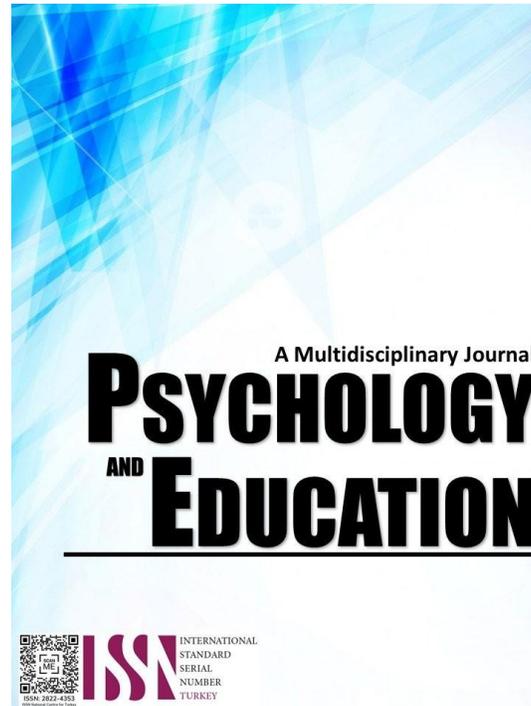


**CONTEXTUALIZED INNOVATIVE RECIPE BOOK OF MUDFISH  
UTILIZING VARIOUS COOKING STYLES TO ENHANCE  
GASTRONOMIC EXPERIENCES**



**PSYCHOLOGY AND EDUCATION: A MULTIDISCIPLINARY JOURNAL**

Volume: 43

Issue 4

Pages: 510-518

Document ID: 2025PEMJ4176

DOI: 10.70838/pemj.430410

Manuscript Accepted: 05-20-2025

## Contextualized Innovative Recipe Book of Mudfish Utilizing Various Cooking Styles to Enhance Gastronomic Experiences

Jessie Mae F. Catacutan,\* Abraham S. Accad  
For affiliations and correspondence, see the last page.

### Abstract

Food is a powerful medium through which culture is expressed, preserved, and transmitted across generations. More than sustenance, it embodies stories, traditions, and identities that reflect a community's values and way of life. However, in today's globalized and fast-paced society, traditional culinary knowledge is increasingly at risk of being forgotten. This study aimed to address this concern by developing a contextualized recipe book titled Haluan, featuring twenty-five (25) diverse mudfish recipes—an ingredient of cultural significance in Filipino cuisine. The recipe book was designed as an instructional resource for the Technology and Livelihood Education (TLE) Cookery program at Busok National High School in Bagumbayan, Sultan Kudarat. The developmental research process included gathering existing mudfish recipes, refining them through sensory evaluation (taste, aroma, texture, and appearance), and integrating traditional cooking techniques. The finalized recipe book was assessed by ten (10) culinary educators using the SKSU-IMDC (2022) Evaluation Rating Sheet. Haluan received an overall rating of 96–100% across key areas: content, mechanics, organization, and overall package, indicating its strong instructional value and cultural relevance. Furthermore, a profitability analysis confirmed the recipe book's economic viability at a suggested retail price of ₱1,350.00 per copy. This study contributes to the preservation of Filipino culinary heritage while enhancing students' culinary competencies. It highlights the importance of well-designed instructional materials in promoting local food traditions and fostering globally competitive, innovative learners. Recommendations include securing copyright and ISBN registration, expanding dissemination, and encouraging future researchers and educators to develop similar culturally rooted educational tools.

**Keywords:** *culinary education, cultural heritage, instructional materials, mudfish, recipe book*

### Introduction

Food serves as a powerful lens through which culture is expressed and preserved. Beyond its function as sustenance, food carries stories, traditions, and identities that are passed down from one generation to another. Through culinary practices, communities uphold their values, beliefs, and way of life, making cultural preservation through food not just important, but essential. Despite this, the value of traditional culinary knowledge has become increasingly overlooked in today's fast-paced and globalized world.

