guides to augment learning design to target unique national markets. As a result, teachers who know their pupils well must develop a module in addition to their speciality (Gardenhire et al., 2016). Individual differences are upheld through modules, which are self-contained formally structured learning experiences with a coherent and explicit set of learning outcomes and assessment. It is believing that everyone has a learning style and learning type strengths. Work, self-instructional materials are undertaken individually, by peers, or by groups (Javier & Alias, 2022). This contention that pupils react differently to significant stimuli such as the environment, emotional, sociological, physiological, and psychological strands. Modules work well as remedial teaching for slow learners as well as a personalised instruction program.

According to Butcher et al. (2019), learning modules are one of the most widely used instructional tools, and they are a popular invention in both developing and developed countries. Rienties & Toetenel (2016) further stated that modular learning is becoming increasingly popular among college professors due to its ability to recognize individual variances in learners. Individual variances reveal how students perceive learning, engage with, and respond to learning situations.

Aliazas et al.(2021) suggested the administration give funds to sponsor seminars that teach teachers how to produce and construct self-directed materials in their field of specialization in order to increase the quality of student learning that their students can attain. With this strategy in place, students will learn by doing, teaching will become more relaxed, and learning will become self-directed. It is obvious that the K-12 Basic Education Program has Technology and Employment Education is a technique for skill acquisition with measurable results in terms of productivity and labor resources (Deaconu et al., 2018). Dressmaking is one of its components, although it cannot be learned solely through lectures (Tugade, 2016). Hands-on practice is required to learn the abilities, and here is where the module shines for the student's self-discovery of its essential knowledge.

With this in mind, the researcher decided to create a Dressmaking Module. To demonstrate the module's validity, all components were systematically evaluated so that it could be used as supplementary instructional material in teaching dressmaking, thereby providing students with individualized material that can help them work independently as active learners. Individual differences and constructive alignment of the self-directed instructional resources, the module, are the theoretical underpinnings of this module as an educational-supplementary material. That each child is unique, making each person distinct from the others. This study does not consider a person's IQ, but rather his response or reaction to a certain educational stimulus. This study simply provides insight into how probable a specific person is to learn new and difficult knowledge. Exploiting human potential entails knowing how to provide the groundwork for new skills and behavioral changes. It is expected that one will study complex and difficult knowledge as well as gain new abilities. This requires a firm understanding of how one learns best. Learning style is critical in making a module an effective learning tool. Constructive alignment is a curriculum design strategy that enhances the conditions for great learning by ensuring alignment throughout the process, from learning outcome development to teaching method selection to assessment. It is critical that this module be thoroughly assessed to verify that it meets the highest quality standards.

3. Methodology

The descriptive method of research was employed in this study to provide a detailed description of how the respondents perceived the instructional material as an effective tool in individualized learning (Binkhorst et al., 2015). This method allowed the researcher to observe and report on the participants' views and opinions without manipulating any variables. By utilizing the descriptive approach, the researcher aimed to gain a comprehensive understanding of the participants' experiences and perspectives regarding the instructional material.

The study focused on students from various groups, including Tech-Voc. Teachers, CTE-Technology and Livelihood Education (TLE) students, and laboratory high school students enrolled at the Laguna State Polytechnic University San Pablo City Campus. This diverse selection of participants ensured a broad representation of different educational backgrounds and levels of expertise, enriching the study's findings.

The primary instrument used to collect data in this study was a self-made questionnaire, carefully designed and validated by the researcher. The questionnaire was specifically developed to assess the participants' perception of the instructional material's effectiveness in facilitating individualized learning. It was distributed to the respondents, who were instructed to provide their assessment based on their personal experiences and observations. To simplify the presentation of responses, a coding system was implemented, where a score of 5 represented "extremely satisfied," 4 indicated "very satisfied," 3 denoted "satisfied," 2 represented "moderately satisfied," and 1 indicated "not satisfied."

The data collected from the questionnaires were then classified, tabulated, and coded for analysis, utilizing both descriptive and inferential statistics. Descriptive statistics, such as frequency and percentage, were employed to describe the respondents' profile, providing a comprehensive overview of the demographic distribution of the participants. This allowed the researcher to identify any patterns or trends within the participant groups, such as variations in perception based on educational background or level of expertise.

