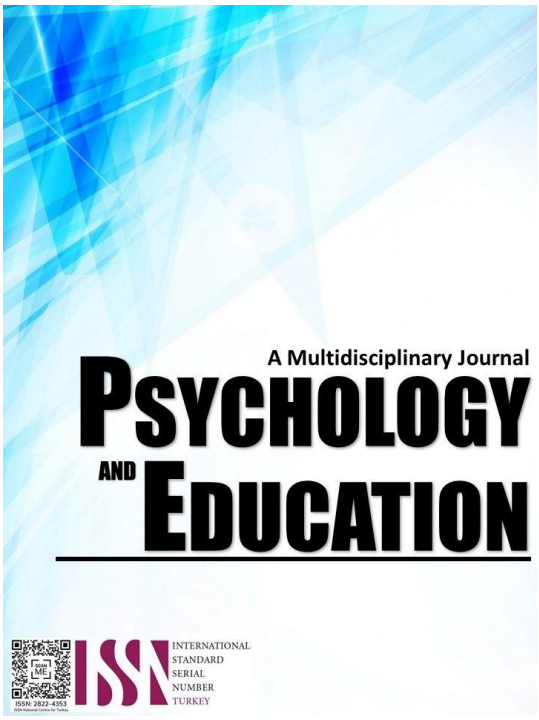
ACCEPTABILITY OF THE LEARNING MODULES IN INTRODUCTION TO AND SEWING MACHINE OPERATIONS FOR SECOND YEAR GARMENTS, FASHION, AND DESIGN STUDENTS



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Research Article

Acceptability of the Learning Modules in Introduction to Dressmaking and Sewing Machine Operations for Second Year Garments, Fashion, and Design Students

Genevive B. Pauig*
For affiliations and correspondence, see the last page.

Abstract

This study aimed to determine the level of acceptability of the developed learning modules in Introduction to Dressmaking and Sewing Machine Operations at Rizal Technological University during the school year 2023-2024. The researcher used the descriptive type of research with diagnostic test as the tool used in the identification of the least mastered topics in Introduction to Dressmaking and Sewing Machine Operations and a survey questionnaire as the main data gathering instrument. The questionnaire focused on the level of acceptability of the developed learning modules in Introduction to Dressmaking and Sewing Machine Operations in terms of objectives, content, visual design, and assessment. The least mastered topics that were used as basis for the development of the learning modules in Introduction to Dressmaking and Sewing Machine Operations was identified based on the results of the diagnostic test conducted by the researcher to the second year GFD Students of Rizal Technological University. The instructor and student respondents evaluated the developed learning modules in Introduction to Dressmaking and Sewing Machine Operations as to objectives, content, visual design, and assessment with grand weighted mean rating of 3.61, verbally interpreted as Very High Level (VHL) leading to no significant difference between the assessment of the two groups of respondents on the developed learning modules. The comments and suggestions offered by the respondents were for the improvement of the product.

Keywords: *developed learning modules, dressmaking, garments, fashion, and design*

Introduction

Quality and an effective teaching-learning process is one of the main issues facing the educational system. The needs and capacities of each learner should be clearly understood by teachers so that it will allow the teachers to develop strategies and strive to provide a quality education at all levels. By unraveling the complexities of student diversity and needs, this study aims to provide valuable insights that guide educators and institutions toward creating more equitable and effective educational resources.

By unraveling the complexities of student diversity and needs, this study aims to provide valuable insights that guide educators and institutions toward creating more equitable and effective educational resources. In the field of technical-vocational education, the development and acceptability of the learning modules plays an important role in molding the learners and shaping their experiences and outcomes. Introduction to Dressmaking and Sewing Machine Operations is the foundational course in Garments, Fashion and Design that offers essential skills and knowledge for students who are pursuing careers in fashion design and tailoring.

