



(RESEARCH ARTICLE)



## Development and validation of instructional learning module in tailoring

Ivan Centeno Lacanilao <sup>1,\*</sup> and Angelito S. Manalastas <sup>2</sup>

<sup>1</sup> High School Teacher, Salapungan National High School, Candaba, Pampanga, Philippines.

<sup>2</sup> Graduate School Professor, Bulacan Agricultural State College, San Ildefonso, Bulacan, Philippines.

World Journal of Advanced Research and Reviews, 2023, 20(01), 1071–1088

Publication history: Received on 14 September 2023; revised on 24 October 2023; accepted on 26 October 2023

Article DOI: <https://doi.org/10.30574/wjarr.2023.20.1.2166>

### Abstract

The study was conducted to develop and validate learning modules in tailoring for Grade twelve (12) students at Salapungan National High School, Candaba Pampanga. The study used the Research and Development (R&D) design in the evaluation of the learning modules. The evaluators of the study were the five (5) experts in the field of Tailoring, Master teacher in TLE teaching Garments, a well-skilled Trainer and a Trainer Methodology holder. In the evaluation and validation of the development of instructional learning module in Tailoring by the experts, the mean score was used. Five (5) experts evaluated the modules in terms of objectives, content, organization, evaluation, terminologies, attainability, reliability, usability, adaptability, practicality, and illustrations.

The research instrument used in measuring the students' achievement to measure the effectiveness of the developed modules to user was a teacher-made pretest and posttest.

Ten (10) students serve as a control treatment group among grade twelve (12) students who were selected served as participants.

The findings show that nine (9) of the criteria were rated as outstanding. These were objectives, content, organizations, terminologies, reliability, usability, adaptability, and illustrations. While the evaluation, attainability and practicality were rated as Very satisfactory.

The overall mean score 4.587 with the descriptive rating of Outstanding was gained by the instructional learning module. The result shows that the tailoring module is highly accepted by the experts to use as a supplementary in teaching the lesson to enhance mastery.

**Keywords:** Tailoring; Instructional Learning Module; Illustration; Dress maker; Curriculum; Drafting

### 1. Introduction

The problem of lower achievement has become the heart of many previously conducted studies. Much effort was made to recognize the roots of this failure. The alarming issue could be discussed by the lack of instructional materials in the school. The fact that instructional materials affect student's achievement cannot be denied (Edessa, 2016).

The Department of Education failed to deliver essential needs on time, teachers and pupils xerox learning materials at their own expense. They download subject content from the Internet and have them copied and distributed to their pupils (Del Mundo, 2015 ). In addition, some textbooks were found erroneously printed. Public outcries over teaching materials lost in translation sparked public indignation and well-publicized congressional investigations in the past and

\* Corresponding author: Ivan Centeno Lacanilao

were soon forgotten after the TV camera lights went out. A report in Kidapawan City, Cotabato seconded the issue on the problem of one is to one ratio of textbooks.

Instructional materials are highly important for teachers when executing their subject they are teaching. New teachers usually have not built upon their expertise whenever they enter into the field. Instructional materials are often use in planning the lesson. These tools are also needed by the teacher to evaluate students by assigning tasks, creating performance tasks and administering examinations.

Teachers use a wide variety of tools to foster learning. Instructional materials are the tools used in educational lessons, which includes active learning and assessment. Basically, any resource a teacher uses to help him teach his students is an instructional material. So, the teaching-learning will realize. They are used to up skills the students and improve the academic performance of the learners. Instructional tools are highly important for teaching, they say that Instructional Materials is the Teachers' best friend especially for the inexperienced teachers. Mediocre teachers rely on instructional materials in every aspect of teaching.

The instructional learning module go beyond a lesson plan for the educators. An educational module begins with a purpose or a question and consist of a series of lesson plans designed to teach specific concepts and skills.

In the present time, both learners and teachers are having hectic schedule so in the current evidence suggest that Modular instructions meets the needs of today's student more adequately than traditional instruction both with respect to the quality of learning and the content. As the Technical Education and Skills Development Authority applied the CBT or the Curriculum Based Training applied this type of suggestions. However, certain problems may raise in implementing Modular Instructions. These are presented from the perspective of the student, instructor, and administrator. Given its emphasis on individualized learning and its adaptability to large number of students. Modular Instruction has emerged as one of the most promising alternatives in education today especially in Technical-Vocational Education (History of Vocational and Technical Education, 2002).

Among the various system of individualized instruction proposed so far, modular instruction is one of the newest and combines many advantages of a number of separate instructional innovations, such as performance objectives, self-pacing, and frequent feedback. The principles and purposes of modular instructions (MI), its advantages for both students and instructor and a comparison between the conventional and modular approach are presented. Separate sections deal with implementation and management of MI and include a discussion of evaluation and cost (Pinto, 2007).

The utilization of Instructional Module improves the learner competencies and opportunities to master the subject. This is because a well-planned module teacher concepts in a logical order, like building blocks and in its pace to pace strategy. In an educational module learner's focus on specific skills are given opportunities to continue to improve on them. Unlike in traditional method, only the teacher has a book and the teacher will deliver the lesson in a conventional manner. That will result to follow the lessons especially in skill courses.

However, in educational system of the Philippines, various subject offered in the secondary Education; and one of these is the Technical-Vocational and Livelihood a skill subject for senior high school. TVL programs will play a significant role in raising the quality of high school graduates in the country toward employment here and abroad or toward entrepreneurship. This can contribute more significantly to revenue generation, jobs creation, and to national development as a whole (Mayen, 2017).

As time goes by, continuous development of the educational system becomes necessary. It is always true that there is no educational system and teaching methods that is suitable for all types of learners. Luckily, Teachers have realized that the existing instructional methods can no longer meet the demands of modern technology. Thus, there is a need to adapt educational innovations. Hence, educational objectives were set and supporting guiding policies were promulgated. These educational policies were designed to improved teaching methodologies and techniques geared towards the attainment of the optimum potential learner. Hence, Innovative and Useful Instructional tool and strategies will give much priority.

The available data in the academic performance in the chosen school where the TVL/TLE is offered for senior high school, stated that TLE is one of the lowest in eight learning areas (64.47) from school year 2016-2017. The MPS of Tailoring (mini courses of TVL) (65.72) for the last school year 2017-2018 shows that it is still far from the department's goal (75%). The result of the learning competencies also magnified this problem.