To measure the assessment questions regarding the instructional material's effectiveness, mean and standard deviation were utilized. The mean provided an average score that reflected the overall satisfaction level of the respondents, while the standard deviation indicated the degree of variability in their responses (Bonikowska et al., 2014). These statistical measures allowed for a quantitative representation of the participants' perception of the instructional material's effectiveness in individualized learning.

Furthermore, to explore whether significant differences existed in the perceived acceptability of the instructional material among the different groups of respondents, an analysis of variance (ANOVA) was conducted. ANOVA is a statistical test used to compare means between multiple groups and determine whether any significant variations exist (Kim T. K., 2017). By conducting an ANOVA, the researcher aimed to identify any significant differences in perception among the different participant groups, providing valuable insights into how the effectiveness of the instructional material may vary across different educational backgrounds or levels of expertise.

In summary, the descriptive method of research allowed the researcher to provide a comprehensive description of how the respondents perceived the instructional material as an effective tool in individualized learning. The utilization of a self-made questionnaire, validated by the researcher, facilitated data collection. The data were then analyzed using descriptive and inferential statistics, including mean, standard deviation, and ANOVA, to gain insights into the participants' perceptions and explore potential variations among different groups of respondents.

4. Results and Discussion

Table 1. Demographic Profile

	Demographic	Frequency	Percentage
Age	13-14	14	31.1%
	15-16	20	44.4%
	17-18	11	24.5%
Sex	Male	18	40%
	Female	27	60%
Family Monthly Income	Php 1000 Php 5000	6	13.4%
	Php 6000 Php 10000	7	15.6%
	Php 11000 Php 15000	10	22.2%
	Php 16000 = Php 20000	11	24.4%
	Php 21000 Php 25000	11	24.4%
Parent's Educational Attainment	Elementary Undergraduate	3	6.6%
	Elementary Graduate	6	13.3%
	High School Undergraduate	7	15.6%
	High School Graduate	12	26.7%
	College Undergraduate	10	22.2%
	College Graduate	7	15.6%

N: 45

The table presents various demographic characteristics of the respondents and their corresponding percentages. Here is an expanded version of the given information:

According to the table, there were a total of 45 respondents. Among them, fourteen individuals or 31.1% fell within the age bracket of 13-14 years old, while twenty individuals or 44.4% were in the age range of 15-16 years old. Additionally, eleven respondents were aged 17-18. From these findings, it can be inferred that the majority of the respondents, 44.4%, belonged to the 15-16 years old age group.

Furthermore, the table indicates that eighteen individuals or 40% of the respondents were males, while twenty-seven individuals or 60% were females. This data suggests that the majority of the respondents were female.

Examining the income distribution, the table reveals that six respondents or 13.4% had a monthly income between Php 1000 and Php 5000. Seven respondents or 15.6% fell within the income range of Php 6000 to Php 10000. The next category consisted of ten respondents or 22.2% with a monthly income of Php 11000 to Php 15000. Interestingly, both the income brackets of Php 16000 to Php 20000 and Php 21000 to Php 25000 had a frequency of eleven respondents, accounting for 24.4% each.

Furthermore, the table provides data on the educational attainment of the respondents' parents. Six individuals or 13.3% had only completed elementary school. Seven respondents or 15.6% had graduated from high school, and an equal number of seven respondents were college graduates. The highest proportion, twelve respondents or 26.7%, were high school graduates. Finally, ten respondents or 22.2% had pursued some college education but were still classified

as undergraduate students. This information indicates that the majority of the respondents' parents were high school graduates.

In summary, the table demonstrates that the majority of the respondents were 15-16 years old, with a higher representation of females. Additionally, the respondents' parents predominantly had a high school educational background.

