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DEVELOPMENT AND VALIDATION OF THE MASTERING APPAREL PATTERNS (MAP) MODULE FOR TECHNOLOGY AND LIVELIHOOD EDUCATION

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ABSTRACT

Instructional materials play a vital role in enhancing the teaching and learning process, particularly in skill-based subjects such as dressmaking and apparel pattern-making. This study aimed to determine the validity of the Mastering Apparel Patterns (MAP) module as an instructional material for Technology and Livelihood Education (TLE). Specifically, the module was evaluated in terms of its alignment with the Most Essential Learning Competencies (MELCs), assessment, instructional design, readability, and instructional quality. The study used a descriptive-quantitative research design. The study used purposive sampling to select the six instructional experts who acted as validators. All six had a master's or a doctoral degree and a minimum of three years of teaching experience. The researcher developed a validation tool which was used to collect data. From the data collected, the weighted mean and standard deviation were computed. The results indicated that the MAP module had a validity rating of 3.84 (Very Satisfactory). The highest rated dimension was MELCs (M = 4.00, SD = 0.000), followed by assessment (M = 3.93, SD = 0.078), instructional design (M = 3.83, SD = 0.136), readability (M = 3.80, SD = 0.400), and instructional quality (M = 3.63, SD = 0.379). This shows that the module meets the standards of the curriculum, supports the use of coherent instructional strategies, and provides adequate and accessible content. The study concludes that the Mastering Apparel Patterns (MAP) module constitutes legitimate instructional material and is suitable for enhancing the teaching and learning of apparel pattern making skills in Technology and Livelihood Education.

KEYWORDS: Apparel pattern-making, Instructional material, Module validity, MELCs alignment, Technology and Livelihood Education, Instructional design

INTRODUCTION

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Pattern making creates the opportunity for learners to develop knowledge of methods and the ability to perform them, along with the skills needed to visualize and manipulate space. Pattern making is taught under the Technology and Livelihood Education (TLE) curriculum, as it is a prerequisite skill for the design and construction of a garment. Unfortunately, the technical and abstract nature of the subject makes it hard for learners to understand the procedure and concepts of pattern making. Traditional teaching approaches may not be sufficient in aiding learners to acquire pattern making skills; this underlines the need for the development of organized and learner-centered instructional materials (Moniruzzaman et al., 2022; Samoshkina, 2024).

Instructional materials encourage the development of teaching skills and the learning of skills. Resources that are well constructed and easy to follow provide instructions, learning activities, and assessments that are well aligned to the progress of a learner's skills and knowledge. For instructional materials to be effective, they should integrate instructional strategies, incorporate learner-friendly content, and be aligned to the curriculum (Olivia, 2025).

The Mastering Apparel Patterns (MAP) module is the response to the instructional gaps for teaching apparel pattern-making. Designed in accordance with the Most Essential Learning Competencies (MELCs), the MAP module uses Kolb's Experiential Learning Theory and Epstein's TARGET Framework. Because the MAP module centers on learners and incorporates design through participation, the module cultivates skills in the art of pattern-making by integrating performance-centered tasks and learning activities. The principles of energized and experiential learning (Kolb, 2015; Epstein, 1989), when incorporated into the MAP module, make meaningful skill-based instruction and learning, and active participation, the focus of the module.

Instructional design and alignment of the curriculum are key descriptors of the quality of educational materials. The MAP module would need to be evaluated for both of these components prior to the usage. The module would need to be evaluated for its alignment to the MELCs, its assessment and instructional design, and the overall quality of the instruction to ensure it would be an appropriate learning resource for teaching dressmaking. The purpose of this study was to determine the validity and acceptability of the Mastering Apparel Patterns (MAP) module for teaching apparel pattern-making in Technology and Livelihood Education.

METHODOLOGY

Research Design

This study utilized a descriptive-quantitative research design to assess the validity of the MAP module. Descriptive research is appropriate for studies that focus on systematically describing and assessing the phenomenon that are based on the perceptions and judgments of the respondents. In this case, the design

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was used to collect and analyze the assessments given by instructional specialists on the module's coherence with the Most Essential Learning Competencies (MELCs), as well as the module's assessment, instructional design, and its readability and instructional quality. With the quantitative approach, the researcher was able to assign numbers to experts' ratings and, through statistics, establish the validity of the instructional material.

Respondents of the Study

The respondents of the study consisted of **six (6) instructional experts** selected through purposive sampling. Selection was based on their qualifications and professional experiences in the evaluation of instructional materials as well as in Technology and Livelihood Education. In order to be considered a validator, the respondent was required to hold a Master's or Doctoral degree and have at least 3 years of work experience in teaching. Their experience made them essential in determining the validity of the Mastering Apparel Patterns (MAP) module.

Data Gathering Procedure

Before data collection began, a formal request was sent to the Schools Division Superintendent of Butuan City Division to gain permission to conduct the study. Once granted, an individual request was sent to the respective school principal to allow the instructional experts to participate.

The researcher then, on his/her own accord, distributed the validation instruments to the instructional experts. The experts were informed of the study and its procedures and were informed of their rights. Informed consent was further obtained prior to the evaluation and participation was voluntary.

The instructional experts were provided an sufficient amount of time to look over and score the Mastering Apparel Patterns (MAP) module using the validation instrument. After the questionnaires were completed and collected, all responses were screened to ensure they were completed and accurate. The information was then prepared and arranged for statistical analysis. The entire study was conducted to ensure that the identity and responses of the participants were maintained.