In consonance with this underlying truth, the researcher finds it alarming to immediately attend to this concern. With the in depth knowledge of the department's mission to uplift the skills of the students, the researcher decided to develop an instructional learning module with a great hope that this would be the best answer to the erring issues.

### **1.1. Statement of the Objectives**

The study was conducted to develop and validate Instructional learning module in Tailoring under the K-12 Curriculum.

This study attempt to achieve the following objectives:

To develop an Instructional learning module in Grade 12- Tailoring under K-12 curriculum.

To evaluate the Instructional learning module by the in terms of its:

- Objectives
- Contents
- Organization
- Evaluation
- Terminologies
- Attainability
- Reliability
- To validate the content of Instructional learning module by the in terms of its:
- Usability
- Practicability
- Adaptability
- Illustrations
- To determine the effectiveness of the module to the users in terms of pre-test and post-test.
- To draw implications of the study in teaching Tailoring.

### **1.2. Research Hypothesis**

- The hypothesis that follows was tested in this study.
- There is no significant difference between the means of the pre-test and post-test of control treatment group.

### **1.3. Scope and Delimitation of the Study**

This study was limited to the development and validation of Instructional learning module in Tailoring under the K-12 curriculum at Salapungan National High School, Candaba Pampanga, School Year 2018-2019 based on the identified lessons of the K-12 Curriculum Guide.

This study aimed to evaluate and validate the instructional learning module using a set of criteria (Appendix C).

The topics were considered in the development of the instructional module intended for men's' polo and pants were: Basic Tools and Equipment; Taking Body Measurement; Drafting the Pattern; Lay-outting, Marking, Cutting and Sewing the men's polo and pants.

The respondents of the study were the top 10 students of Resilience Grade 12 TVL senior high school student enrolled at Salapungan National High School during this school year 2018-2019. These students were taken to test the effectiveness of the materials.

Five experts (Appendix B) in tailoring served as evaluators of the instructional learning module; two Master Teachers with a specialization in Dressmaking and Tailoring, two (2) Tailoring trainers, and a Trainer Methodology holder were validated and evaluated the module using sets of criteria (Appendix C).

The effectiveness of the module was tested by comparing the pretest and post (Appendix D) of the control treatment group and does not cover the comparison between the teaching strategy using the module and without the module.

#### 1.4. Definition of Terms

The following terms were operationally defined to have clear view concepts used in this study:

- **Adaptability.** It pertains to the versatility of the instruction in teaching tailoring.
- **Content.** It refers to the representative sample of the concept, skills and knowledge about garments, instructions given, and the language used interest of the students to accomplish the learning activities, and develop skills intelligently and critically.
- **Content Validity.** It is the systematic evaluation of the material to determine whether it contains representative sample of the concepts.
- **Control Treatment Group.** It is the confined group of the students taught using developed instructional learning module in tailoring.
- **Curriculum.** It is the sum total of experiences which the learners do in the formal school. It refers to the program implemented by the Department of Education to train the students in technical and vocational skills.
- **Development.** It refers to the writing of the self-instructional materials and the related steps needed in completing the module in the teaching and learnings Tailoring.
- **Drafting.** It is the process of transferring, drawing the body measurement on a pattern paper or textile.
- **Dressmaker.** Pertains to the people who make custom clothing for men and women.
- **Effectiveness to the Users.** It is the degree to which the material can cause significant difference between the scores in the hypotheses. The result of the post- test being greater than that of the pre-test means being that the learner performance is enhance by the use of the instructional modules.
- **Evaluation.** It pertains to the assessment, criticism and reactions of selected groups on a set of criteria or standard on how the materials are prepared.
- **Experts.** These consist of two Master Teachers, two Tailoring Trainers, and a holder of Trainer Methodology whom the module was subjected for checking and evaluation.
- **Illustration.** It refers to the image presented as drawing to clarify or dictate sensual information on the instructional module in Tailoring.
- **Instructional Learning Module.** It is structured in self-learning materials based on the specific learning tasks. It includes sewing tools and equipment; taking body measurements; drafting, laying out pattern and cut, sews and apply finishing touches.
- **K-12 Curriculum.** It pertains to a program that covers kindergarten and 12 years of basic education.
- **Layout-** It refers to the presented drawing to clarify or dictate sensual information on the instructional module in Tailoring.
- **Modules.** It is a programmed instruction constructed in such a way it facilitates the acquisition of knowledge and skill by the students on the subject matter to be learned.
- **Objectives.** It means something you are trying to do or achieve a goal or purpose. In this research, these are the aims of the researcher in developing the instructional learning module in teaching tailoring.
- **Organization.** It refers to the sequential manner of the lessons in the module. it also pertains to labels of illustrations and clarity of instructions.
- **Post-test.** It is the test given after the instructional module/lessons have been taken.
- **Practicality.** It is the workability of an instructional device for the students' everyday life.
- **Pretest.** It is a test given before the lesson is given to the students to determine the prior knowledge about the topics covered in the instructional learning modules.
- **Reliability.** It is the consistency of any measuring device like a test.
- **Tailor.** A person who is specialized and competent in constructing men's apparel.
- **Tailoring.** It refers to the trade area being offered as one of the specialized courses under the TVL track which are more in the Men's apparel.
- **Terminologies.** These refer to the method of communication. Operationally, it pertains to the words used in the presentation of the lessons.
- **Technical Vocational and Livelihood (TVL).** It is a subject offered in senior high schools designed to equip individuals with specialized skills knowledge and attitudes to a level of competency giving them the capacity to be employed and earn a living.
- **Validation.** It is the process of determining the effectiveness of the proposed module as supplementary material in teaching Tailoring tested using the questionnaire-checklist as evaluated by the experts.
- **Conceptual Framework**
  - The research on the development and validation of Instructional Module in Tailoring found its effectiveness in classroom teaching by comparing the pre-test and post-test of control treatment group. Present evidences suggest

