

# PINEAPPLE FOOD PRODUCTS: A LOCALIZED LEARNING MODULE IN TLE GRADE 7/8

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## **ABSTRACT**

This study is conducted to developed learning module in Technology and Livelihood Education under Food Processing. The study sought to determine the level of appropriateness of each component of learning modules and the extent of acceptability of characteristics of the module, level of students' motivation towards the use of developed learning module in terms of four indicators of motivation commitment, responsibility, skill possession and enjoyment; and determine the significant effect of localized learning module to students' motivation and performance in terms of written exam. The researcher used the descriptive type of research on where a survey questionnaire was used in determining the level of appropriateness, extent of acceptability and students' motivation. The respondents and beneficiary of the module were 124 Grade 8 students studying in General Luna National High School General Luna, Quezon for the school year 2022-2023.

The result in level of appropriateness showed all the components got a strongly agree remarks with a very high interpretation in the grand mean. This only means the components of the module are organize, well-planned and well formulated. Similarly on the extent of acceptability of module's characteristics, the result showed all of it got a strongly agree remarks and a very high interpretation in the grand. Therefore, the result implies that the module followed the guidelines of the development and validation of learning materials. On the other hand, students' motivation towards to the components and characteristics of the developed module indicates that there is no implication on how motivated the learners are, yet its' usability showed influence on how responsible they can be.

The result of the level of students' motivation in terms of four indicators revealed that each indicators got a strongly agree marks with a very high interpretation. The result shows that the four indicators will happen and feel by a person when it is driven by a force. This driving force may be intrinsic or extrinsic motivation. On the other hand, the level of students' performance in terms of practical test shows outstanding remarks. This means that the learning of the students is very high which lead to high remarks. In the part of determining the significant effect, the results showed that there is only one variable of components and characteristics of the developed module has a significant effect on the student's motivation. Consequently, there is no significant effect of components and characteristics of the developed module on the performance of the students in terms of written test.

On the other hand, the researcher recommends the following, 1) The developed localized learning module may be used particularly by the TLE teachers as supplementary learning materials in teaching Food Processing. 2) The TLE teachers are encouraged to attend seminars, workshops and training programs about development of learning materials. 4) Administrators are encouraged to support the development and use of localized learning module in teaching TLE and other subjects. 5) TLE teachers are entitled to modify and reconstruct the content of the developed learning module depends upon the needs of education in the future. 6) Future researchers can further validate and improve the localized learning module in Food (Pineapple) Processing.

### **Keywords:**

*Localized learning module, objectives, activities, content, assessment, student's motivation, adaptability, aesthetic value, appropriateness, usefulness, student's performance, commitment, responsibility, skills possession, enjoyment*

## **INTRODUCTION**

Technology and Livelihood Education is a discipline which contains four major components namely, Home Economics, Agri-Fishery Arts, Industrial Arts and ICT. Aside of that, it is a subject that focus more on experiential, interactive, interdisciplinary, value-laden and practical activities (Jacolbia, 2016). These activities aim to make students develop or hone their skills, knowledge and values that may use to become a productive member of the modern workforce.

Teaching TLE subject needs a knowledgeable and skilled teacher, tools, equipment and laboratory area. Aside of that, textbooks and supplemental modules can also be helpful since it is believed to aid a perceived gaps in learning. Producing numbers of supplemental learning modules may help learners learn more about the lessons. Moreover, modules or textbook contains context or localized terms, situations and places can be more helpful in aiding and helping the learners.

Similarly, Pardilla, (2020) stated that instructional materials utilized by the teachers has a great impact in the teaching-learning process. In addition, Pardilla believed if the learning materials were readily available, students can access all of it so learning can be highly possible to happen. Thus, most of the researchers and DepEd teachers were encouraged to make instructional materials like learning module based on the locality of the school. Moreover, developing localized learning materials can help improve students learning and performance. Similarly in the conclusion of Mahabdi (2013) in the research entitled "The role of Localized Materials in learning of FFL students", Mahabdi concluded that using localized learning materials improve the outcomes since the learners enjoyed the activities of it because students can relate it in their experiences.

Hence, the researcher come up in making a learning module that contains General Luna's practices in preparing pineapple processed food products. Specifically, the material contains procedures of products out of pineapple. The learning module aimed to promote the local product of General Luna, Quezon and help students learn about the process of it. It may also the way of applying the knowledge in preservation and way in making the students ready in industrial world.

The main purpose of the study is to develop and validate the developed learning material in Technology and Livelihood Education under Food Processing. The develop learning material aims to promote the local product of General Luna, Quezon and help students learn about the process of it. Specifically, the study sought to answer the following questions.:

1. What is the extent of appropriateness of the developed Localized Learning Material in Food Processing in terms of the following components of learning module:
  - 1.1 objectives;
  - 1.2 contents;
  - 1.3 activities; and
  - 1.4 Assessments?
2. What is the level of acceptability of the learning material as rated by the group of evaluators in terms of:
  - 2.1 adaptability;

- 2.2 aesthetic value;
- 2.3 appropriateness; and
- 2.4 usability?
- 3. What is the level of students' motivation in terms of:
  - 3.1 commitment
  - 3.2 responsibility
  - 3.3 skills possession
  - 3.4 enjoyment?
- 4. What is the level of students' performance in terms of:
  - 4.1 Written Exam?
- 5. Do the developed Localized Learning Module in Food Processing has significant effect on students' motivation?
- 6. Do the developed Localized Learning Module in Food Processing has significant effect on student's performance in written exam?

## REVIEW OF RELATED LITERATURE

### Students' Motivation

Motivation is one of the driving forces that makes anyone do things impossible possible. A motivated students are those who actively engage in every activity. Similarly, Cherry (2022) defined motivation as the process that makes everyone initiates, guides, and maintains goal-oriented behavior. Motivation comes to seven indicators that makes a person highly motivated (Addair, 2022). These indicators are energy, commitment, staying power, skill possession, single mindedness, enjoyment, and responsibility. These indicators will happen and feel by a person when it is driven by a force. A driving force is known as intrinsic or extrinsic motivation (Cherry, 2022).