Vocational and technical education should be prioritized in the Philippine educational system since it provides more job options and helps young people acquire employment. One of the state universities and colleges in the Philippines, Rizal Technological University (RTU), offers a Bachelor of Technical-Vocational Teacher Education Major in Garments Fashion and Design, which is a highly relevant program to enhance the skills of those who contribute to the nation's economic well-being. Additionally, teachers find it difficult to access the instructional materials for Introduction to Dressmaking and Sewing Machine Operations under the newly established BTVTEd Garments, Fashion, and Design course in the institution.

In light of this, the researcher made the decision to develop a learning module in Introduction to Dressmaking and Sewing Machine Operations which will provide students with individualized learning materials to enhance their own growth as active learners. Individual differences and positive alignment of the self-directed instructional materials serve as the theoretical underpinnings of this module as instructional material. Rather than IQ, the focus of this study is on an individual's response or reaction to a particular educational stimulus.

Research Questions

This study aimed to determine the level of acceptability of the developed learning modules in Introduction to Dressmaking and Sewing Machine Operations for 2nd year Garments, Fashion, and Design at the Rizal Technological University during the school year 2023-20224. More specifically, it sought answers to the following questions:

1. What are the top 10 least mastered topics in Introduction to Dressmaking and Sewing Machine Operations that could be developed into learning modules based on the result of the diagnostic test?
2. What is the level of acceptability on the developed learning modules in Introduction to Dressmaking and Sewing Machine Operations based on the assessment of the GFD Instructors and Students in terms of the following variables:
    2.1. objectives;
    2.2. content;

2.3. visual design; and
2.4. assessment?

3. Is there a significant difference between the assessment of the two groups of respondents on the developed learning modules in Introduction to Dressmaking and Sewing machine operations in terms of the above-mentioned variables?
4. What are the comments and suggestions offered by the respondents to improve the developed learning modules in Introduction to Dressmaking and Sewing Machine Operations?

Literature Review

The major goal of dressmaking is to improve one's sewing abilities. In particular, sewing machine operations, general concepts of dressmaking, and the execution of fundamental stitches and various seam types. A dressmaker should be proficient in a large range of hand and machine stitches Timmons (2021). As per TACP Staff (2021), a dressmaker ought to possess specific abilities including math, measuring, machine and hand sewing operations. It acts as the fundamental foundational knowledge required for dressmaking.

Additionally, Luís and Santos (2019) narrated that the teaching of materials has become a significant topic in design faculties, especially following the implementation of the Bologna Process. Despite its importance in fostering good design practices, there has been a lack of emphasis on teaching materials in fashion design. The methodologies used for this subject, crucial for training future fashion designers, have remained relatively unchanged.

Print and non-print resources are utilized in instructional materials to impart knowledge to students while they are studying (Olipas, 2023). It also enhances the quality of the academic learners' performance.

Relatively, Ansayam and Tan's study (2021), "Investigating the utilization of digital instructional materials and digital tools for online learning in digital instructional materials and digital tools for online learning education courses" claimed that self-made instructional materials, like modules, might be used by groups, peers, or individuals.

Another reviewed study on the extended reality in higher education, a responsible innovation approach for Generation Y and Generation Z, was conducted by Kuleto et. al. (2021). Learning using modules is becoming more popular and recognized as an innovative approach in both wealthy and underdeveloped nations.

More so, the study of Madrideo (2023) entitled "Dressmaking Module as Supplementary Instructional Material for K To 12 Technology and Livelihood Education: An Assessment" attempted to evaluate the usability, adaptability, generalizability, and content validity of a dressmaking module that the researcher had built. The study's conclusions showed that the respondents had a high degree of satisfaction with both the module's internal and outward features.

Moreover, Elfeky and Elbyaly (2019) conducted a study entitled "Developing skills of fashion design by augmented reality technology in higher education" which sought to determine whether using augmented reality technology can improve students' abilities in fashion design. When augmented reality technology was used to teach students, the data analysis showed that these pupils were more successful and accepted in every way than students who learnt using traditional techniques supplemented with instructional films. These results highlight the potential advantages of augmented reality technology for research and development in educational technology.