Table 2. The Mean Assessment of the Respondents on the Qualities of the Developed Module as to External Evaluation

The module	Indicators	Mean	Standard Deviation	Verbal Interpretation
1. is in print of good quality and locally available.		4.38	0.57	Very Satisfied
2. includes a list or index.		4.31	0.63	Very Satisfied
3. contains visual materials (photographs, charts, diagrams, etc.) that are actually integrated to the text and not for aesthetic value.		4.51	0.57	Extremely Satisfied
4. is specifically designed for.		4.58	0.56	Extremely Satisfied
5. is culturally appropriate or gender sensitive.		4.44	0.60	Very Satisfied
6. is affordable.		4.11	0.66	Very Satisfied
7. presents the appropriate fonts.		4.47	0.59	Very Satisfied
8. uses simple and clear wordings.		4.89	0.32	Extremely Satisfied
9. has good quality of materials.		4.56	0.56	Extremely Satisfied
10. is handy and durable.		4.51	0.59	Extremely Satisfied
OVERALL		4.48	0.58	Very Satisfied

Table 2 provides a comprehensive overview of the respondents' average assessment of the developed module in terms of external evaluation. The results indicate that the respondents expressed a high level of satisfaction with various aspects of the module.

One notable finding is that the respondents highly appreciated the module's use of simple and clear wordings. The module effectively conveyed the information in a manner that was easily understandable to the users. This aspect received particularly positive feedback from the respondents, indicating that they found the module to be accessible and user-friendly.

Additionally, the respondents agreed that the module was specifically designed to meet their needs. The developers took into account the unique requirements and preferences of the users, resulting in a module that effectively addressed their expectations. This tailored approach was well-received by the respondents, further contributing to their satisfaction.

Moreover, the module's materials used in dressmaking received praise for their quality. The respondents acknowledged that the materials provided in the module were of good quality, ensuring a positive learning experience and enhancing the overall value of the module.

Considering the overall weighted mean of 4.48 and an overall standard deviation of 0.58, Table 2 demonstrates that the respondents were extremely satisfied with the external features of the

module. These high ratings indicate a strong consensus among the respondents regarding their positive evaluation of the module's external aspects.

In summary, the findings from Table 2 highlight the respondents' profound satisfaction with the developed module's external evaluation. They found the module's wordings to be simple and clear, appreciated the module's specific design, and acknowledged the high quality of materials in the dressmaking modules. The overwhelmingly positive feedback further solidifies the conclusion that the respondents were highly satisfied with the module's external features.

Table 3. The Mean Assessment of the Respondents on the Qualities of the Developed Module as to Internal Evaluation.

Indicators	Mean	Standard Deviation	Verbal Interpretation
The module.....			
1. provides an appropriate motivation for the students.	4.18	0.65	Very Satisfied
2. presents the skills in sequential and comprehensive manner.	4.33	0.64	Very Satisfied
3. is readable.	4.38	0.65	Very Satisfied
4. has factual content.	4.49	0.57	Very Satisfied
5. has educational significance.	4.51	0.59	Extremely Satisfied
6. has provisions for different learning styles.	4.51	0.62	Extremely Satisfied
7. contains exercises and tests that are related to the learners' needs as well as to the course content.	4.47	0.55	Very Satisfied
8. states direction clearly.	4.93	0.25	Extremely Satisfied
9. contains criteria for rating.	4.60	0.49	Extremely Satisfied
10. has artistic quality.	4.58	0.56	Extremely Satisfied
OVERALL	4.50	0.56	Extremely Satisfied

Table 3 illustrates the average assessment of the respondents regarding the qualities of the developed module, specifically focusing on internal evaluation. The results provide insights into the respondents' satisfaction levels with various aspects of the module's internal content.

Among the indicators evaluated, Indicator 8, which pertains to the clarity of the module's direction, received the highest mean score of 4.93, with a standard deviation of 0.25. This indicates that the respondents expressed an extremely high level of satisfaction with the module's internal content in terms of providing clear directions. The clarity of the module's guidance was well-received by the respondents, suggesting that they found it easy to understand and follow the instructions provided.

On the other hand, Indicator 1, which evaluates whether the module provides appropriate motivation for the students, received the lowest mean score of 4.18, with a standard deviation of 0.65. Despite this lower score, it is important to note that the respondents still indicated a high level of satisfaction, as the mean falls within the "very satisfied" range. While there may

be some room for improvement in terms of motivating the students, the overall satisfaction level suggests that the module's internal content is still positively perceived by the respondents.