The intrinsic motivation is an internal motivation that is arises within the person and it is driven with the help of self-satisfaction towards solving a problem or puzzle. On the other hand, extrinsic motivation is an external motivation that is driven by the awards that can be touch or smell and praising words that comes from the other person or peer. The praises, recognition or giving awards can be an external force that makes an individual highly motivated. The indicators of Addair (2022) can be driven if the person decided to do it or to make it strong.

On the other hand, the result of Mendoza (2022) study reveals a need-supportive task instructions had a medium effect size on intrinsic motivation. But it has no direct effect on the task performance of the students. This goes along with a significant indirect effect via self-assessment practice. The result means some of the students can keep motivated while doing a need-supportive task even there is a little or few encouragements or praises.

According to the statement in a website of study.com, motivation drives student behavior and performance. In a classroom setting, a highly motivated students are willing to learn and take difficult tasks that will assess their knowledge or strengthen their skills. In the study of Afzal, Ali, Hamid & Khan (2017) shows a result saying that students' motivation is a vital part of each students' success. In addition, the study reveals a finding saying those students who can adapt self-exploratory variable and altruism variable, rejection of alternative options variable tends to perform better. In contrary, student who can adapt career and qualifications variable, social enjoyment variable and social pressure variable tend to perform less than expected.

### Student's Performance

Academic performance is an accomplishment of students in every subject. Similarly, student's performance is one factor in teaching that is measured using practical or written test. Assessing the performance help teachers determine the level of students understanding on the lessons. In Technology and Livelihood Education subject, 60% of practical test has effect on the grade of the students. Only 20% of written test is added on the grades of the students which means students may gain high grades when the result of practical test is above the passing grade. Aside from that, students should focus on mastering or improving their skills in all competencies of TLE.

Academic performance is strongly associated with latent variable which is labeled as cognitive ability. This kind of ability captures most of the desired outcome of each subject. Student's performances were affected by different factors namely, parent's educational background, family income, self-motivation of students, age, sex, learning style and learning preference (Cabuag, 2019). These factors should give attention when making instructional materials use in teaching. Aside from that, when assessing student's performance teacher must have basis or rubrics.

Thus, the developed learning contains activities and task that will assess student's learning. The performance task that assesses students' application of the lesson, it includes rubrics in grading the student's performance. On the other hand, each lesson contains written activities on which it measures students' knowledge about the lesson.

### **Localized Learning Module**

Learning Module is a tool which provides course materials in a logical, sequential, order, guiding students through the content, activities and assessment in order to specified by the teacher (UF e-Learning Help). On the other hand, USC blackboard Help define learning modules as an organized collection of content that is presented together. It can support the subjects' goal or objective or concept or theme. Moreover, it is also useful during the pandemic years on which it is called self-learning module since it contains discussion, activities, assessment and key to correction.

Everyone believe teachers play a significant role in the development of learning resources that is suitable in the needs of learners. Therefore, the Department of Education allows and encourage teachers and developer of module to make or develop modules that is localize, indigenize, and enhance same based on respective educational and social context of the locality (RM No. 22 s.2019 DepEd Cagayan Valley).

On the other hand, localization is similarly defined as contextualization, based on the definition of DepEd Regional Memorandum No. 22 s.2019 it is process of relating the learning content which is specified in the curriculum to the local information and materials in the learners' community. Similarly in the definition of contextualization which also about process of relating the curriculum to a particular setting, situation, or area of application to be able to make the competencies applicable, meaningful and useful to the learners. While Dimacili (2018) cited in a journal, localization is the freedom of schools to modify curriculum to local condition which students can relate the existing knowledge and experiences.

Aside of that, developing localized or context modules were supported by the DepEd memo no.23 s. 2013 which stated "“The curriculum shall be Contextualize and Global, The Curriculum shall flexible enough to enable and allow schools to localize, indigenize and enhance the curriculum based on their respective educational and social contexts”. Therefore, if more institutions whether public or private realize that learners' achievement can be improve using localized learning materials (Tomlinson 2011). The result of the study of Villanueva (2017) indicates that using localized material like Localized Educational Video can improve the learning of the students. Similar with the results observed in the study of Mahabdi (2013) about the role of localized materials in the learning of FFL students. Students performed better when reading a localized material since the learners enjoyed doing activities which prior knowledge and experience are related.

Moreover, another study proves that using contextualized and localized teaching as a technique in teaching basic statistics show students' performance increased significantly because the lessons were taught based on real-world and community-based instructions (Garin, Reyes and Rosals, 2017). Thus, the researchers recommended that teachers should utilize local samples, knowledge, and culture in designing curriculum instructions.

In creating or developing localized learning module based on the Regional Memorandum No. 22 s.2019 of DepEd Cagayan Valley a guideline must be followed. The aim of the policy guideline in creating localized or contextualized learning resources is to harmonize the CLMD-CID practices in the development of learning resources and ensure a uniform implementation of contextualizing learning resources. The developed learning modules must contain of the following component.

- Cover page
- To the Learners – which contains an introductory message for the target user of the learners
- Title Page including Copy Right – in this part it must contains title, copyright, publisher, author
- What is this module about – contains the learning competences, topic, learning strand or subject area, objectives, content standard, needs analysis
- What you already know? – it contains questions or activities that serves as pre-test or pre-assessments
- Lesson Proper – contains review, presentation & discussion or content or concept development or let's learn, activities or let's try these and self-check, let's study and analyze these, abstraction or generalization, application or what you have learned
- Assessment
- Answer key – for teacher's use only

The guidelines mentioned above will be a great help in making localized learning module that will be use in determining the level of student's academic performance and motivation after using it.

## **METHODOLOGY**

### **Research Design**

The researcher will use descriptive method of research to analyze the acceptability of the Localized Learning Module in Food (Pineapple) Processing. Descriptive research method is used when the aim of the research is to identify characteristics, frequencies, trends, and categories. It is said to be useful when not much is known yet about the topic or problem.