Statistical Treatment of the Data

The Weighted Mean was utilized to assess the validity level of the Mastering Apparel Patterns (MAP) module across various dimensions, from the input data of the instructional experts. In this case, the weighted mean was an effective method in the summarization of ratings and the description of an overall interpretation of the evaluations given by the experts. The computed weighted means served as the basis for determining the validity of the MAP module in terms of Most Essential Learning Competencies (MELCs), assessment, instructional design, readability, and instructional quality.

RESULTS AND DISCUSSIONS

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Table 1 presents the level of validity of the Mastering Apparel Patterns (MAP) module as evaluated by instructional experts. The validity of the module was assessed in terms of Most Essential Learning Competencies (MELCs), assessment, instructional design, readability, and instructional quality.

Among the evaluated dimensions, Most Essential Learning Competencies (MELCs) recorded the highest average weighted mean of 4.00 with a standard deviation of 0.000, interpreted as Very Satisfactory. The absence of variation in the ratings indicates that the validators were in total agreement regarding the module's alignment with the prescribed learning competencies. This shows that the MAP module, meets the curriculum requirements and the learning outcomes for the apparel pattern-making. The findings suggest that the module is highly aligned with the relevant curriculum competencies and appropriate teaching module for the learners of Technology and Livelihood Education (Tanucan et al., 2023; Talimodao & Madrigal, 2021).

The second-highest rating is Assessment, with an average weighted mean of 3.93 and a standard deviation of 0.078, interpreted as Very Satisfactory. The low standard deviation shows that there's an agreement of the experts as to the quality of the assessment activities in module. This showed that the assessments, is aligned with the learning outcomes and measured the mastery of pattern-making competencies of the learners. The assessment activities, were well designed, drawn and aligned to learning objectives, enabled the assessment and monitoring of learners' progress towards an educational goal (Kingston & Broaddus, 2017; Sebastian, 2025; Sheryl, 2023).

In terms of Instructional Design, with an average weighted mean of 3.83 with a standard deviation of 0.136, was rated as Very Satisfactory. Due to the consistency of the ratings, the experts likely designed the module to be as organized and systematic as possible for instructional delivery. This suggest that the MAP module is systematically designed instructional activities and formulated clear instructional objectives and activities that would engage learners and promote self-learning. Well-designed assessment activities contribute to monitoring learner progress and ensuring the achievement of intended educational outcomes (Kingston & Broaddus, 2017; Sebastian, 2025; Sheryl, 2023).

Readability ranked fourth, obtaining an average weighted mean of 3.80, with a standard deviation of 0.400, also rated as Very Satisfactory. This means, the language used in the module, the instructions, and the articulation of the concepts, are appropriate for the learners. Readable teaching materials decrease challenges in understanding technical topics connected to clothing pattern-making, facilitate individual learning, and improve students' comprehension of teachings (Murphrey et al., 2023; Dapat et al., 2023; Villareal, 2023).

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The Instructional Quality dimension had the average weighted mean of 3.63 with a standard deviation of 0.379 interpreted as Very Satisfactory. Although instructional quality received the lowest rating, the evaluators' findings suggest that the module's content, text, illustrations and visual elements were positively rated. The results show that the module contains instructional content that promotes learning and is coupled with supportive and learner-friendly instructional materials (Angelo et al., 2023).

The Mastering Apparel Patterns (MAP) module obtained an average weighted mean of 3.84 with a standard deviation of 0.199, interpreted as Very Satisfactory. This shows that instructional evaluators perceived the module positively as having a high level of validity and graded the module as instructional. The high ratings from the evaluators in all the dimensions indicated that the MAP module is in harmony with the curriculum and uses appropriate instructional and assessment practices, and suitable content. Thus, the module can be reliably and justifiably evaluated as a teaching aid in developing students' competencies in apparel pattern making (Lacanilao, 2023; Madrideo, 2023; Ferbyan et al., 2023).

Table 1. Level of Validity of Mastering Apparel Patterns

Content	Average Weighted Mean	SD	Verbal Description
MELCS	4.00	0.000	Very Satisfactory
Instructional Design	3.83	0.136	Very Satisfactory
Instructional Quality	3.63	0.379	Very Satisfactory
Assessment	3.93	0.078	Very Satisfactory
Readability	3.80	0.400	Very Satisfactory
Average	**3.84**	**0.199**	**Very Satisfactory**
Legend: 1.00 – 1.74 (Poor)		1.75 – 2.49(Fair)	
2.50 – 3.24 (Satisfactory)		3.25 – 4.00(Very Satisfactory)	

CONCLUSION

The findings of the study revealed that the Mastering Apparel Patterns module achieved a Very Satisfactory level of validity based on evaluators' feedback as instructional experts. The module's content was confirmed to be closely aligned with the Most Essential Learning Competencies (MELCs). Thus, the module's content was confirmed to be consistent with the standards of the curriculum, the content, and the intended learning outcomes. The module also achieved a very satisfactory rating on assessment, instructional design, and readability and instructional quality. This suggests that the module provided appropriate learning activities, assessment tasks, instructional organization, and learner-friendly content.

The findings revealed that the Mastering Apparel Patterns (MAP) module is a valid instructional material

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for apparel pattern-making instruction for Technology and Livelihood Education. The module also showed that the integration of content that is aligned with the curriculum, design and organization of learning activities, and resources of instructional design of good quality are essential factors to the overall quality and appropriateness of the module for the classroom. In addition, the Mastering Apparel Patterns (MAP) module is valid instructional material for the apparel pattern-making competencies.

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