Considering the overall mean score of 4.50 and a standard deviation of 0.57, the interpretation of "extremely satisfied" highlights the overall satisfaction of the respondents with the module's internal evaluation. The high mean score indicates that, on average, the respondents found the internal content of the module to be acceptable and satisfactory.

In summary, Table 3 demonstrates that the respondents expressed a high level of satisfaction with the qualities of the developed module in terms of internal evaluation. The clarity of direction received the highest mean score, indicating the respondents' strong satisfaction in understanding and following the module's guidance. Although the module's ability to provide appropriate motivation for the students received a relatively lower mean score, it still reflects a high level of satisfaction. The overall mean and standard deviation further reinforce the conclusion that the respondents were extremely satisfied with the module's internal content.

Table 4. Mean Assessment of the Respondents on the Qualities of the Developed Module as to Overall Evaluation

Indicators	Mean	Standard Deviation	Verbal Interpretation
The module....			
1. Usability	4.51	0.55	Extremely Satisfied
2. Generalizability	4.44	0.50	Very Satisfied
3. Adaptability	4.20	0.66	Very Satisfied
4. Content Validity	4.53	0.55	Extremely Satisfied
Overall	4.42	0.56	Very Satisfied

Table 4 presents the mean assessment of the respondents on the overall evaluation of the developed module, specifically focusing on usability, generalizability, adaptability, and content validity. The data reveals the respondents' satisfaction levels with these key aspects of the module.

Starting with Indicator 1, which assesses the usability of the module, the data shows a mean score of 4.51 and a standard deviation of 0.55, indicating that the respondents were extremely satisfied with the usability of the module. This suggests that the module was easy to navigate and interact with, making it convenient for the users to access and utilize its features effectively.

Moving on to Indicator 2, which measures the generalizability of the module, the data indicates a mean score of 4.44 and a standard deviation of 0.50. This suggests that the respondents were extremely satisfied with the generalizability of the module, indicating that they believed the content and concepts covered in the module could be applied and adapted to various contexts and situations.

Indicator 3, which evaluates the adaptability of the module, received a mean score of 4.20 and a standard deviation of 0.66. Although this mean score is relatively lower compared to the previous indicators, it still falls within the range of "very satisfied." This indicates that the respondents expressed a high level of satisfaction with the adaptability of the module,

suggesting that they found the module to be flexible and capable of being modified or adjusted to meet their specific needs.

Lastly, Indicator 4, which measures the content validity of the module, received the highest mean score of 4.53 with a standard deviation of 0.55. This indicates that the content of the developed module was extremely accepted and validated by the respondents. They recognized the relevance and accuracy of the information presented, further confirming their satisfaction with the content validity.

In summary, the data from Table 4 demonstrates that the respondents expressed high levels of satisfaction with the overall evaluation of the developed module. They found the module to be highly usable, easily adaptable, and applicable to various contexts. The content of the module was also well-received, with the respondents acknowledging its validity. These findings highlight the positive reception and satisfaction of the respondents regarding the module's usability, generalizability, adaptability, and content validity.

Table 5. Test of Difference on the External Feature of the Dressmaking Module by Groups of Respondents.

Source of Variation	Sum of Squares	Df	MSS	F comp	F critical	Remarks
Between Groups	68.2168	2	34.11			
Within Groups	545.5251	27	20.20	1.69	3.35	Not Significant

Legend: $p < 0.1$ Significant $p > 0.1$ Not Significant

Table 5 presents the results of the Analysis of Variance (ANOVA) conducted on the external feature of the module, categorized by different groups of respondents. The purpose of this analysis was to determine whether there were significant differences in the assessment of the module's external features among the various respondent groups.

The data in Table 5 reveals that the computed F-Value is 1.69, which is lower than the critical value of 3.35. This indicates that the assessment scores of the three groups of respondents did not significantly differ from each other. In other words, there were no statistically significant variations in how the different groups perceived the external features of the module.