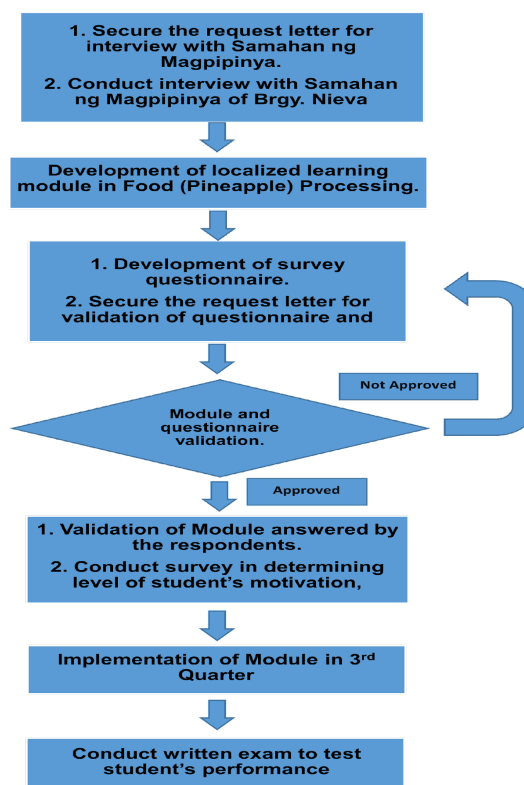
Since the aim of the study is to determine the level of acceptability of the developed learning module, level of students' motivation towards the use of module and level of students' performance, the researcher used purposive sampling. A survey type of questionnaire used in determining the acceptability and the level of students' motivation towards the developed learning module. Moreover, a written exam is used in determining the students' performance. The score of the learners in written exam is used in determining the significant effect to the developed learning module.

### **Respondents of the Study**

The respondents of the study were 124 Grade 8 students studying in General Luna National High School General Luna, Quezon for the school year 2022-2023. On the other hand, the researcher used purposive sampling technique in the selection of three (3) master teacher as the validators of questionnaire and module. The said students also validated the appropriateness and acceptability of the developed localized learning module.

### **Research Procedure**

The following are procedures in making learning module to implementation of it and conducting survey.



**Figure 3. Research Procedure**

The researcher conducted an interview with the Samahan ng Magpipinya of Barangay Nieva General Luna, Quezon. The aim of the interview is to collect information about the process of making pineapple products. After gaining the information needed, the researcher proceeds in developing the learning module and it is subjected to content validation. Before the validation, a letter was given to the validators and asking request for validation of the questionnaires and module. The module is validated by three master teachers on where the comments and suggestions were followed by the researcher.

Subsequently, the research proceeded to implementation of the module. The module was used by Grade 8 students at General Luna National High School General Luna, Quezon. Lastly, the researcher conducted a survey questionnaire in determining student's motivation towards the use of developed learning module. Aside of that, the researcher also conducted a written exam to assess students' knowledge on the lessons of the module.

### Research Instrument

The study used a survey questionnaire in determining the extent of appropriateness of the component of the module and acceptability and validity of the developed localized learning module. The first questionnaire was divided into 4 parts: part I extent of appropriateness of the developed module in terms of objectives, part II extent of appropriateness of the developed module in terms of content, part III extent of appropriateness of the developed module in terms of Activities, and part IV extent of appropriateness of the developed module in terms of Assessment.

On the second questionnaire, it is divided in to five parts. The five parts are acceptability of the developed localized learning module in terms of adaptability, aesthetic value, appropriateness, content validity and usability. Each part of the questionnaires contains five questions. The two questionnaires will be given to the professional teachers as respondents. The questions used in the questionnaires were adapted from the study of Hernandez (2021).



On the other hand, the survey questionnaire in assessing the students' motivation towards the use of the developed localized learning module was adapted from. The first part contains of five questions for situational interest and same numbers of questions was use in the second and third part which are the part for individual and well-developed individual interest. The questionnaires will be given to the target students as respondents. This is also will be given after finishing the use of the learning module.

Moreover, the instrument used in the above mentioned will use a five – point rating scale and degree values with an interpretation as follows: Strongly Agree with a scale of 5 (4.20 – 5.00), Agree with a scale of 4 (3.40 – 4.19), Moderately Agree with a scale of 3 (2.60 – 3.39), Disagree with a scale of 2 (1.80 – 2.59) and Strongly Disagree with a scale of 1 (1.0 – 1.79). This is also the rating scale use in determining the level of students' motivation on the use of the develop learning module. Aside of that, the gathered data of students' performance in written test will be computed using Minitab 14 and treated them statistically using Regression Analysis. The computed p-values were compared to the level of significance at 0.05 to determine the significant effect of the developed localized learning module in food processing on students' motivation.

### Statistical Treatment of Data

The data and information gathered is analyzed statistically by the researcher. The gathered data were subjected to Mean, Standard Deviation, Frequency, Percentage, Regression Analysis and t-test to facilitate analysis and interpretation of the results.

## RESULT AND DISCUSSION

**Table 1. Level of Appropriateness of the Components of the Developed Localized Learning Material in Food Processing in terms of Objectives**

STATEMENT	Mean	SD	Remarks
<b>The objectives...</b>			
are consistent and relevant to the course goal.	4.49	0.56	Strongly Agree
precisely describe the learning outcomes.	4.22	0.66	Strongly Agree
are SMART specific, measurable, attainable, realistic and time bounded.	4.23	0.44	Strongly Agree
consist of three learning areas which are knowledge, skills and attitude.	4.46	0.60	Strongly Agree
are stated in student-friendly language.	4.34	0.61	Strongly Agree
<b>Grand Mean</b>	<b>4.35</b>		<b>Strongly Agree</b>
<b>Interpretation</b>			<b>Very High</b>

Legend:

Scale	Range	Remarks	Interpretation
5	4.20 – 5.00	Strongly Agree	Very High
4	3.40 – 4.19	Agree	High
3	2.60 – 3.39	Moderately Agree	Average
2	1.80 – 2.59	Disagree	Low
1	1.00 – 1.79	Strongly Disagree	Very Low

Table 1 presented the level of appropriateness of the components of the developed localized learning module in food processing were described in terms of objectives. The result shows that the respondents are strongly agree that the objectives are consistent and relevant to the course goal, precisely describe the learning outcomes, SMART (Specific, Measurable, Attainable, Realistic and Time bounded), consist of three learning areas which are knowledge, skills and attitude and stated in student-friendly language. The objectives are consistent and relevant to the course goal gained the highest mean of 4.49

and standard deviation 0.56. Similarly, respondents strongly agree that objectives precisely describe the learning outcomes, it yielded the least ( $M=4.22$ ,  $SD=0.66$ ).