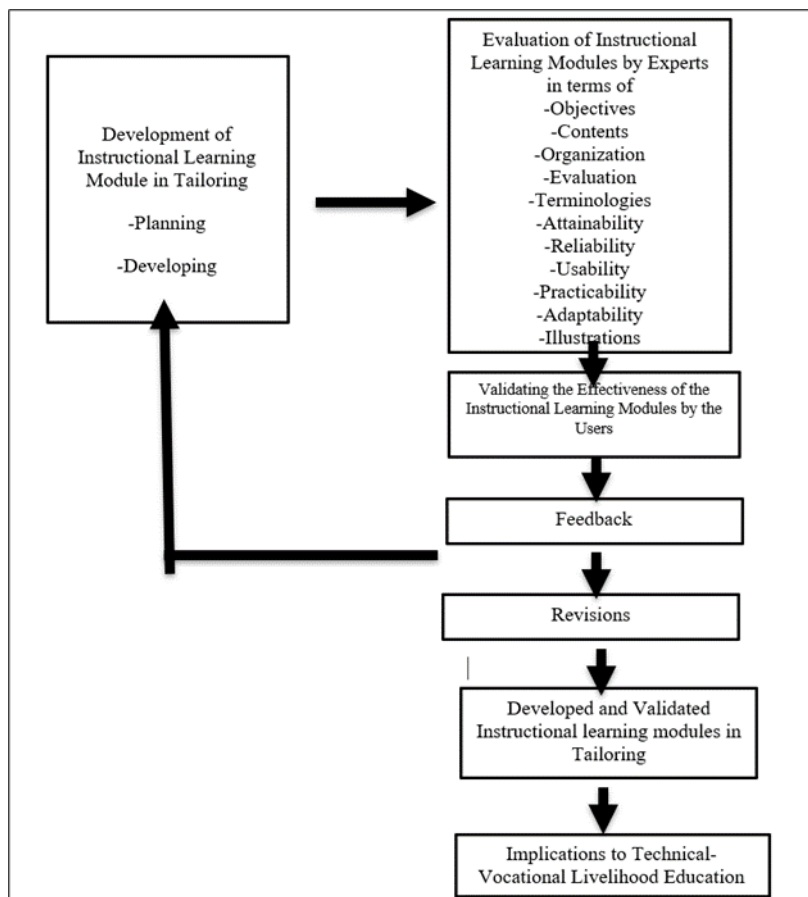
that modules meet the needs of today’s learners more adequately than the traditional instruction along the domains of quality of teaching and learning.

The Instructional module aims to achieve the competency level and improve academic performance of the students.

Drafting and construction of Pants and Polo is one of topics that can hardly be managed by senior high school students in the TVL- Tailoring track. This topic appears in the latter part of third quarter and early part of the fourth quarter part of the school year. Topics in the last quarter of school year are taken in a faster pace, thus students could hardly cope with the lesson, and the more the students will need instructional materials.

The module could be used as an after classroom instruction. It could also be used as supplementary materials, as a reading material for students because of the simplicity of the language used. In this manner, students may enhance their performance toward mastery learning, rating 90% to 100 %.

Planning Stage	Considering the target population, their problems and needs. Identification of the topics for instructional development Preparation of the worksheet for the identified topics.
Development Stage	Development of the instructional materials based on the identified topics Critiquing and evaluation of the develop instructional module
Evaluation Stage	Try out of the modules to students Feedback clientele to clientele



**Figure 1** Paradigm of the study

A three (3) stage approach to instructional materials development (Esquivel, 2012) consists of the following:

- The Planning Stage involved the preparation of a working plan of a module where the writer considered the target
- The Development Stage is the actual writing of the module; and
- The Evaluation Stage involved the try-out of the module to a representative sample of the target population to determine its effectiveness. This was a continuous and comprehensive process in module development.

---

## 2. Methods of study and sources of data

This chapter presents the method of research, the subjects of the study, the method of gathering data, the research instruments or tools and the statistical treatment of the gathered data.

### 2.1. Research Design

This paper utilized Research and Development Design. The researcher developed, have it evaluated and validated the instructional learning module. The developed learning module was based on the difficulties met by the Grade 12 TVL-Tailoring students of Salapungan National High School.

The Research and Development method followed the following steps: Step 1-Planning; Step 2- Developing the preliminary draft of the learning module; Step 3- Evaluation by the experts; Step 4- Validation of the instructional learning module; Step 5- Feedback; Step 6- Revisions; Step 7- Finalization of the instructional learning module; and Step 8- Drawing Implications.

The one group pretest-posttest design is used. (Cristobal, Jr., 2017)

Pre-test / Post-Test Design

O1 x O2

At the start of each learning unit, a pre-test will administer to the ten students (10), after which the ten students (10) were taught using the modular approach using the instructional learning modules in tailoring under k-12 curriculum.

The pretest/posttest administered to ten students to test the reliability (Appendix G). Students have the same characteristics to the control treatment group.

### 2.2. Subjects of the Study

The respondents of the study will be the top 10 students of Grade 12 TVL- Tailoring of Salapungan National High School, Candaba Pampanga will be taken as the research subjects.

The instrument of the study is the one group pretest-posttest design. This will be used to test the effectiveness of the Instructional Learning Module in Tailoring. To determine the validity of the instrument, a dry run will be conducted.

### 2.3. Development of the Instructional Learning Module in Tailoring

The development of the learning module use the following processes using the Research and Development procedures. Step 1- Pre-Planning; The researcher read different books, modules, journals and unpublished materials in order to collect relevant information on the content of the learning modules. Step 2- Planning; after reading all the related literature, the development will go to planning stage in the Research and Development cycle. Stating a specific objectives/competencies is an important aspect of planning a research based on educational product this provided guidance on the alignment of the module. Time Frame, Place and Subjects used for the development and Validation of the instructional learning modules were included. The Table of Specification (TOS) (Appendix E) was prepared in order to have equal distribution of the objectives in the concepts and lessons in Dressmaking. Step 3- Developing the Form; The Instructional Learning Module composed of four part such as; 1-Basic Tools and Equipment; 2- Taking Body Measurement; 3- Drafting the Pattern; 4- Lay-outing, Cutting; Assembling and Sewing the Men's polo and pants.

## 2.4. Validation of the Instructional Learning Module in Tailoring

To validate the instructional module, the initial draft of the Instructional Learning Module was subjected to evaluation by the experts in Dressmaking. Evaluation of the materials was based on the following criteria; Objectives, Contents, Organization, Evaluation, Terminologies, Attainability, Reliability, Usability, Practicality, Adaptability and Illustrations.