This finding implies that the developed module, with its external features, is specifically designed to cater to the needs of the different groups of respondents mentioned. These groups include students majoring in Bachelor of Science in Industrial Education (BSIE), Bachelor of Science in Education (BSED) with a major in Technology and Livelihood Education, and Grade 9 students under the K to 12 educational frameworks.

The lack of significant differences in the assessment scores suggests that the module's external features are equally suitable and well-received by these diverse groups of respondents. This implies that the module effectively meets the requirements and expectations of the intended audience, regardless of their educational background or grade level (Bennett et al., 2015).

In summary, the results from Table 5 indicate that there were no significant variations in the assessment of the module's external features among the different groups of respondents. The

module's design specifically caters to the BSIE and BSED majors in Technology and Livelihood Education, as well as Grade 9 students under the K to 12 curriculum. This suggests that the developed module successfully meets the needs of these diverse groups, highlighting its effectiveness in addressing their requirements and preferences.

Table 6. Test of Difference on the Internal Feature of the Dressmaking Module by Groups of Respondents

Source of Variation	Sum of Squares	Df	MSS	F comp	F critical	Remarks
Between Groups	66.6015	2	33.30	1.68	3.35	Not Significant
Within Groups	534.0681	27	19.78			

Legend: $p < 0.1$ Significant $p > 0.1$ Not Significant

Table 6 presents the results of the ANOVA computations conducted on the internal feature of the dressmaking module, categorized by different groups of respondents. The objective of this analysis was to determine whether there were significant differences in the assessment of the module among the three groups used in the study.

Based on the data provided in Table 6, the computed F-value is 1.68, which is less than the tabular value of 3.35. This indicates that there is no significant difference in the assessment of the module among the three groups of respondents. In other words, the groups evaluated the module's internal features at a similar level.

These findings imply that the three groups of respondents, despite any differences in their characteristics or backgrounds, had a comparable assessment of the developed dressmaking module (Canta, 2019). The lack of a significant difference suggests that the module's internal features were perceived and evaluated similarly by all three groups.

The results from Table 6 suggest that the developed module effectively addressed the needs and requirements of the different groups of respondents in terms of its internal features. The module was able to provide a consistent and satisfactory experience across the board, regardless of the specific group being considered.

In summary, the ANOVA computations in Table 6 demonstrate that there were no significant differences in the assessment of the dressmaking module's internal features among the three groups of respondents. This indicates that the module performed consistently well across the various groups, implying that it effectively met the needs and expectations of all three groups.

Table 7. Test of Difference on the Usability of the Dressmaking Module by Groups of Respondents

Source of Variation	Sum of Squares	Df	MSS	F critical	F tab	Remarks
Between Groups	79.508	2	39.75			Not Significant
Within Groups	238.299	12	19.86	2.0	3.74	

Legend: $p < 0.1$ Significant $p > 0.1$ Not Significant

Table 7 displays the results of the Analysis of Variance (ANOVA) conducted on the usability of the dressmaking module, categorized by different groups of respondents. The purpose of this analysis was to determine if there were any significant differences in the assessment of the module's usability among the three groups.

According to the data presented in Table 7, the critical F-value is 2.0, which is less than the tabular value of 3.74. This indicates that there is no significant difference in the assessment of the module's usability among the three groups of respondents. In other words, the three groups evaluated the module's usability in a similar manner.

These findings suggest that all three groups of respondents perceived the dressmaking module as an effective educational resource that can be utilized by students at their own pace and convenience. The lack of a significant difference indicates that the module's usability was consistently perceived positively across the different groups.

The usability of instructional materials plays a crucial role in the effectiveness of teaching and learning. In the context of dressmaking modules, it is essential to assess the usability of such materials to ensure they meet the needs and expectations of the intended users. The results from Table 7 imply that the dressmaking module successfully met the needs and expectations of the various groups in terms of its usability. Students from different backgrounds or characteristics found the module to be accessible and user-friendly, allowing them to engage with the material at their preferred time and pace.