Overall, level of appropriateness of the components of the developed localized learning module in food processing were described in terms of objectives attained the grand mean of 4.35 and was interpreted Very High. It implies that the respondents highly manifested the clarity of the objectives of the instructional materials. Thus, the result shows that the objectives of each lesson of the module were precise. This claim is similar on the study of Torrefrancia (2018), the evaluators are strongly agreed that the objectives are well-planned, formulated, organized, and relevant to the topics of each lesson of the modules. The said characteristics of evaluated objectives is true since this is aligned with the MELCs used in making lesson objectives. Aside of that, learning objectives are essential in teaching-learning process. It is said to be the backbone and compass of the teacher on where the learning goes, so it must be clear and precise that students can easily understand.

**Table 2. Level of Appropriateness of the Components of the Developed Localized Learning Module in Food Processing in terms of Content**

STATEMENT	Mean	SD	Remarks
The content .....			
designed to intensify the knowledge and entrepreneurial skills of the students.	4.46	0.52	Strongly Agree
relevant to the student's level of understanding.	4.44	0.56	Strongly Agree
incorporating local information and materials from the student's local condition.	4.55	0.53	Strongly Agree
suitable to achieve the essential learning competencies in food processing.	4.52	0.60	Strongly Agree
intended to emphasize the richness and diversity of the student's local culture.	4.55	0.59	Strongly Agree
<b>Grand Mean</b>	<b>4.50</b>		<b>Strongly Agree</b>
<b>Interpretation</b>	<b>Very High</b>		

Legend:

Scale	Range	Remarks	Interpretation
5	4.20 – 5.00	Strongly Agree	Very High
4	3.40 – 4.19	Agree	High
3	2.60 – 3.39	Moderately Agree	Moderately High
2	1.80 – 2.59	Disagree	Low
1	1.00 – 1.79	Strongly Disagree	Very Low

Table 2 presented the level of appropriateness of the components of the developed localized learning module in food processing were described in terms of content. The result shows that the respondents are strongly agree that the content is designed to intensify the knowledge and entrepreneurial skills of the students, relevant to the student's level of understanding, incorporating local information and materials from the student's local condition, suitable to achieve the essential learning competencies in food processing and intended to emphasize the richness and diversity of the student's local culture. On the other hand, the content incorporating local information and materials from the student's local condition gained the highest Mean of 4.55 and  $SD=0.53$  and 59. Similarly, respondents strongly agree to the statement that the content is relevant to the student's level of understanding, it yielded the least ( $M=4.44$ ,  $SD=0.56$ ).

Overall, level of appropriateness of the components of the developed localized learning module in food processing were described in terms of content attained the grand mean of 4.50 and was interpreted Very High. The result implies that the content was aligned on the learning objectives of each lesson and



can easily understand with a little support. It also shows that the appropriateness of the content can help the learners understand the lesson since it contains local information. Similar on the study of Villanueva (2017) using localized material like Localized Educational Video can improve the learning of the students since its content can easily understand which is based on the local situations.

**Table 3. Level of Appropriateness of the Components of the Developed Localized Learning Module in Food Processing in terms of Activities**

STATEMENT	Mean	SD	Remarks
The activities			
encourage authentic and collaborative learning experiences.	4.55	0.59	Strongly Agree
strengthen the learning competencies of 21st century learners.	4.60	0.54	Strongly Agree
give the students the opportunities to discover their full potential.	4.60	0.55	Strongly Agree
cater the needs and interests of the students in the set learning competencies.	4.64	0.52	Strongly Agree
develop the student's sense of responsibility for their own learning.	4.60	0.61	Strongly Agree
<b>Grand Mean</b>	<b>4.60</b>		<b>Strongly Agree</b>
<b>Interpretation</b>	<b>Very High</b>		

Legend:

Scale	Range	Remarks	Interpretation
5	4.20 – 5.00	Strongly Agree	Very High
4	3.40 – 4.19	Agree	High
3	2.60 – 3.39	Moderately Agree	Moderately High
2	1.80 – 2.59	Disagree	Low
1	1.00 – 1.79	Strongly Disagree	Very Low

Table 3 presented the level of appropriateness of the components of the developed localized learning module are evident, accurate, and consistent in evaluating student performance in food processing were described in terms of activities. The result shows that the respondents are strongly agree that the activities encourage authentic and collaborative learning experiences, strengthen the learning competencies of 21st century learners, give the students the opportunities to discover their full potential, cater the needs and interests of the students in the set learning competencies and develop the student's sense of responsibility for their own learning. The activities cater the needs and interests of the students in the set learning competencies, gained the highest Mean of 4.64 and standard deviation of 0.52. Similarly, respondents strongly agree that the activities encourage authentic and collaborative learning experiences, it yielded the least ( $M=4.22$ ,  $SD=0.66$ ).

Overall, level of appropriateness of the components of the developed localized learning module in food processing were described in terms of activities attained the grand mean of 4.60 and was interpreted Very High. The result shows that the activity of the module has a level of appropriateness on where students can enjoy it while answering. Similarly on the study of Mahabdi (2013) about the role of localized materials in the learning of FFL students. Students performed better when reading a localized material since the learners enjoyed doing activities which prior knowledge and experience are related. Moreover, Reyes (2022) said in the study entitled "E-Localized Learning Resource Material in Dressmaking", activities which come from the modules and used by the learners can stimulate the skills, and abilities to study independently. Aside of that, after experiencing the concrete activities, learners are now making a reflective observation on where the new experience is analyzed and compare with the existing experience, and this is the reason why students enjoy the activities (McLeod, 2017).