Methodology

Research Design

In order to ascertain and examine the information acquired on the condition and procedure for the study's interpretation and analysis, the researcher employed a descriptive-developmental research methodology. The Descriptive research technique is appropriate for this research because it is directed towards ascertaining the prevailing conditions or facts to be proven by the choice for the study of the Acceptability of Learning Modules in Introduction to Dressmaking and Sewing Machine Operations for second year GFD Students.

The researcher adapted the instrument from the studies of Estrañero (2001) and Tugade (2016) in evaluating the modules. The evaluators' levels of agreement or disagreement with each item along the various variables: objectives, content, visual design, and assessment, were expressed using a four-point Likert scale.

Participants

The data gathered in this research were from the thirty-six (36) GFD Students of Rizal Technological University during the 2nd Semester, Academic Year 2023-20224 and the twelve (12) Garments, Fashion and Design (GFD) Instructors from universities and colleges within Metro Manila.

Instruments

In this study, the diagnostic test was used as a tool for data collection regarding the topics in Introduction to Dressmaking and Sewing Machine Operations that 2nd-year GFD students find most difficult.

The survey questionnaire served as the study's primary data collection tool. It consists of the four variables that helped determine the

level of acceptability of the developed learning module. The four variables included are the following: (1) Objective; (2) Content; 3) Visual Design; and (4) Assessment.

Procedure

A letter of request addressed to the University Presidents of Eugolio "Amang" Rodriguez Institute of Science and Technology (EARIST) , Marikina Polytechnic College (MPC), Rizal Technological College (RTU), and Valenzuela City Technological College (ValTech) to conduct the study was prepared. The researcher adapted and modified a survey questionnaire validated by the experts and instructors of the subject. The validated survey questionnaire was distributed via QR code to redirect the respondents in the google forms that consists of the following: Data privacy notice, Google drive link to access the developed learning modules in Introduction to Dressmaking and Sewing Machine Operations that should be viewed by the respondents before proceeding to the next section of the google form that consists of question which dealt with the development of the learning modules, and the comments and suggestions box where respondents can type-in their comments or suggestions to further improve the output.

In this study, the researcher's goal was to determine the level of acceptability of the developed learning modules in the Introduction to Dressmaking and Sewing Machine Operations for second year Garments, Fashion, and Design Students of Rizal Technological University and GFD Instructors from the four SUCs within Metro Manila in terms of the following variables: Objectives, Content, Visual Design, and Assessment. Following the respondents' responses to the questionnaire, the researcher gathered and tallied the information in preparation for analysis. In order to help determine which statistical techniques should be used and how to interpret the data, the researcher consulted a statistician. The statistician then used the data to help the researcher in analyzing and interpreting the results.

Ethical Considerations

The study made sure that protecting the respondents' anonymity and privacy is a top priority. Additionally, the proper consent and authorization were considered. Participants in the study did not suffer any material, emotional, or physical harm from the researcher, and any information gathered from them were acknowledged and presented fairly.

Results and Discussion

This section presents the findings according to the study's research questions.

Ten Least Mastered Topics in Introduction to Dressmaking and Sewing Machine Operations that can be Developed as Learning Modules

Table 1. *Least Mastered Topics in Introduction to Dressmaking and Sewing Machine Operations*

Ten Least Mastered Topics in Introduction to Dressmaking and Sewing Machine Operations	*f*	*%*	*Rank*
History of Dressmaking	6	0.17	3
Basic Concepts and Relevance of Dressmaking	10	0.28	7
Philippine Traditional Costumes	11	0.31	8
Types of Basic Hand Stitches	1	0.03	1
Parts of the Sewing Machine Needle	5	0.14	2
Types of Sewing Machine	13	0.36	9
Parts and Functions of Sewing Machine	9	0.25	6
Sewing Machine Problems and Remedies	8	0.22	5
Seams	14	0.39	10
Types of Seam Finishes	7	0.19	4