Kim et al. (2023) conducted a study to evaluate the usability of e-learning modules in the field of fashion design. The researchers assessed the modules' usability by measuring user satisfaction, effectiveness, and efficiency. The findings revealed that the usability of the modules varied among different user groups, highlighting the importance of considering the diverse needs and preferences of the target audience in instructional design. Likewise, Kılıç and Bayrak & Altun (2020) conducted a study to assess the usability of online learning materials for fashion and textile education. The researchers employed user testing and expert evaluation methods to evaluate the usability of the modules. The results indicated that different user groups had varying perceptions of usability, emphasizing the need for tailored design approaches to meet the specific requirements of each group.

The findings were also supported by Chen et al. (2022) who examined the usability of web-based learning materials for fashion design education. The study employed a mixed-methods approach, combining usability testing, interviews, and surveys to assess the modules' usability. The findings indicated that usability varied among different user groups, highlighting the importance of considering user characteristics and preferences in the design process. Furthermore, Tian et al., (2021) conducted a user-centered evaluation of an triangle design framework module for fashion design education. The study involved usability testing and interviews to gather user feedback on the module's usability. The findings indicated that user satisfaction and usability varied among different user groups, emphasizing the importance of user-centered design principles in instructional material development.

In summary, the ANOVA analysis presented in Table 7 reveals that there were no significant differences in the assessment of the dressmaking module's usability among the three groups of

respondents. This suggests that the module effectively served as a valuable resource for all students, enabling them to engage with the content at their own convenience. The findings underscore the module's success in providing a user-friendly and flexible learning experience for the students. Understanding the diverse needs and preferences of the target audience is crucial for creating effective and user-friendly dressmaking modules. By incorporating usability evaluation techniques and considering user-centered design principles, instructional designers can develop modules that enhance the learning experience and meet the specific requirements of different user groups.

Table 8. Test of Difference on the Generalizability of the Dressmaking Module by Groups of Respondents

Source of Variation	Sum of Squares	Df	MSS	F critical	F tab	Remarks
Between Groups	78.3151	2	39.16			Not Significant
Within Groups	234.7469	12	19.56	2.0	3.74	

Legend: $p < 0.1$ Significant $p > 0.1$ Not Significant

Table 8 displays the results of the Analysis of Variance (ANOVA) conducted on the generalizability of the dressmaking module, categorized by different groups of respondents. The aim of this analysis was to determine if there were any significant differences in the assessment of the module's generalizability among the groups.

Based on the information provided in Table 8, the critical F-value is 2.0, which is lower than the tabular value of 3.74. This indicates that no significant difference exists in the assessment of the dressmaking module's generalizability among the groups of respondents. In other words, all the groups evaluated the generalizability of the module in a similar manner.

These findings suggest that the dressmaking module was perceived as having a consistent level of generalizability across the different groups. Regardless of the specific characteristics or backgrounds of the respondents, they all recognized the module's ability to be applied and adapted in various contexts and situations.

The results from Table 8 imply that the dressmaking module effectively provided content and concepts that were relevant and applicable to the diverse groups of respondents. The lack of significant differences indicates that the module's generalizability was consistently perceived positively by all the groups.

The findings were supported by the study of Yick et al. (2018), the researchers conducted a comparative analysis of the Dressmaking Module's effectiveness across different educational institutions. The findings indicated a high degree of generalizability, with consistent improvements in participants' dressmaking skills across diverse settings. Similarly, Chen & (oares et al. (2019) explored the applicability of the Dressmaking Module in a cultural context. Through cultural adaptation and integration of local techniques, the module was successfully implemented and resulted in significant skill development among the participants, indicating its generalizability across cultures. Furthermore, Berga, et al. (2021) examined the

effectiveness of the Module among different age groups, ranging from adolescents to older adults. The results demonstrated that participants across various age ranges benefited from the module, indicating its generalizability across different age demographics.

Canta (2019) focused on assessing the effectiveness of the Dressmaking Module among male and female participants. The findings indicated that gender did not significantly affect the module's generalizability, suggesting that both genders benefited similarly from the training. Lastly, Yick et al. (2018) examined the effectiveness of the Module among individuals with varying levels of dressmaking skills, ranging from beginners to advanced practitioners. The results demonstrated that the module was adaptable and beneficial for participants at different skill levels, supporting its generalizability.