**Table 4. Level of Appropriateness of the Components of the Developed Localized Learning Module in Food Processing in terms Assessment**

STATEMENT	Mean	SD	Remarks
The assessments			
provide a clear and specific instruction.	4.54	0.64	Strongly Agree
are applicable to achieve the learning objectives in the offered course.	4.69	0.52	Strongly Agree
value the importance of individual difference among students.	4.47	0.64	Strongly Agree
engage students with different learning styles.	4.59	0.56	Strongly Agree
are evident, accurate, and consistent in evaluating student performance.	4.51	0.55	Strongly Agree
<b>Grand Mean</b>	<b>4.56</b>		<b>Strongly Agree</b>
<b>Interpretation</b>		<b>Very High</b>	

Legend:

Scale	Range	Remarks	Interpretation
5	4.20 – 5.00	Strongly Agree	Very High
4	3.40 – 4.19	Agree	High
3	2.60 – 3.39	Moderately Agree	Moderately High
2	1.80 – 2.59	Disagree	Low
1	1.00 – 1.79	Strongly Disagree	Very Low

Table 4 presented the level of appropriateness of the components of the developed localized learning module in food processing were described in terms of objectives. The result shows that the respondents are strongly agree that the assessments provide a clear and specific instruction, are applicable to achieve the learning objectives in the offered course, value the importance of individual difference among students, engage students with different learning styles and are evident, accurate, and consistent in evaluating student performance. On the other hand, the assessments are applicable to achieve the learning objectives in the offered course gained the highest Mean of 4.69 and SD=0.52. Similarly, respondents strongly agree that assessments value the importance of individual difference among students, it yielded the least (M=4.47, SD=0.64).

Overall, level of appropriateness of the components of the developed localized learning module in food processing were described in terms of assessment attained the grand mean of 4.56 and was interpreted Very High. It implies that the respondents highly manifested the assessments are effective in assessing the learning of the students. Moreover, assessment is the part on where students find out if they learn something from the lesson. Therefore, it must contain questions that is based or aligned on the learning objectives of the module.

### Extent of Acceptability of the Learning Materials

**Table 5. Extent of Acceptability of the Learning Materials in terms of Adaptability**

STATEMENT	Mean	SD	Remarks
The module			
is versatile that can be modified across the curriculum.	4.51	1.05	Strongly Agree
provides a variety of opportunities for autonomous learning.	4.06	0.89	Agree
can be amended to fit other purposes.	4.35	0.98	Strongly Agree
caters diversity of learners.	4.46	0.94	Strongly Agree
comprises practical activities suitable for exploratory courses.	4.22	0.93	Strongly Agree
<b>Grand Mean</b>	<b>4.32</b>		<b>Strongly Agree</b>
<b>Interpretation</b>		<b>Very High</b>	

Legend:

Scale	Range	Remarks	Interpretation
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5	4.20 – 5.00	Strongly Agree	Very High
4	3.40 – 4.19	Agree	High
3	2.60 – 3.39	Moderately Agree	Moderately High
2	1.80 – 2.59	Disagree	Low
1	1.00 – 1.79	Strongly Disagree	Very Low

Table 5 reveals the extent of acceptability of the developed learning module in terms of adaptability was very high supported by the grand mean of  $M=4.32$ . It implies that localized learning material is adaptable and can be changed to cater the diversity of learners and to fit some other purposes. The result shows the respondents are strongly agree that the adaptability was versatile that can be modified across the curriculum, provides a variety of opportunities for autonomous learning, can be amended to fit other purposes, caters diversity of learners, and comprises practical activities suitable for exploratory courses. It means that it can be amended to be suitable for exploratory courses which all gained the highest mean of ( $M=4.41$ ,  $SD=1.05$ ).

On the other hand, the respondents also strongly agree that adaptability provides a variety of opportunities for autonomous learning with the least ( $M=4.06$ ,  $SD=0.89$ ). This means students can have a lot of opportunity on what and how the concept or principle is learn.

**Table 6. Extent of Acceptability of the Learning Materials in terms of Aesthetic Value**

STATEMENT	Mean	SD	Remarks
<b>The module</b>			
contains captivating pictures appropriate to the topic.	4.58	0.50	Strongly Agree
uses satisfying value of font style, size, and color that optimize readability and accessibility.	4.43	0.50	Strongly Agree
is generally attractive and appealing to the eyes of the readers.	4.21	0.41	Strongly Agree
incorporates illustrations and icons which contribute to structuring and organizing of new knowledge in a simple way.	4.23	0.43	Strongly Agree
is well-organized and properly laid out.	4.41	0.49	Strongly Agree
<b>Grand Mean</b>	<b>4.37</b>		<b>Strongly Agree</b>
<b>Interpretation</b>	<b>Very High</b>		

Legend:

Scale	Range	Remarks	Interpretation
5	4.20 – 5.00	Strongly Agree	Very High
4	3.40 – 4.19	Agree	High
3	2.60 – 3.39	Moderately Agree	Moderately High
2	1.80 – 2.59	Disagree	Low
1	1.00 – 1.79	Strongly Disagree	Very Low

Table 6 presented the extent of acceptability of the developed localized learning material in food processing in terms of aesthetic value. The result shows that the respondents are strongly agree. The module contains captivating pictures appropriate to the topic, it gained the highest ( $M=4.58$ ,  $SD=0.50$ ). Similarly, respondents strongly agree that the module is generally attractive and appealing the eyes of the readers, it yielded the least ( $M=4.21$ ,  $SD=0.41$ ).

Overall, level of acceptability of aesthetic value of the developed localized learning module in food processing were attained the grand mean of 4.37 and was interpreted Very High. It implies that the font style, font size, pictures, color and other illustrations is readable, clear and attractive. Since students can be attractive colors, the illustrations used in the module must be colorful and clear since it is one of the important factors that a developer of module must remember. Aside of that, some of the pictures used

where taken on the locality. This means that local pictures or local scenery can help the students' experience and ideas connect to learning.