Culinary traditions are key to preserving cultural identity, especially in an era where modern food trends often overshadow indigenous and historical practices. One such tradition involves the preparation of mudfish, a dish with rich cultural significance and historical roots in various regions. Mudfish recipes have been celebrated for their adaptability and regional variations, making them a meaningful subject for cultural and culinary preservation. Recent literature underscores the importance of documenting such traditions to maintain a sense of heritage and identity (Reyes & Tan, 2023).

This study responds to the call for integrating traditional recipes into educational materials to promote cultural awareness and practical learning. As emphasized by Sweeny et al. (2020), including culturally rooted dishes in the curriculum enhances both students' culinary skills and their appreciation of heritage. At Busok National High School, however, a shortage of instructional resources for Technology and Livelihood Education (TLE) cookery students remains. This gap limits students' engagement in hands-on learning and their ability to explore local culinary traditions meaningfully (Fernandez & Lim, 2021).

In response, this recipe book aims to preserve the culinary tradition of cooking mudfish while serving as a practical instructional material for Grade 10 TLE-Cookery students. By bridging cultural heritage with educational needs, this resource supports the development of globally competitive, skilled, and culturally grounded learners. Ultimately, the project seeks to contribute to both the preservation of Filipino culinary identity and the enhancement of teaching practices within the TLE curriculum.

### Research Questions

Generally, it aimed to develop a recipe book for Mudfish, utilizing various cooking styles to promote it as a culinary option among other fish varieties. Specifically, it sought to answer the following questions:

1. What are the identified traditional and modern recipes for cooking mudfish using various cooking styles?
2. How may the quality of the developed mudfish recipe book be evaluated in terms of:
  - 2.1. content;
  - 2.2. mechanics;
  - 2.3. organization; and
  - 2.4. overall package?

3. What is the potential economic or market value of the mudfish recipe book for commercialization?

## Literature Review

### *Culinary Creativity and Recipe Development*

Culinary creativity involves the innovative use of ingredients and techniques to create dishes that are both appealing and palatable. According to Pruitt and Adair (2013), culinary creativity can be influenced by cultural backgrounds, personal experiences, and current food trends. This creativity is essential in developing recipes that highlight the unique flavors and textures of mudfish, encouraging its acceptance as a viable culinary option.

### *Mudfish as a Culinary Ingredient*

Mudfish, or *Channa spp.*, is recognized for its distinct flavor and nutritional value. Research by Bhatta et al. (2020) highlights the rich protein content and health benefits associated with mudfish, making it a compelling option for culinary exploration. However, the lack of widespread recognition in culinary literature necessitates the development of a comprehensive recipe book to promote its use.

### *Recipe Book Development*

The process of developing a recipe book involves several key components, including content creation, organization, and presentation. As highlighted by McGee (2015), effective recipe writing should focus on clarity and precision, ensuring that readers can easily follow the instructions. Additionally, the mechanics of recipe development, including ingredient sourcing and cooking techniques, are crucial for successful dish preparation.

### *Expert Validation*

To ensure the quality and acceptability of the recipe book, it is essential to involve experts in culinary arts and instructional materials. According to the guidelines proposed by Rojas and Lutz (2018), expert validation can assess the content, mechanics, and overall organization of the recipe book, providing valuable feedback that can enhance its quality and usability.

### *Mudfish*

Braganza (2023) states that Mudfish, also known by its scientific name *Channa striata*. This fascinating freshwater fish can be found in various regions of Southeast Asia, including Thailand, Malaysia, and Indonesia, and specifically the Philippines. With a slender body and elongated shape, the mudfish boasts a unique appearance that sets it apart from other species. Dalag is the Tagalog term for Mudfish. It is also known as Haluan or halo-an in Hiligaynon/Ilonggo, Haruan in other local languages, and "snake head" as its other English term.