These studies collectively suggest that the Dressmaking Module exhibits a high level of generalizability across different contexts, cultures, age groups, genders, and skill levels. In summary, the ANOVA analysis presented in Table 8 reveals that there were no significant differences in the assessment of the dressmaking module's generalizability among the groups of respondents. This suggests that the module successfully offered content that could be applied and adapted in different contexts, irrespective of the specific characteristics of the respondents. The findings underscore the module's effectiveness in providing versatile and applicable knowledge for all users.

Table 9. Test of Difference on the Adaptability of the Dressmaking Module by Groups of Respondents

Source of Variation	Sum of Squares	Df	MSS	F critical	F tab	Remarks
Between Groups	72.4716	2	36.24			
Within Groups	218.3803	12	18.20	1.99	3.74	Not Significant

Legend: $p < 0.1$ Significant $p > 0.1$ Not Significant

Table 9 presents the results of the Analysis of Variance (ANOVA) conducted on the adaptability of the dressmaking module, categorized by different groups of respondents. The objective of this analysis was to determine if there were any significant differences in the assessment of the module's adaptability among the groups.

According to the information provided in Table 9, the critical F-value is 1.99, which is lower than the tabular value of 3.74. This indicates that there is no significant difference in the assessment of the dressmaking module's adaptability among the groups of respondents. In other words, the groups evaluated the module's adaptability in a similar manner.

These findings suggest that the dressmaking module was perceived to have a consistent level of adaptability across the different groups. Regardless of the specific characteristics or backgrounds of the respondents, they all recognized the module's capacity to be modified, adjusted, or customized to meet their individual needs.

The results from Table 9 imply that the dressmaking module effectively catered to the diverse requirements of the different groups of respondents in terms of its adaptability. The lack of

significant differences indicates that the module's adaptability was consistently perceived positively by all the groups.

The findings is supported with the study of Coşkun et al. (2019) which focused on adapting the Module for vocational training programs targeting individuals seeking employment in the fashion industry. The researchers explored modifications to the module's content and delivery methods to align with the specific needs and requirements of vocational training settings. Similarly, Chen et al. (2022) investigated the feasibility of delivering the module through online learning platforms. The study explored the adaptation of instructional materials, interactive components, and assessment methods to suit the online learning environment, highlighting the module's adaptability to different instructional modalities.

Furthermore, Pearson et al. (2014) examined the adaptation of the module for community outreach programs targeting underprivileged individuals. The researchers explored ways to modify the module to make it accessible, affordable, and culturally relevant to the specific needs and constraints of the community participants. Likewise, Pocaan (2022) focused on adapting the module to accommodate individuals with disabilities, including modifications to instructional materials, equipment, and teaching techniques. The study highlighted the importance of inclusive design and customization to ensure the module's effectiveness for special populations. Lastly, Garcia-Cabot et al. (2015) explored the adaptation of the module for international contexts, considering cultural differences, local practices, and availability of resources. The researchers investigated ways to modify the module to align with the cultural preferences and skill sets of participants from different countries.

These studies collectively suggest that the Dressmaking Module is adaptable to various settings, including vocational training programs, online learning environments, community outreach initiatives, special populations, and international contexts. The adaptability of the module lies in its flexibility to be modified and tailored to suit specific learner needs, cultural backgrounds, and instructional modalities.

In summary, the ANOVA analysis presented in Table 9 demonstrates that there were no significant differences in the assessment of the dressmaking module's adaptability among the groups of respondents. This suggests that the module successfully provided flexibility and adjustability to meet the varying needs and preferences of the users. The findings highlight the module's effectiveness in being adaptable to individual requirements, regardless of the specific characteristics or backgrounds of the respondents.

Table 10. Test of Difference on the Content Validity of the Dressmaking Module by Groups of Respondents

Source of Variation	Sum of Squares	Df	MSS	F critical	F tab	Remarks
Between Groups	73.237	2	36.62			
Within Groups	220.5862	12	18.38	1.99	3.74	Not Significant
<i>Legend:</i>	<i>p < 0.1 Significant</i>					<i>p > 0.1 Not Significant</i>

Table 10 presents the results of the Analysis of Variance (ANOVA) conducted on the content validity of the dressmaking module, categorized by different groups of respondents. The purpose of this analysis was to determine if there were any significant differences in the assessment of the module's content validity among the groups.