**Table 7. Extent of Acceptability of the Learning Materials in terms Appropriateness**

STATEMENT	Mean	SD	Remarks
The module			
associate's lessons which are culturally relevant in real-world context.	4.22	0.41	Strongly Agree
provides interesting learning activities based on the target learning objectives and outcomes in each lesson.	4.42	0.50	Strongly Agree
contains topics that are suitable for food (pineapple) processing.	4.79	0.41	Strongly Agree
evaluates the level of knowledge, skills, and interest of the learners.	4.79	0.41	Strongly Agree
presents information prior to the current local condition.	4.79	0.41	Strongly Agree
<b>Grand Mean</b>	<b>4.60</b>		<b>Strongly Agree</b>
<b>Interpretation</b>	<b>Very High</b>		

Legend:

Scale	Range	Remarks	Interpretation
5	4.20 – 5.00	Strongly Agree	Very High
4	3.40 – 4.19	Agree	High
3	2.60 – 3.39	Moderately Agree	Moderately High
2	1.80 – 2.59	Disagree	Low
1	1.00 – 1.79	Strongly Disagree	Very Low

Table 7 presented the extent of acceptability of the developed localized learning material in food processing in terms of appropriateness. The result shows that the respondents are strongly agree that the modules associate's lessons which are culturally relevant in real-world context, provides interesting learning activities based on the target learning objectives and outcomes in each lesson, contains topics that are suitable for food (pineapple) processing, evaluates the level of knowledge, skills, and interest of the learners and presents information prior to the current local condition. On the other hand, the module contains topics that are suitable for food (pineapple) processing, evaluates the level of knowledge, skills, and interest of the learners, presents information prior to the current local condition gained the highest mean ( $M=4.79$ ,  $SD=0.41$ ). Similarly, respondents strongly agree that the module associate's lessons which are culturally relevant in real-world context., it yielded the least ( $M=4.22$ ,  $SD=0.41$ ).

Overall, level of acceptability of appropriateness of the developed localized learning module in food processing were attained the grand mean of 4.60 and was interpreted Very High. It implies that the over-all content of the module is relevant and appropriate on the age, gender, social status and interest of the learners. The module may also boost students' awareness and interest that is essential in preparation to work in a diverse workplace.

**Table 8. Extent of Acceptability of the Learning Materials in terms of Usability**

STATEMENT	Mean	SD	Remarks
<b>The module ..</b>			
can be used as supplementary materials in teaching exploratory course for grade 7 or 8 learners.	4.73	0.45	Strongly Agree
illustrates real life learning experience.	4.22	0.47	Strongly Agree
consists of achievable learning objectives and measurable learning outcomes.	4.48	0.50	Strongly Agree

accommodates diverse learners.	4.48	0.50	Strongly Agree
provides the needs and interests of the learners	3.98	0.15	Agree
<b>Grand Mean</b>	<b>4.38</b>		<b>Strongly Agree</b>
<b>Interpretation</b>	<b>Very High</b>		

Legend:

Scale	Range	Remarks	Interpretation
5	4.20 – 5.00	Strongly Agree	Very High
4	3.40 – 4.19	Agree	High
3	2.60 – 3.39	Moderately Agree	Moderately High
2	1.80 – 2.59	Disagree	Low
1	1.00 – 1.79	Strongly Disagree	Very Low

Table 8 presented the extent of acceptability of the developed localized learning material in food processing in terms of appropriateness. The result shows that the respondents are strongly agree. The module can be used as supplementary materials in teaching exploratory course for grade 7 or 8 learners. The statements gained the highest ( $M=4.73$ ,  $SD=0.45$ ). Similarly, respondents strongly agree that the module provides the needs and interests of the learners, it yielded the least ( $M=3.98$ ,  $SD=0.15$ ).

Overall, level of acceptability of appropriateness of the developed localized learning module in food processing were attained the grand mean of 4.60 and was interpreted Very High. It implies that the usability of the developed learning module is fitted to use by the learners in exploratory stage. According to Reyes (2022), Usability refers to skillful use of the E localized learning materials and applied in real life learning situations. Aside of that, it also deals with its utility and usefulness in different cases and needs of the learner.

### Level of Students' Motivation

**Table 9. Level of Students' Motivation in terms of Commitment**

STATEMENT	Mean	SD	Remarks
I am always enthusiastic to discover and explore my knowledge and skills.	4.38	0.65	Strongly Agree
I actively participated in the class because I can relate my experiences in the lesson.	4.35	0.73	Strongly Agree
I am motivated to learn more about Food Processing.	4.51	0.76	Strongly Agree
I always attend TLE classes because I believe Food Processing helps me discover more things.	4.63	0.62	Strongly Agree
I am willing to extend time in studying the module.	4.06	0.69	Agree
<b>Grand Mean</b>	<b>4.39</b>		<b>Strongly Agree</b>
<b>Interpretation</b>	<b>Very High</b>		

Legend:

Scale	Range	Remarks	Interpretation
5	4.20 – 5.00	Strongly Agree	Very High
4	3.40 – 4.19	Agree	High
3	2.60 – 3.39	Moderately Agree	Moderately High
2	1.80 – 2.59	Disagree	Low
1	1.00 – 1.79	Strongly Disagree	Very Low

Table 9 presented the level of students' motivation towards the use of the developed localized learning material in food processing in terms of commitment. The result shows that the respondents are strongly agree in the statement, I always attend TLE classes because I believe Food Processing helps me

discover more things, gained the highest ( $M=4.63$ ,  $SD=0.62$ ). Some of the respondents agree on the statement I am willing to extend time in studying the module and gained the lowest mean of 4.06.

Overall, level of students' motivation towards the use of the developed localized learning material in food processing in terms of commitment were attained the grand mean of 4.39 and was interpreted Very High. The result shows that students are highly committed in learning because they always attend TLE class. Moreover, high commitment of the learners indicates that the effectiveness of the teachers. Aside of that, based on the result of acceptability of the module its content, activities, appearance can also additional reason why the students always attend class.