In terms of percentage value, the least mastered topics are as follows: 1) Types of Basic Hand Stitches with a percentage value of 0.03% which reflects that out of thirty-six students only one got the correct answer, 2) Parts of the Sewing Machine Needle with a percentage value of 0.14% that depicts that five out of thirty-six students got the correct answers, 3) History of Dressmaking obtained a percentage value of 0.17% that shows only six (6) out of thirty-six (36) students got the correct answer, 4) Types of Seam Finishes has a percentage value of 0.19% which reflects than seven (7) out of thirty-six (36) students got the correct answer, 5) Sewing Machine Problems and Remedies with a percentage value of 0.22% that depicts that 8 out of 36 students got the correct answer, 6) Parts and Functions of the Sewing Machine got a percentage value of 0.25 which shows that 9 out of 36 students got the correct answer, 7) Basic Concepts and Relevance of Dressmaking got a percentage value of 0.28% which reflects that 10 of 36 students got the correct answer, 8) Philippine Traditional Costumes obtained 0.31% that shows 11 of 36 students got the correct answer, 9) Types of Sewing Machine has a percentage of 0.36% which means that 12 of 36 students got the correct answer, and 10) Seams obtained a percentage value of 0.39% that depicts that out of 36 students, 14 got the correct answer.

Respondents' Evaluation on the Level of Acceptability of the Developed Learning Modules in Introduction to Dressmaking and Sewing Machine Operations

The table shows that the GFD Students received an overall weighted mean of 3.66 and the GFD Instructors received an overall weighted

mean of 3.67. Very High Level is the interpretation of both weighted means. The calculated standard deviations are 0.42 and 0.37, respectively. This illustrates how the module's goals place a strong emphasis on students' critical thinking skills, which make the teaching-learning process more engaging and less difficult.

Table 2. *Respondents' Evaluations on the Level of Acceptability on the Developed Learning Modules in Introduction to Dressmaking and Sewing Machine Operations as Regards to Objectives*

	Objectives	*Respondents*			
		GFD Instructors		*GFD Students*	
		WM	*VI*	*WM*	*VI*
1	The objectives of each lesson in the module are clearly stated on what is expected of the learner.	3.67	VHL	3.72	VHL
2	The objectives focus on the development of critical and analytical thinking of the learner.	3.58	VHL	3.67	VHL
3	The objectives are constructed with simple words to make it clear and comprehensive	3.67	VHL	3.67	VHL
4	The objectives are measurable in terms of results in activity and assessment	3.75	VHL	3.58	VHL
5	The objectives are attainable.	3.67	VHL	3.64	VHL
	Overall Weighted Mean	3.67	VHL	3.66	VHL
	Standard Deviation	0.42		0.37	

The respondents' level of acceptance on the developed learning module in Introduction to Dressmaking and Sewing Machine Operations is shown in the next and is verbally translated as Very High Level. The total weighted mean of 3.56 was obtained in the two groups of respondents. The standard deviation that was calculated was 0.26 and 0.32, respectively.

To summarize, the developed learning module in Introduction to Dressmaking and Sewing Machine Operations contains clear content, well-organized examples that range in difficulty from easy to understand, has sufficient explanations for sample activities and performance tasks, has easy-to-understand instructions, the discussions of each lesson that can be understood without much assistance from the instructor, includes vocabulary that is appropriate for students' reading levels, comprehensive explanations of the concepts and principles covered in each lesson, and provides activities that go beyond what the GFD instructors would have to explain.

Table 3. *Respondents' Evaluations on the Level of Acceptability on the Developed Learning Modules in Introduction to Dressmaking and Sewing Machine Operations as Regards to Content*

	Content	*Respondents*			
		GFD Instructors		*GFD Students*	
		WM	*VI*	*WM*	*VI*
1	Fundamental concepts and principles are clearly explained.	3.67	VHL	3.67	VHL
2	The examples are organized and presented from easy to difficult pattern	3.50	VHL	3.58	VHL
3	The sample activities/performance tasks are presented with adequate explanations	3.42	VHL	3.56	VHL
4	The instructions in the module are easy to understand	3.75	VHL	3.47	VHL
5	The discussions of each lesson in the module can be understood without much help from the instructor	3.42	VHL	3.31	VHL
6	The vocabulary used is within the reading ability of the students	3.58	VHL	3.61	VHL
7	The activities comprehensively explain the concepts/principles covered in each lesson of the module	3.50	VHL	3.58	VHL
8	The activities and performance tasks in the modules serve as enrichment tasks for a clearer and better understanding of the concepts and principles discussed	3.67	VHL	3.67	VHL
9	The given activities and performance tasks are relevant to the objectives of the modules	3.58	VHL	3.58	VHL
	Overall Weighted Mean	3.56	VHL	3.56	VHL
	Standard Deviation	0.26		0.32	