According to Jagdish (2023), Mudfish farming in the Philippines is an emerging and potentially profitable industry, although it may not be as widely recognized as tilapia and milkfish cultivation. This aquaculture boasts several benefits, including swift, high-volume harvesting, the resilience of the fish in challenging environments, and economic feasibility. Conversely, freshwater fisheries are important for both subsistence and recreation. People catch fish for their use or to sell in their local communities, and because these fisheries are scattered, it is not easy to keep track of them. (Miller, 2016).

Mudfish can be eaten fresh or frozen. They can be prepared in various ways, including frying, baking, and boiling. Mudfish are also used in some dishes, such as curries. Low in fat and calories, mudfish is a fantastic source of protein and an excellent source of omega-3 fatty acids, which are suitable for the heart and brain. (White et al., 2023)

### *Recipe Book*

Recipes are instructions, and in most cases, they are directions on how to prepare food. One of my relaxing pastimes is reading recipes, collecting them, and analyzing what makes them easy, unique, or particularly mouth-watering. I ponder how to modify them, enhance them, and add to improve the flavor (Clark, 2020). Recipe cookbooks are comprehensive compilations of food preparation and serving recipes, guidelines, and information (Template.Net, 2014). A helpful tool when thinking about kitchen layouts is a recipe book. Throughout the period under study, numerous surviving examples of kitchens and areas used for food preparation are available. A recipe book can also offer insights into the mindsets that influence cooking. We should not presume that our post-"green revolution" methods of organizing knowledge about foodstuffs are the same as the ordering of ingredients and intellectual hierarchy via which raw ingredients were processed into final dishes (Gray, 2018).

According to Novak (2017) Cookbooks are miraculous in some way. A new cookbook serves as a kind of travel guide, introducing you to new dishes, pairings, and methods. Cooke (2010) also states that there are many reasons to admire the best cookbooks, including excellent writing and tidbits of historical or cultural significance. We might even occasionally try some of the dishes. Everything is contained in cookbooks: place, time, history, culture, politics, weather, interpersonal connections, family and societal structures, economics, humor, art, and an infinite number of human personalities and voices. All truths are found in cookbooks, since cooking is a form of reality. After reading, cooking, and eating, we have fully absorbed the voices and messages found in our books (Salkin, 2017).

## ***How to Write a Cookbook***

It's essential to determine your target market before designing cookbooks creatively (QinPrinting, 2023). Many of the most popular cookbook writers engage with their readers from the outset, including them in the idea-generation process, posing questions to them, and overall creating a buzz and enthusiasm among a ready audience of prospective buyers (Burley, n.d.). According to Hasan (2023), the number of recipes in a cookbook can vary widely depending on its purpose, target audience, and overall theme. For a Niche or Specialized Cookbook: 20-30 recipes. Suppose the book focuses on a particular type of cuisine, technique, or ingredient (e.g., "30 Ways to Cook with Avocado"). In that case, a smaller number of high-quality, well-tested recipes can suffice.

According to Barron (2016), there are eight steps to follow when setting out to turn your cherished recipes into a collection that hundreds of readers can enjoy. These are: Define your theme and audience; Set Budget; Compile Recipes; Design a clear, logical layout; Get professional photos; Create a delectable cover; Publish your cookbook. Moreover, finally, Market and promote your cookbook. Writing a cookbook is often a dream of the avid home cook. And why not? Recipes are a treasure trove of experience, history, and love all rolled into one. Start with a broad idea of what you would like your cookbook to be about (Green & Gibson, 2019).

## ***Importance of a Cookbook***

A cookbook can serve as an ideal guide for exploring the world of food and diverse food cultures (Davis, 2022). The way we access and utilize cookbooks has evolved significantly with the emergence of digital technology and the internet. Cookbooks have been a staple in the kitchen for centuries, offering recipes, advice, and inspiration to home cooks worldwide (Olive, 2023).

Cooking requires work and time. Furthermore, even though the proverb goes, "anything worth doing is worth doing right," this does not mean you have to shell out a ton of cash for a cookbook filled with Michelin-starred recipes. You can still create dishes that are Instagrammable for everyone to enjoy, even with inexpensive recipes (Richard, 2020).