**Table 10. Level of Students' Motivation in terms of Responsibility**

STATEMENT	Mean	SD	Remarks
I intend to plan and manage my time well in this subject when it comes to project making to create and produce outstanding output.	4.30	0.62	Strongly Agree
I always attend TLE class to learn new knowledge.	4.52	0.63	Strongly Agree
I am willing to develop my skills in doing authentic performance task in this course.	4.35	0.81	Strongly Agree
I am always excited to do the activities in TLE since it can improve my creativity skills.	4.24	0.81	Strongly Agree
I am interested to the lesson because it is closely related in our local culture where I can relate in every discussion.	4.35	0.65	Strongly Agree
<b>Grand Mean</b>	<b>4.35</b>		<b>Strongly Agree</b>
<b>Interpretation</b>		<b>Very High</b>	

Legend:

Scale	Range	Remarks	Interpretation
5	4.20 – 5.00	Strongly Agree	Very High
4	3.40 – 4.19	Agree	High
3	2.60 – 3.39	Moderately Agree	Moderately High
2	1.80 – 2.59	Disagree	Low
1	1.00 – 1.79	Strongly Disagree	Very Low

Table 10 presented the level of students' motivation towards the use of the developed localized learning material in food processing in terms of responsibility. The result shows that the respondents are strongly agree on the statement, I always attend TLE class to learn new knowledge, gained the highest ( $M=4.52$ ,  $SD=0.63$ ). Similarly, respondents strongly agree on the statement, I am always excited to do the activities in TLE since it can improve my creativity skills. The statement yielded the least mean of ( $M=4.24$ ,  $SD=0.81$ ).

Overall, level of students' motivation towards the use of the developed localized learning material in food processing in terms of commitment were attained the grand mean of 4.34 and was interpreted Very High. The result shows that, motivated students can be seen if they are excited to do activities, always attend classes, interested on the lesson, and plan.

**Table 11. Level of Students' Motivation in terms of Skills Possession**

STATEMENT	Mean	SD	Remarks
I believe this module helps me strengthen my skills.	4.52	0.59	Strongly Agree
I found the activities helps me learn more about different competencies of TLE.	4.60	0.71	Strongly Agree



I learned different skills in answering the activities.	4.30	0.69	Strongly Agree
I share my knowledge to my groupmates to be able to come up in a quality product.	4.19	0.84	Agree
I actively participate in the group activities.	4.24	0.74	Strongly Agree
<b>Grand Mean</b>	<b>4.37</b>		<b>Strongly Agree</b>
<b>Interpretation</b>		<b>Very High</b>	

Legend:

Scale	Range	Remarks	Interpretation
5	4.20 – 5.00	Strongly Agree	Very High
4	3.40 – 4.19	Agree	High
3	2.60 – 3.39	Moderately Agree	Moderately High
2	1.80 – 2.59	Disagree	Low
1	1.00 – 1.79	Strongly Disagree	Very Low

Table 11 presented the level of students' motivation towards the use of the developed localized learning material in food processing in terms of skills possession. The result shows that the respondents are strongly agree on the statement, I found the activities helps me learn more about different competencies of TLE, gained the highest ( $M=4.60$ ,  $SD=0.71$ ). Similarly, respondents strongly agree on the statement, I actively participate in the group activities. The statement yielded the least mean of ( $M=4.19$ ,  $SD=0.84$ ).

Overall, level of students' motivation towards the use of the developed localized learning module in food processing in terms of commitment were attained the grand mean of 4.37 and was interpreted Very High. It implies that students' motivation may increase when skills possession was practice. It also strengthens using different task and activities that is not only applicable to students that is intelligent in spatial or motor skills.

**Table 12. Level of Students' Motivation in terms of Enjoyment**

STATEMENT	Mean	SD	Remarks
I enjoy answering the activities.	4.57	0.66	Strongly Agree
I found the content of the module interesting to learn.	4.56	0.62	Strongly Agree
I enjoy learning the lesson about Food (Pineapple) Processing.	4.57	0.57	Strongly Agree
I feel confident and comfortable during class discussion.	4.40	0.84	Strongly Agree
I actively engage in the discussion of the lesson because I can relate to the lesson about Dried Pineapple.	4.48	0.83	Strongly Agree
<b>Grand Mean</b>	<b>4.52</b>		<b>Strongly Agree</b>
<b>Interpretation</b>		<b>Very High</b>	

Legend:

Scale	Range	Remarks	Interpretation
5	4.20 – 5.00	Strongly Agree	Very High
4	3.40 – 4.19	Agree	High
3	2.60 – 3.39	Moderately Agree	Moderately High
2	1.80 – 2.59	Disagree	Low
1	1.00 – 1.79	Strongly Disagree	Very Low

Table 12 presented the level of students' motivation towards the use of the developed localized learning material in food processing in terms of enjoyment. The result shows that the respondents are

strongly agree on the statements, I enjoy answering the activities and I enjoy learning the lesson about Food (Pineapple) Processing and gained the highest ( $M=4.57$ ,  $SD=0.66$  and  $SD=0.57$ ). Similarly, respondents strongly agree on the statement, I feel confident and comfortable during class discussion. The statement yielded the least mean of ( $M=4.40$ ,  $SD=0.84$ ).

Overall, level of students' motivation towards the use of the developed localized learning material in food processing in terms of enjoyment were attained the grand mean of 4.52 and was interpreted Very High. It implies that students' motivation may increase when enjoyment is present during class or learning the module. Moreover, this indicator will happen and feel by a person when it is driven by a force. A driving force is known as intrinsic or extrinsic motivation (Cherry, 2022). Therefore, the indicators of Addair (2022) can be driven if the person decided to do it or to make it strong.

### Level of Students' Performance

**Table 13. Level of Students' Performance in terms of Written Test**

Grading Scale	Frequency	Percentage	Descriptors
90 – 100	23	19%	Outstanding
85 – 89	39	31%	Very Satisfactory
80 – 84	31	25%	Satisfactory
75 - 79	18	15%	Fairly Satisfactory
Below 74	13	10%	Did Not Meet Expectations
<b>Mean</b>	<b>83.84</b>	<b>Interpretation</b>	<b>Satisfactory</b>

Table 13 indicated the level of students' performance in terms of written test. 19% of the respondents showed an "Outstanding" performance as they attained an equivalent grade ranging from "90 to 100". While 31% of them performed "Very Satisfactory" as they obtained grades ranging from "85 to 89", 25% performed "Satisfactory" as they obtained grades ranging from "80 to 84" and 10% Did Not Meet Expectations".

The mean grade of 83.71 with verbal interpretation of "Satisfactory" indicates that the respondents' performance shows positive feedback on the module and the teacher. This means that the module is effective to use, and teacher is an excellent facilitator of learning. Hence, 10% of 124 respondents did not meet expectations which means, the researcher must improve the test questions.