The evaluation scale and the questionnaire-checklist (Appendix C) for this study was adopted from the thesis "Development and Validation of Supplementary Instructional Modules in Teaching Garments" by Esquivel (2012).

## 2.5. Effectiveness to Users

To determine the effectiveness of the Instructional Learning Module to users, a pretest and posttest were administered to Grade 12 TVL- Tailoring Students. The top 10 students of Grade 12 Resilience TVL- Tailoring. The control treatment group was taught using the developed instructional module. Test results were compared to determine the effectiveness of the aforementioned module.

## 2.6. Statistical Treatment of Data

The data from the questionnaire-checklist were collected, tallied, tabulated, and analysed and evaluated using the following statistical tools:

### 2.6.1. Weighted Mean

The results in the evaluation and validation of the Instructional Learning Module in tailoring under K-12 Curriculum were presented using weighted mean.

$$\bar{x} = \frac{\sum x}{n} \quad \text{Where:}$$

$\bar{x}$  = weighted mean

x = mean

n = sample size

### 2.6.2. T-test

The paired sample t-test, sometimes called the dependent sample t-test, is a statistical procedure used to determine whether the mean difference between two sets of observations is zero. In a paired sample t-test, each subject or entity is measured twice, resulting in pairs of observations.

In this study, the pre-test and post-test of the control treatment group was used to determine the significance difference of the two entities.

As guide to the analysis of data, the following ratings were used:

**Table 1** Validation Scale

Value	Adjectival Rating
5	Outstanding (O)
4	Very Satisfactory (VS)
3	Satisfactory (S)
2	Fair (F)
1	Poor (P)

### **3. Results**

This chapter presents, analyses, and interprets the data gathered from the research study. The data are presented according to the specific objectives of the study.

#### **3.1. Developed Instructional Learning Module in Grade 12- Tailoring.**

Various steps were undertaken in the development of the instructional module as a supplementary material in teaching tailoring prior to the development of module, a thorough collection of reading materials and review of related literature were made.

Under the planning stage, the researcher identified the target population, their problems and needs. The topics included in the learning module were identified based on the K-12 curriculum guide prescribed by the Department of Education. The topics were: Tools and Materials, Taking Body Measurements, Drafting the pattern, layouting, Marking Cutting and Assembling the Men's Polo and Pants.

The instructional modules contained introduction, Pretest, Learning Outcome, Illustrations with descriptions, steps and Procedures, activities and post test.

The preliminary stage of the development of the modules began with a draft based on the identified topics. It was followed by critiquing and evaluation of the content.

Module 1 provides the knowledge of the different sewing tools, materials, and equipment that are necessary in the drafting of patterns. A complete set of sewing tools and materials are also presented to help the learners work faster.

This module was produced by collecting different data on materials used in tailoring, thus, images and their common usage where taken into account for learners to easily recognize materials used in tailoring.

In this module, more pictures were included which are not included in the other learning modules.

Module 2 presents the different ways on how to take body measurements. This module shows the ways on how the different parts of the body to be measured vertically, Horizontal and circumferential. Moreover, different articles and ways on how to take body measurements were incorporated and it shows how read the English and metric system of measurements which is profound and essential.

Module 3 presents the easy ways on pattern drafting in Men's polo, Pants and its parts in a step by step procedure. The indispensable tools and techniques involved in drafting and blocking of pattern are also presented to serve as a guide in drafting patterns. The step by step procedures in drafting of patterns and assembling of the different parts of the men's polo and pants will help the beginner to enjoy.

Module 4, the laying and marking of patterns and assembling of the different parts of the garments are illustrated in this module. The step by step procedure in assembling the garments are also presented in this module.

#### **3.2. Evaluation of the Instructional Learning Module by the Experts**

Instructional Learning Module in Tailoring was evaluated and validated by the experts in the field of garments. A Master Teachers from the Department of Education, Trainer and assessor in Tailoring and Dressmaking validated the module based on the following criteria: Objectives, Contents, Organization, Evaluation, Terminologies, Attainability and Reliability.

##### *3.2.1. Objectives*

Objectives are the goal of the teacher in developing the supplementary module in teaching tailoring. The objectives of the instructional learning module were clear to be easily understood by the students. Moreover, the performance of the students was based on the objectives set by the teacher and those should be attained at the end of the lesson.

Table 2 presents the evaluation of the experts in terms of objectives of the instructional learning module.



Based on the results, the objectives are specific and clearly stated and that are desirable values of objectives are provided with a mean score of 4.60 with verbal description outstanding.

On the other, objectives that in attainable and measurable has a mean of 4.8 described as outstanding and the last is the students' interest is aroused for active participation with a mean of 4.4 and Very satisfactory being described.

**Table 2** Expert's Evaluation on Objectives

Objectives	Mean	Verbal Description
The objectives are specific and clearly stated	4.60	Outstanding
The objectives are attainable and measurable	4.80	Outstanding
Desirable values of objectives are provided	4.60	Outstanding
Students' interest is aroused for active participation	4.40	Very Satisfactory
Grand Mean	4.60	Outstanding

The over- all mean for the objectives got the mean of 4.6 with a verbal description of outstanding. The rating of the experts shows that objectives set by the teacher were relevant to the needs of the students.

Kanellopoulou (2018) emphasized that lesson objectives can contribute to effective teaching, hence a good structuring of it must be consider. Also, results imply that the objectives of the modules can be rendered in to its target output. Finally, the objectives presented in the modules direct the target users and the students on the desired outcomes.

### 3.3. Content

Development of skills, knowledge, procedures and information that provides a student's better understanding about the lesson are referred to the content of the module. These are the topic included to the modules made by the researcher.

Table 3 presents the evaluation of the instructional learning module by the experts in terms of content.