Table 4. *Respondents' Evaluations on the Level of Acceptability on the Developed Learning Modules in Introduction to Dressmaking and Sewing Machine Operations as Regards to Visual Design*

	Visual Design	*Respondents*			
		GFD Instructors		*GFD Students*	
		WM	*VI*	*WM*	*VI*
1	Utilizes appropriate text, font size, and type	3.50	VHL	3.64	VHL
2	Contain templates and layout to enhance understanding of learning outcomes	3.75	VHL	3.69	VHL
3	Provides illustration and appropriate design to boost learners' preferences	3.33	VHL	3.75	VHL
4	Uniform margins and spacing is observed	3.58	VHL	3.58	VHL
5	Each lesson's procedures are laid out in a systematic manner.	3.67	VHL	3.47	VHL
	Overall Weighted Mean	3.57	VHL	3.63	VHL
	Standard Deviation	0.28		0.33	

A closer look at the table shows that the GFD Instructors' overall weighted mean was 3.57, whereas the GFD Students' overall weighted mean was 3.63. The standard deviations that were calculated are 0.28 and 0.33, respectively. This suggests that the developed learning modules include illustration and appropriate design to boost learners' interest and preferences on the developed learning modules in Introduction to Dressmaking and Sewing Machine Operations in terms of the visual design.

Table 5. *Respondents' Evaluations on the Level of Acceptability on the Developed Learning Modules in Introduction to Dressmaking and Sewing Machine Operations as Regards to Assessment*

	Assessment	*Respondents*			
		GFD Instructors		*GFD Students*	
		WM	*VI*	*WM*	*VI*
1	The self-check test given at the end of each lesson in the module reflects the objectives of each lesson.	3.83	VHL	3.50	VHL
2	The assessment is used to support the multiple intelligences among the students	3.33	VHL	3.53	VHL
3	The items included in the self-check test are all discussed in the modules	3.58	VHL	3.68	VHL
4	Provides the opportunity for self-assessment advancement	3.67	VHL	3.64	VHL
5	Follows an appropriate learning that is in line with the set objectives	3.75	VHL	3.58	VHL
	Overall Weighted Mean	3.63	VHL	3.57	VHL
	Standard Deviation	0.37		0.35	

The two sets of respondents obtained a grand weighted mean of 3.61, as shown in the table, verbally interpreted as Very High Level. The results indicate that the two groups of respondents consider the developed learning modules in Introduction to Dressmaking and Sewing Machine Operations to be highly acceptable.

Test of Significant Difference in the Respondents' Evaluation on the Level of Acceptability of the Developed Learning Modules in Introduction to Dressmaking and Sewing Machine Operations

Table 6. *Test of Significant Difference Between the Respondents' Evaluation on the Level of Acceptability of the Developed Learning Modules in Introduction to Dressmaking and Sewing Machine Operations as to Objectives*

Respondents	*N*	*OWM*	*s*	*Computed t Value*	*Critical t Value*	*Decision*	*Interpretation*
Instructors	12	3.67	0.42	0.94	2.11	Fail to reject the H_0	Not Significant
Students	36	3.66	0.37				

The data indicate that with regard to the learning module's objectives, there is no significance difference between the two respondents' assessments on the developed learning modules in Introduction to Dressmaking and Sewing Machine Operations. This suggests that the respondents in both groups exhibit a similar opinion with regard to the learning objectives of the created modules on Introduction to Dressmaking and Sewing Machine Operations.