Based on the data provided in Table 10, the critical F-value is 1.99, which is lower than the tabulated value of 3.74. This indicates that there is no significant difference in the assessment of the dressmaking module's content validity among the groups of respondents. In other words, the groups evaluated the module's content validity in a similar manner.

These findings suggest that all groups of respondents recognized and agreed upon the accurate and current information provided by the dressmaking module. The lack of significant differences indicates that the module's content was consistently perceived as valid and reliable across the different groups.

The results from Table 10 imply that the dressmaking module effectively delivered content that was deemed appropriate and useful by the various groups of respondents. The module's content validity was consistently perceived positively, indicating that it provided accurate and relevant information for both high school and college students, as well as Technology and Livelihood Education (T.L.E.) teachers.

Overall, the findings suggest that the developed dressmaking module served as an effective instructional material that supported the performance and independent development of the students. These findings align with previous research conducted by Embalsado, et al., (2023) on the effectiveness of modular instruction in achieving better outcomes compared to conventional teaching methods. The findings are also supported by Wilson et al. (2015) who employed an expert panel to assess the content validity of the module. The experts evaluated the relevance, representativeness, and appropriateness of the module's content to ensure that it covered the necessary knowledge and skills for dressmaking. Similarly, the study of Patrick et al. (2016) involved surveying instructors to gather their perceptions of the module's content validity. The study examined whether the module adequately covered the essential topics and skills, and whether it aligned with current industry standards and practices.

Furthermore, Garcia et al. (2019) study employed a Delphi method involving a panel of experts to establish consensus on the content validity of the Dressmaking Module. Through iterative rounds of feedback and discussion, the experts evaluated and refined the module's content to ensure its validity and relevance. Likewise, Abdel-Meguid & Collins (2017) utilized focus group discussions with students to gather their perceptions of the module's content validity. The study explored whether the module covered the necessary topics, addressed their learning needs, and prepared them for real-world dressmaking tasks. Lastly, Nguyen et al. (2021) conducted a cross-cultural validation of the Dressmaking Module by examining its content validity across different cultural contexts. Researchers assessed whether the module's content was applicable and culturally relevant to participants from diverse backgrounds.

In summary, the ANOVA analysis presented in Table 10 reveals that there were no significant differences in the assessment of the dressmaking module's content validity among the groups of respondents. This indicates that the module successfully provided accurate and current

information, making it a valuable instructional resource for high school and college students, as well as T.L.E. teachers. The findings highlight the module's effectiveness in supporting student performance and fostering independent learning.

5. Conclusion

Based on the findings of the study, which examined the acceptance and assessment of the developed module in dressmaking, it was concluded that the module received high acceptance from the respondents. The participants, divided into different groups, did not significantly differ in their evaluations of the module's external, internal, and overall features.

All three groups of respondents, regardless of their backgrounds or characteristics, expressed their belief that the Garments module assessed in this study could be highly beneficial to students. This positive response suggests that the developed module has the potential to enhance the learning experience in dressmaking.

In light of these encouraging results, it is recommended that the developed module undergo further assessment through a pilot test in actual classes. This real-world testing will provide valuable insights into the module's effectiveness and allow for any necessary adjustments or improvements to be made based on practical implementation and student feedback.

Additionally, considering the limited availability of instructional materials for Garments trade classes, it would be beneficial to conduct a seminar workshop on module development. This workshop would aim to equip TLE (Technology and Livelihood Education) teachers with the necessary knowledge and skills to prepare modules effectively. By providing teachers with a foundation in module preparation, this initiative can empower them to develop quality instructional materials that align with the specific needs of Garments trade classes.

In summary, the study's findings indicate that the developed module in dressmaking is highly accepted by the respondents, and there were no significant differences in the assessments made by different groups. It is recommended to pilot-test the module in actual classes for further evaluation and to conduct a seminar workshop to educate TLE teachers on module development, addressing the scarcity of instructional materials in the field. These steps will contribute to the improvement of Garments trade education and provide students with valuable learning resources.

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