### Significant Effect of the Developed Localized Learning Module in Food Processing on Students' Motivation

Minitab 14 was used in computing the data gathered and treated them statistically using Regression Analysis. The computed p-values were compared to the level of significance at 0.05 to determine the significant effect of the developed localized learning module in food processing on students' motivation.

**Table 14. Significant Effect of the Developed Localized Learning Module in Food Processing on Students' Motivation**

Variables		t-value	p-value	Analysis
Objectives	Commitment	-0.65	0.519	Not Significant
Contents		-0.73	0.465	Not Significant
Activities		-0.10	0.922	Not Significant
Assessments		-0.38	0.706	Not Significant

Objectives	Responsibility	0.13	0.901	Not Significant
Contents		0.76	0.451	Not Significant
Activities		0.30	0.761	Not Significant
Assessments		0.60	0.549	Not Significant
Objectives	Skills Possession	-0.07	0.945	Not Significant
Contents		-0.45	0.657	Not Significant
Activities		-0.36	0.716	Not Significant
Assessments		-0.51	0.610	Not Significant
Objectives	Enjoyment	0.14	0.890	Not Significant
Contents		-0.55	0.584	Not Significant
Activities		-0.87	0.384	Not Significant
Assessments		-0.31	0.760	Not Significant
Adaptability	Commitment	1.18	0.239	Not Significant
Aesthetic Value		1.12	0.265	Not Significant
Appropriateness		-1.16	0.249	Not Significant
Usability		-0.71	0.481	Not Significant
Adaptability	Responsibility	-0.03	0.974	Not Significant
Aesthetic Value		0.94	0.349	Not Significant
Appropriateness		-1.87	0.064	Not Significant
Usability		<b>-2.40</b>	<b>0.018</b>	<b>Significant</b>
Adaptability	Skills Possession	-1.11	0.271	Not Significant
Aesthetic Value		-1.12	0.266	Not Significant
Appropriateness		-0.46	0.649	Not Significant
Usability		-0.52	0.601	Not Significant
Adaptability	Enjoyment	0.24	0.809	Not Significant
Aesthetic Value		-0.88	0.378	Not Significant
Appropriateness		-1.88	0.063	Not Significant
Usability		0.34	0.737	Not Significant

\*significant at .05 level of significance

Table 14 presented the effect of developed localized learning module in food processing in terms of objectives, contents, activities and assessments and characteristics as to adaptability, and aesthetic value, appropriateness, and usability on students' motivation in terms of commitment, responsibility, skills possession, and enjoyment. It can be gleaned that usability of the developed localized learning module has significant effect on students' motivation in terms of responsibility. The result on that characteristics of the module means that the developed module can motivate the students to become responsible in terms of answering the activities, attending, and participating in the class.

The obtained p-value was lower than (0.05) level of significance which supports the analysis. This further indicates that the evaluation of the respondents on the components and characteristics of the developed localized learning module in food processing showed no implication on how motivated they are, yet its' usability showed influence on how responsible they can be. Since the result shows only one variable has an effect to the students' motivation, this means that motivation of the students in learning the subject can't highly affected by the five indicators by John Addair (2022)

**Table 15. Significant Effect of the Developed Localized Learning Module in Food Processing on Students' Performance**

Variables		t-value	p-value	Analysis
Objectives	Written Exam	1.77	0.080	Not Significant
Contents		1.56	0.121	Not Significant
Activities		1.16	0.250	Not Significant
Assessments		0.175	0.082	Not Significant
Adaptability	Written Exam	0.44	0.659	Not Significant
Aesthetic Value		2.03	0.045	Significant
Appropriateness		0.49	0.622	Not Significant
Usability		1.26	0.209	Not Significant

*\*significant at .05 level of significance*

Table 15 presented the effect of developed localized learning module in terms of objectives, contents, activities and assessments and characteristics as to adaptability, and aesthetic value, appropriateness, and usability on students' performance in terms of written test. It can be gleaned that most of the components and characteristics of the module gained a significance level that is above .05. Thus, the components and characteristics of the developed localized learning module has no significant students' performance in terms of written test. Consequently, aesthetic value of the module has significant on the written test. This result showed that the physical characteristic of the module helps the students performed well. A well-constructed module can get the attention of the learner. Students can easily read and comprehend the lessons and instruction of the activities because it is printed or written in readable font and size. Aside from that, its spacing also plays a big part in its readability.

This further indicates that the evaluation of the respondents on most of the components and characteristics of the developed localized learning module in food processing showed no implication on the performance of the learners during the written test. Students' performance will increase if it is driven by some consequences or reward. This claim is supported by the theory of Ryan and Deci's Self-determination Theory. This theory explains how motivation happens and what driving force may affect it to happen.

Overall, the result of the study showed that there is only one variable of components and characteristics of the developed module has a significant effect on the student's motivation. Consequently, there is no significant effect of components and characteristics of the developed module on the performance of the students in terms of practical test. Therefore, the null hypothesis is partially accepted.

## CONCLUSION

Based on the data gathered and discussed, the following conclusions were drawn:

1. The developed localized learning module in Food (Pineapple) Processing has significant effect on students' motivation but only on the usability of its components and characteristics. Thus, the null hypothesis is partially accepted.
2. The developed localized learning module in Food (Pineapple) Processing has no significant effect on the performance of the learners in terms of written test. Therefore, the null hypothesis is rejected.

## RECOMMENDATIONS

Based on the findings and conclusions, the researcher formulated the following recommendations:

1. The developed localized learning module may be used particularly by the TLE teachers as supplementary learning materials in teaching Food Processing.

2. The TLE teachers are encouraged to attend seminars, workshops and training programs about development of learning materials.
3. Administrators are encouraged to support the development and use of localized learning module in teaching TLE and other subjects.
4. TLE teachers are entitled to modify and reconstruct the content of the developed learning module depends upon the needs of education in the future.
5. Future researchers can further validate the localized learning module in Food (Pineapple) Processing to be able to measure and assess the effectiveness of the learning module.
6. The researcher recommends TLE teachers to craft more performance task to assess students' skills on a specific competence.

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