**Table 3** Expert's Evaluation on Contents

Contents	Mean	Verbal Description
The introductory statement provided the students enough information about the concept of the lesson in the module	5.00	Outstanding
Instructions are easy to follow	5.00	Outstanding
The module can be used by the students without much help from the teacher	5.00	Outstanding
The language used is clear, easy to understand and within the comprehension level of the students	5.00	Outstanding
The lessons are clearly stated in precise manner	4.60	Outstanding
Skill and Knowledge about the activity is provided	4.80	Outstanding
Interest of the students to accomplish the varied learning activities is aroused	4.20	Very Satisfactory
Learners are enabled to develop skills in thinking intelligently and critically	4.20	Very Satisfactory
Learners are enabled to acquire self-confidence	5.00	Outstanding
Learners are enabled to work independently	5.00	Outstanding
Grand Mean	4.78	Outstanding

The five indicators presented were rated 5.00 describes as Outstanding. The criteria were the following: The introductory statement provided the students enough information about the concept of the lesson in the module; Instructions are easy to follow; The module can be used by the students without much help from the teacher; The language used is clear, easy to understand and within the comprehension level of the students; Learners are enabled to acquire self-confidence; Learners are enabled to work independently. Also the criteria for skills and knowledge and the lessons are clearly stated in precise manner got an outstanding score with a mean of 4.8 and 4.6 respectively. On the other, mean of 4.2 for the Interest of the students to accomplish the varied learning activities is aroused and Learners are enabled to develop skills in thinking intelligently and critically with verbal description as Very Satisfactory.

The results shows that the contents of the modules in tailoring could give the students enough information which is manifested to the evaluation made by the experts with the result of 4.78 with a verbal description as outstanding.

In support to the present study, Jones, et. al. (2007), in their initial research outcomes highlighted the impact of pedagogical content knowledge on classroom and school practices.

### 3.4. Organization

Organization pertains to the arrangement of lessons. Based on the organization of the modules, lessons were presented in a way that the students can understand it easily.

Table 4 presents the evaluation of the instructional learning module by the experts in terms of organization.

**Table 4** Expert's Evaluation on Organizations

Organization	Mean	Verbal Description
The organization of the lesson is sequential	4.60	Outstanding
The instruction and diagrams are clear, logical and suitable	4.60	Outstanding
The illustrations are properly drawn and labelled	4.40	Very Satisfactory
Grand Mean	4.53	Outstanding

Table 4 shows that the criteria the organization of the lesson is sequential and b instruction and diagrams are clear, logical and suitable got an outstanding score with a mean of 4.6. While the illustration are properly drawn and labelled got 4.4 only with an adjectival description very satisfactory.

In general, organizational had grand mean of 4.53 with a verbal description of Outstanding. The lessons in tailoring are appropriate for the progress and development of the skills of the students.

Well-sequenced lessons benefit both the teacher and the students. Well-organized and properly sequenced lesson plans allow for a smother functioning classroom; classroom disruptions are minimized, the stress on the teacher is reduced and the learning environment is optimized for the students (Bilash, 2009).

### 3.5. Evaluation

Evaluation is the collection of analysis and interpretation of information about any aspects and it recognizes the process of judging effectiveness. The Instructional learning modules contained assessments to measure the skills acquired by students. It contained pre-test which evaluated the prior knowledge of the students and post-test to measure the knowledge acquired by the students after having the learnings and activities.

Table 5 presents the evaluation of the instructional learning module by the experts in terms of evaluation.

Table 5 shows the results of the experts in terms of evaluation. It indicates that the questions for each lesson were clear to the students with a mean score of 4.20 described as very satisfactory; pretest and posttest measured the achievement of the objectives rated as very satisfactory 4.40. Over-all the experts gave a rating of 4.33, described as very satisfactory. This means that evaluation made in the instructional learning module assessed the students' knowledge on the tailoring.

According to Jabbarifar (2000), classroom assessment and evaluation are highly concerned with qualitative judgments that are used to improve students' knowledge and learning. Assessment and evaluation also give teachers useful information about how to improve their teaching methods. This truth has convinced the researcher to include a good evaluation in his study.

**Table 5** Expert's Evaluation on Evaluations

<b>Evaluation</b>	<b>Mean</b>	<b>Verbal Description</b>
Evaluation questions for each lesson are clear to students	4.20	Very Satisfactory
The module pre-assesses the entry level of intended users.	4.40	Very satisfactory
The posttest adequately measures the achievement of the objectives	4.40	Very Satisfactory
Grand Mean	4.33	Very satisfactory

### 3.6. Terminologies

Terminologies and Language used pertains to the words used in the presentation of the lessons. It should be clear and easy to understand. The language used in the supplementary module was within the level of the students. The modules used words that were easy to comprehend, sentences that were clearly presented, and instructions that were easy to follow. Language followed the correct grammar based on the suggestions and additions given by the validators and experts.

Table 6 presents the evaluation of the instructional learning module by the experts in terms of terminologies.

**Table 6** Expert's Evaluation on Terminologies

<b>Terminologies</b>	<b>Mean</b>	<b>Verbal Description</b>
The language used is clear and easy to understand	4.80	Outstanding
Sentences used are clear and simple	4.80	Outstanding
The vocabulary is within the ability of the students	4.80	Outstanding
Grand Mean	4.80	Outstanding

Table 6 shows the experts' evaluation in terms of language used. The grand mean for this criterion was 4.80 equivalent to outstanding. This means that the language used in presenting the lesson was clear and easy to understand, as well as the sentences were clear and simple.

The need to include terminologies was seen by the researcher in lieu of the study of Freebody (2007), which state that student literacy levels are claimed to be in decline or at least inadequate for contemporary society. The evidence advanced is typically anecdotal – based on instances of poor grammar, spelling or expression or on a comparison with a recalled 'superior past'. The study is also crafted to uplift the literacy level of the students.

### 3.7. Attainability

Attainability is to obtain through effort, achieve or accomplish a specific task. Based on the instructional learning modules, the objectives per module were based on the level of the students' capacity and ability. The time given to all activities were manageable and ample for the accomplishment of specific tasks. The activities were based on the objectives set by the teacher.

Table 7 presents the evaluation of the instructional learning module by the experts in terms of attainability.

Table 7 shows the experts' evaluation in terms of attainability. The experts gave the rating of 4.60, very satisfactory for the flexibility of the instruction of the module. For the realistic of the test it has the mean of 4.00 with a verbal description as Very satisfactory and for the activities for the students development it has a mean of 4.80 as outstanding.

**Table 7** Expert's Evaluation on Attainability

Attainability	Mean	Verbal Description
Instructions in the module are flexible	4.60	Outstanding
The test are realistic and reasonable	4.00	Very Satisfactory
All the activities are designed to be manageable and within the students' capabilities	4.80	Outstanding
Grand Mean	4.47	Very satisfactory

The modules intentions were achievable and the activities were manageable in line with the students' capabilities. The experts also added some activities that would help the learner to express their ideas. The researcher considered the assessment of the experts. The overall mean is 4.46 with a verbal description as Very Satisfactory.