Table 7. *Test of Significant Difference Between the Respondents' Evaluation on the Level of Acceptability of the Developed Learning Modules in Introduction to Dressmaking and Sewing Machine Operations as to Content*

Respondents	*N*	*OWM*	*s*	*Computed t Value*	*Critical t Value*	*Decision*	*Interpretation*
Instructors	12	3.56	0.26	0.95	2.07	Fail to reject the H_0	Not Significant
Students	36	3.56	0.32				

The indicate that in terms of content, there is no significant difference between the two groups of respondents' levels of acceptability for the created learning modules on Introduction to Dressmaking and Sewing Machine Operations. This suggests that the respondents in both groups exhibit a similar opinion with regard to the learning objectives of the created modules on Introduction to Dressmaking and Sewing Machine Operations.

Table 8. *Test of Significant Difference Between the Respondents' Evaluation on the Level of Acceptability of the Developed Learning Modules in Introduction to Dressmaking and Sewing Machine Operations as to Visual Design*

Respondents	*N*	*OWM*	*s*	*Computed t Value*	*Critical t Value*	*Decision*	*Interpretation*
Instructors	12	3.57	3.57	0.54	2.07	Fail to reject the H_0	Not Significant
Students	36	3.63	3.63				

The data indicate that in terms of visual design, there is no significant difference between the two groups of respondents' levels of acceptance for the developed learning modules on Introduction to Dressmaking and Sewing Machine Operations. This suggests that when it comes to the visual design of the created learning modules for Introduction to Dressmaking and Sewing Machine Operations, both groups of respondents exhibit the same level of acceptance.

Table 9. *Test of Significant Difference Between the Respondents' Evaluation on the Level of Acceptability of the Developed Learning Modules in Introduction to Dressmaking and Sewing Machine Operations as to Assessment*

Respondents	*N*	*OWM*	*s*	*Computed t Value*	*Critical t Value*	*Decision*	*Interpretation*
Instructors	12	3.63	0.37	0.60	2.11	Fail to reject the H_0	Not Significant
Students	36	3.57	0.35				

The data indicate that in terms of assessment, there is no significant difference between the two groups of respondents' levels of acceptability on the created learning modules for Introduction to Dressmaking and Sewing Machine Operations. This suggests that when it comes to the evaluation of the created learning modules for Introduction to Dressmaking and Sewing Machine Operations, the two groups of respondents exhibit the same degree of acceptability.

Comments and Suggestions Offered by the Respondents to Further Improve the Developed Learning Modules in GFD 211

Instructor Respondents

A. Comments

1. The modules are precise.

2. The module is suited for student's ability. Good job!

3. Module provides a comprehensive explanation to each topic.

4. Thank you, your module is amazing! I just have request if ever, you may also include to your module the introduction of fabrics and textile of the local and international countries.

B. Suggestions

1. Perhaps you can provide more pictures in each lesson so that students can easily understand the lesson. When it comes to the answer key in each self-check, you can put it at the end of the module so that students can't peek at the answers easily.

2. For the improvement of module, I suggest including the different kinds of necklines, collars, sleeves as part of the dressmaking, and the simple dresses should be emphasized or introduced.

3. The word "Dressmaking" should start with a capital letter because it is a proper noun. Choices for the self-checks should be arranged alphabetically, but for sentences, they should be arranged from the shortest to the longest.

4. Kindly be vigilant on some technical terms and definition used in your module.

Student Respondents

A. Comments

1. Great Module.

2. The modules show proper lessons that students should know so I don't really think of anything to improve.

3. There's nothing to add as the module is definitely well made by the instructor and the contents of the module are very easy to understand.

4. For me, the module is really perfect for GFD students. No need to improve. Good job!

B. Suggestion

1. Much better if you will put some templates and pictures to make it more creative.

Conclusions

Based on the findings of the study, the following conclusions were drawn: A learning module in Introduction to Dressmaking and Sewing Machine Operations can be developed based on the results of the diagnostic test. The developed learning modules in Introduction to Dressmaking and Sewing Machine Operations is highly acceptable as fundamental resource material for independent learning.

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Affiliations and Corresponding Information

Genevive B. Pauig
Rizal Technological University – Philippines