Nasrullah et. al (2015) claimed that students' time management is one of the aspects that can move a student to be a good student. A good time management is vital for students to shine. The present study was designed to suit with the student's time management.

### 3.8. Reliability

Reliability pertains to the quality of being dependable. The students and teachers can rely to the module to enhance their learning in field of tailoring. More so, contents of the module were taken from the different books published by different well-known authors. During the validation, the suggestions, and additional information were integrated to assure that the module were free from errors.

Table 8 presents the evaluation of the instructional learning module by the experts in terms of reliability.

**Table 8** Expert's Evaluation on Reliability

Reliability	Mean	Verbal Description
The module itself can be relied upon by the students and teachers to enhance the subject matter of Tailoring	4.40	Very Satisfactory
Facts provided in the module are likely to be accurate and free from errors	4.80	Outstanding
Module is dependable to deliver its objectives and targets	4.60	Outstanding
The lesson and test are dedicated to the betterment of the students' knowledge on tailoring	5.00	Outstanding
Grand Mean	4.70	Outstanding

The table 8 presents the evaluation of the experts in terms of reliability. The results show that the modules were dependable to deliver the objectives and targets, lesson and tests were dedicated to the betterment of the student's knowledge on Tailoring as Mohajan (2017), in his paper sued that a tool must produce stable (free from errors) and consistent results.

## 4. Validation of the Instructional Learning Module by the Experts

For the Content validity, the following criteria have been validated: usability, Practicability, Adaptability and illustrations.

### 4.1. Usability

Usability refers to the usefulness of the instructional module to the students as an additional instructional material aside from textbooks, tools and equipment. In the instructional learning modules their usefulness was tested among the students who took the tailoring subject as their specialization.

**Table 9** Expert's Evaluation on Usability

Usability	Mean	Verbal Description
The module will guide the students in achieving the learning competencies	4.20	Very Satisfactory
Module is an important instructional material to both teachers and students	5.00	Outstanding
The module is useful to students and a good substitute in the absence of the textbooks	5.00	Outstanding
The learning materials are possible learning resources in the home , school and community	4.60	Outstanding
Grand Mean	4.70	Outstanding

The Table 9 shows the experts evaluation of the modules of tailoring in terms of Usability. It shows in the table that the Usability was rated as very satisfactory with a grand mean of 4.70.

Bangis (2018), this means that the modules could serve as additional learning materials that would guide the students in achieving the learning objectives.

#### 4.2. Adaptability

Adaptability refers to the versatility of the instruction in teaching tailoring lessons. The instructions of the instructional learning module were based on the capacity and ability of the students. The activities of the module were patterned in the new ways of teaching and strategies of teachers. Contents and illustrations captured the interest of the students.

Table 10 presents the evaluation of the instructional learning module by the experts in terms of adaptability.

**Table 10** Expert's Evaluation on Adaptability

Adaptability	Mean	Verbal Description
Instructions in the module are flexible	4.60	Outstanding
The module is modifiable to move with changing times	4.40	Outstanding
Contents in the module can alter the students' old perceptions so as to guide them to new and better ideas.	4.80	Outstanding
Grand Mean	4.60	Outstanding

Table 10 shows the evaluation of the experts in terms of adaptability. As shown in the result, the instruction in the module were flexible; modifiable to move with changing times; and contents and the illustrations altered the old perception of the students to guide them to new and better ideas. This criterion was rated by the experts as outstanding with a mean score of 4.60.

Martin (2016) discussed adaptability as able to respond to a change. The developed has its capability to easily adapt to the need of the society in terms of ideas and skills.

#### 4.3. Practicality

Practicality it refers to the workability of an instructional device for the students' everyday life. The contents are both applicable for the students and teachers. Its activities are based on real life situation. Hands-on activities helped the students for future livelihood and employment.

**Table 11** Expert's Evaluation on Practicality

Practicality	Mean	Verbal Description
The module and its contents are applicable for the students' daily life	4.40	Very satisfactory
The module is user friendly for both the students and the teachers	4.20	Very satisfactory
The situation cited and shown in the module are realistic and sound	4.20	Very satisfactory
The module demonstrate workability and reasonableness	4.60	Outstanding
Grand Mean	4.35	Very satisfactory

The table 11 shows the experts' evaluation of the module in tailoring in terms of practicality. The evaluators rated practicality of the modules as outstanding, with a grand mean of 4.35. It implies that the contents of the module are applicable for students' everyday life. The modules were also user friendly for both students and teachers because they demonstrated workability and reasonableness. The pictures, diagrams, and illustrations of the modules were taken realistically based on the practicum of the students in the subject of tailoring.

Teachers agreed on the value and importance of practical activities in promoting learning concepts, raising motivation, and promoting inquiry based learning (Said et.al., 2014) which is also embodied in the present study.

#### 4.4. Illustrations

It refers to the images, diagrams, pictures and illustrations presented in the module in teaching tailoring lessons. Most pictures were taken from the actual practicum of the students during hands-on activities. Teachers and students who were part of the practicum in the preparation were used as part of the illustrations. The researcher made the lay out of the illustrations to fit exactly in the instructional learning modules.

Table 12 presents the evaluation of the instructional learning module by the experts in terms of illustrations.

**Table 12** Expert's Evaluation on Objectives

Illustrations	Mean	Verbal Description
The illustrations are well laid out for easy reference	4.40	Very satisfactory
The illustrations are properly drawn and labelled.	4.80	Outstanding
Grand Mean	4.60	Outstanding

Table 12 shows the evaluation of experts in terms of illustration. The mean score was 4.60 with adjectival rating of outstanding. The results implies that the illustrations were well laid out for easy reference and they were properly drawn and labelled.

Jandhyala (2017) and the present study both believed that visuals hold more appeal than plain text to those curious and intuitive young minds.

#### Over-all Experts' Evaluation and Validation of the Instructional Learning Modules in Tailoring

Table 13 presents the Over- all Evaluation and Validation of the Instructional Learning Module in Tailoring.

Table 13 presents the summary of the mean and interpretation on the over- all evaluation of the instructional learning module in Tailoring.

Nine criteria were rated as Outstanding. These were the objectives, contents, organizations, terminologies, reliability, usability, adaptability and illustrations. On the other hand, the evaluation, attainability and practicality were rated by the experts as very satisfactory.

**Table 13** Summary of Mean and interpretation on the Over- all Evaluation of Instructional Learning Modules in Tailoring Under K-12 Curriculum

Criteria	Weighted Mean	Descriptive Rating
Objectives	4.60	Outstanding
Contents	4.78	Outstanding
Organizations	4.53	Outstanding
Evaluation	4.33	Very Satisfactory
Terminologies	4.80	Outstanding
Attainability	4.47	Very satisfactory
Reliability	4.70	Outstanding
Usability	4.70	Outstanding
Adaptability	4.60	Outstanding
Practicality	4.35	Very satisfactory
Illustrations	4.60	Outstanding
Composite Mean	4.587	Outstanding

The over-all mean score of 4. 58 with the adjectival description outstanding was gained by the instructional learning modules. The results shows that the instructional learning modules were highly accepted by the experts to use as tool in teaching the lesson to enhance and improve the skills and mastery of the learners and the teachers to become more productive.

The importance of a module was established in the study of Reddy (2005). Module plays a very important role in the academic schedule because it saves time and covers all concepts.

#### 4.5. The Effectiveness of the Module to the Users in terms of Pre-test and Post-test.

The effectiveness of the developed instructional learning modules in tailoring was validated by the users. The users were the top 10 students of the Grade 12 Resilience serve as the subject as they taught using the modules. These were the grade twelve (12) students of Salapungan National High School taking Dressmaking and Tailoring as their specialization.

**Table 14** Comparison of the Pre-test and Post-test Results in Tailoring

Content	Mean		T	DF	Sig. 2 Tailed	Remarks
	Pre-test	Post-test				
Part 1	4.7	7.8	-4.249	9	0.00200724445119	Significant
Part 2	4.9	8.7	-7.125	9	0.00016752997192	Significant
Part 3	4.6	8.6	-6.155	9	0.00005514403607	Significant
Part 4	12.2	17.8	-5.355	9	0.00045893276848	Significant
Over -all	26.4	42.9	-9.216	9	7.03079572062519E-06	Significant

A pre-test was given before the instructional lesson given to the students to determine the prior knowledge about the topics covered in the modules. While the post test was given to the students after completion of an instructional program. Both tests were conducted to determine the effectiveness of the module to the users.

Table 14 presents the Comparison of the Pre-test and Post-test Results in Tailoring.

The table 14 shows the pre-test and post-test performances of the students who used the instructional modules as instructional learning materials.

The result present a higher performance in the posttest compared to the pretest of the experimental group.

The table also shows in that experimental group demonstrated very far performance in the post-test compared to the pre-test of the experimental group. Between the pre-test and post-test of the experimental group, mean scores were considered significantly higher. Employing the T-test of difference between means of dependents sample. Table 13 shows the results  $t=-4.294$  in part 1 Sewing tools and equipment,  $t=-7.125$  in part 2 taking body measurements,  $t=-6.155$  in part Drafting pattern,  $t=-5.355$  in part Layouting, Marking, Cutting and Assembling. In over all, the t- value  $-9.216$  this results shows that it could be highly significant. The computed significance of the t-value was within the alpha level 0.05. Hence the null hypothesis was rejected. Results revealed that the t-test significantly differentiated the pre-test and post-test of the experimental group in favour of the post-test, which registered higher mean score. This means that after teaching the learning contents of tailoring, using the Instructional Learning Modules, the control treatment group greatly improved in the post test.

This signifies that the learning in tailoring using the developed modules highly affected the performance of the students.

The same level of effectiveness was also observed in the paper of Kanchan et. al., (2014). The findings of the mentioned study revealed that students exposed to learning modules achieved higher in the specified units.

#### **4.6. To draw implications of the study in teaching Tailoring.**

The results of the study can be a gateway for the future studies on the development of modules in different specializations for the TLE/TVL mini courses. The teacher plays a vital role in the development of the students especially in skills. Traditional teaching is effective however, if both methods are used, teaching and learning process could become more effective and efficient.

The evaluators commented that the developed modules could address the scarcity of instructional materials, and it is also a great tool that can be used by the teachers to facilitate learning.

---

## **5. Discussion**

### **5.1. Development of the Modules**

The instructional learning modules contained pre-test, introduction, objectives, illustrations and drawings, steps, procedures, activities and post-test.

### **5.2. Evaluation of the Instructional Learning Module in tailoring**

Based from the evaluation of the experts, five (5) criteria (objectives, content, organization, terminologies and reliability) were rated Outstanding. While the criteria for evaluation and attainability were rated as Very Satisfactory.

### **5.3. Validation of the Instructional Learning Module in Tailoring**

Three (3) criteria (usability, adaptability and illustrations) were rated by the experts as Outstanding and the criteria for practicality was rated as Very Satisfactory.

### **5.4. Effectiveness of the Instructional Learning Module in Tailoring to the Users**

The overall computed t-value was less than the alpha (0.05), hence the null hypothesis was rejected. There is a significant difference between the pretest and posttest of the control treatment group.

The control treatment group have demonstrated at par performance in the post test compared to the pre-test.

---

## **6. Conclusions**

In the evaluation and validation of the Instructional Learning Module, majority of the criteria were rated as Outstanding.



The developed Instructional Learning Module is effective as manifested in the significant difference between pretest and posttest of the control treatment group.

### *Recommendations*

Based on the findings and conclusions made in the study, the following recommendations were offered:

- Practicality, Attainability and Evaluation areas of the module shall be improve.
- Development of modules in other learning areas is encouraged to solve scarcity of learning materials especially in T.L.E.
- Seminars and workshops on Module Writing shall be conducted to enhance and uplift individual strengths in crafting instructional materials.
- The module is highly recommended for use in teaching tailoring with minor revisions as the case may be.

---

### **Compliance with ethical standards**

#### *Disclosure of conflict of interest*

There are no conflicting interests.

---

### **References**

- [1] Asian Development Bank. (1991). Technical and Vocational Education and Training Manila, Philippines: Asian Development Bank.
- [2] Dagoon, J. D. (1990). Teaching Strategies in Livelihood and Vocational Education Today. Rex Book Store Manila
- [3] Donnely, R. (2005). Designing Modules for Learning. Dublin Institute of Technology
- [4] Hirsch, et. al., (2015). Classroom Implementation of Instructional Modules Developed by Teachers during Engineering RET Programs: A Follow-up Study. New Jersey Institute of Technology
- [5] Kanellopoulou, E. (2018). International Education Studies. Canada: Canadian Center of Science and Education.
- [6] Martin, et.al., (2016). Adaptability: An important capacity for effective teachers. Educational Practice and Theory, An International Peer-reviewed Journal
- [7] Nasrullah, S. (2015). The Impact of Time Management on the Students' Academic Achievements. An International Peer-reviewed Journal Vol.11, 2015
- [8] Rojo et.al. (2002) Home Economics III. Adriana Publishing Co., Inc.
- [9] Sinha, G. (2014). Principles of Vocational Training. Venus Books. India
- [10] Sicat L.V. (2008) Worktext in Basic Statistics. San Vicente, Tarlac City.
- [11] Soco, G.S. (1992) Technology and Home Economics. Pampanga Agricultural College, Magalang Pampanga.
- [12] Verma, D. (2014). Strategies and Theories of Vocational Education. New Delhi, India.
- [13] Albarico, S. (2004). "Adequacy of Instructional Materials Used by Teachers in Teaching Technology and Livelihood Education." Institute of Technology, MSU Iligan
- [14] Bangis, M.F. (2018), " Develkopment and Validation of Supplementary Module in Bread and Pastry Production Under the K-12 Curriculum, Tarlac State University, Tarlac City.
- [15] Bedaure, A.A. (2012). "Modular Instruction in Biology; it's Effects on Students' Performance" Carlos Hilado Memorial State College, Negros Occidental
- [16] De Guzman, M. P. (2008) Development of Supplementary Materials of Selected Topics in Elementary Algebra. Holy Angel University, Angeles City.
- [17] De Guia, R. (2003). "Development and Validation of Competency- Based Module in PC Hardware Servicing IV". University of St. La Salle, Bacolod City
- [18] Edessa, S. (2016). Impacts of Insufficient Instructional Materials and Higher Education Systems in Teaching Biology. Addis Ababa University, Addis Ababa, Ethiopia

- [19] Esquivel, F. (2002) "Development and Validation of Supplementary Instructional Module in Teaching Garments" Tarlac State University, Tarlac City
- [20] Freebody, P. (2007). Literacy Education in School Research perspectives from the past, for the future. Australia: Australian Council for Educational Research.
- [21] Ghanney, R.A. (2008). "The Use of instructional materials in teaching and learning of environmental studies in primary schools: A case study of winneba". Winneba Ghana
- [22] Jones, et.al.,(2007). The importance of pedagogical content knowledge in assessment for learning practices: a case-study of a whole-school approach.
- [23] Jabbarifar, T. (2000). The importance of classroom assessment and evaluation in educational system. Malaysia: 2nd International Conference of Teaching and Learning
- [24] Kanchan, et. al., (2014) Effectiveness of Self Learning Modules on the Achievement and Retention of Undergraduate Students in Commerce, Research Scholar, Dept. of Education, Kurukshetra University, Kurukshetra
- [25] Nwike, m.C. (2013). " Effects of use of Instructional Materials on students Cognitive Achievement in Agricultural science". Federal College of education , Nigeria
- [26] Okabia, E.O (2011) " Availability and Teachers" Use of instructional Materials and resources in the implementation of Social studies in junior secondary schools in Edo State Nigeria". University of Benin City, Nigeria
- [27] Reddy, P. (2005) Importance of Course Module in Academic Performance of Students in University Level, Expatriate staff member, Education faculty, Mathematics Department, Jimma University
- [28] Said, et. al., (2014). The importance of practical activities in school science: perspectives of independent school teachers in qatari schools. Qatar: Education Learn Conference
- [29] San Juan, S.F. (2009) Evaluation of Learning Modules in Drfating Basic patterns for the Textile and Garments Technology Students. Central Luzon State University Munoz, Nueva Ecija
- [30] Valera, M. (2013), " Development and Validation of Instructional Materials in Teaching Word Problem in Geometry Using Drawing Models and tables". Tarlac State University, Tarlac City
- [31] Philippine Labor Vol. XXXIII No.2 (June 2014)
- [32] The Journal of Educational Research (2012)
- [33] Journal of Service Management, Vol. 24 Issue: 1, pp.82-104,) (2014)
- [34] <http://www.gov.ph/k-12/>
- [35] <http://study.com/academy/lesson/instructional-materials-definition-examples-evaluation.html>
- [36] [http://www.academia.edu/\\_importance-instructional-materials](http://www.academia.edu/_importance-instructional-materials)
- [37] Prasad R, Kamal S, Sharma PK, Oelmüller R, Varma A. Root endophyte Piriformospora indica DSM 11827 alters plant morphology, enhances biomass and antioxidant activity of medicinal plant Bacopa monniera. Journal of basic microbiology. 2013 Dec; 53(12):1016-24. (example of Journal article)
- [38] Briggs GG, Freeman RK, Yaffe SJ. Drugs in pregnancy and lactation: a reference guide to fetal and neonatal risk. 9th ed. Baltimore: Williams & Wilkins; 2011. (Example of Book)
- [39] MacDougall C, Chambers HF. Aminoglycosides. In: Brunton LL, Chabner BA, Knollman BJ, eds. Goodman & Gilman's the pharmacological basis of therapeutics. 12th ed. New York: McGraw-Hill; 2011. p. 1505-20. (Example of Book Chapter)
- [40] Puritch GS, Bradbury R, Mason W, inventors; Safer Inc, assignee. Fatty acid based emulsifiable concentrate having herbicidal activity. United States patent US 5,035,741. 1991 Jul 30. (Example of patent)
- [41] Kay JG. Intracellular cytokine trafficking and phagocytosis in macrophages [Ph.D. dissertation]. St Lucia, Qld: University of Queensland; 2007. (Example of thesis)
- [42] Johns Hopkins Malaria Research Institute [Internet]. Baltimore: Johns Hopkins University; © 2009 [cited 2009 Sep 23]. Available from <http://malaria.jhsph.edu/>. (Example of Website content reference).