ProfoundQA (2022) states that a cookbook is an assortment of cooking methods, directions, and details for preparing and serving food. A cookbook, at its best, is also a history and a treasure of the incredible skill of cooking, one whose masterworks would otherwise be lost because they are made only to be eaten. The number of reasons to create a cookbook is equal to the number of people. (Miller, 2018).

Finding the time and energy to prepare meals at home can seem like a daunting task, especially for busy parents or those living alone. When a long day is over, it may seem like the easiest and fastest alternative to order takeout or eat in (Robinson & Segal, 2013). The recipe book serves as the primary source of reference for courses created under the academic management's syllabus, and it is an effective tool for teaching and learning, provided the product is of a high caliber and fits the demands of the students (Sayadi, 2012).

## ***Culinary Creativity***

Culinary creativity is defined as the ability to generate novel and valuable ideas in food preparation and presentation. Research by Choi and Jang (2019) indicates that culinary creativity can be enhanced through exposure to diverse cooking styles and techniques. This exposure is crucial for developing innovative recipes that can elevate mudfish as a culinary option. Culinary creativity not only enhances flavor profiles but also engages consumers in a deeper gastronomic experience.

## ***Factors Influencing Culinary Creativity***

The literature suggests several factors that contribute to culinary creativity, including cultural influences, personal experiences, and the availability of ingredients. As noted by Barash and Spector (2018), chefs often draw upon their cultural heritage to inspire new dishes, which can be particularly relevant in the case of mudfish, commonly found in various Asian cuisines. This cultural context can provide a rich backdrop for recipe development, enabling the exploration of both traditional and contemporary cooking methods.

## ***Recipe Development Methodology***

Developing a recipe book requires a structured approach to ensure clarity and usability. According to Albrecht and Sweeney (2017), successful recipe writing should include detailed ingredient lists, clear step-by-step instructions, and visual aids to guide users. This methodology will be essential in creating a recipe book that is accessible to a broad audience, including Grade 10 students in cookery classes.

## ***Methodology***

### ***Research Design***

This study employed a developmental research design, which is suitable for creating and refining educational materials and instructional tools (Richey & Klein, 2007). The research was conducted in two distinct phases: the development phase and the validation phase. During the development phase, a total of twenty-five mudfish recipes were collected, tested, and compiled to reflect a variety of traditional and modern culinary styles. The validation phase involved expert evaluation to determine the quality and effectiveness of the recipe book. Evaluation was carried out using the Sultan Kudarat State University (SKSU) Instructional Material Development Center (IMDC) Evaluation Rating Sheet, which assessed four key dimensions: content, mechanics, organization, and overall packaging.



## Respondents

The participants in this study consisted of ten culinary experts and educators, each with a minimum of five years of experience in the culinary arts and instructional material development. These individuals were purposively selected based on their expertise and familiarity with evaluating educational resources, particularly in the field of Technology and Livelihood Education (TLE). Their professional backgrounds included curriculum development, recipe formulation, and culinary instruction at the secondary and tertiary levels. The participants played a crucial role in the validation phase of the study, where they reviewed the developed recipe book and provided critical feedback through a structured evaluation process. Their insights contributed to ensuring the instructional relevance, technical soundness, and cultural authenticity of the mudfish recipes compiled in the material.

## Research Instrument

The primary instrument used for validating the developed mudfish recipe book was the SKSU IMDC (Sultan Kudarat State University Instructional Material Development Center) Evaluation Rating Sheet. This standardized evaluation tool is specifically designed to assess instructional materials across four essential dimensions: content, mechanics, organization, and overall package. Its structured format allowed experts to provide consistent, focused, and objective feedback, making it a reliable measure of instructional quality.

Each dimension of the tool addressed critical aspects of the material. The content was assessed for its accuracy, relevance, depth, and alignment with the learning objectives. Mechanics evaluated the technical correctness of grammar, language clarity, and instructional direction. The organization looked into the logical flow, coherence, and overall structure of the information presented. Lastly, the overall package focused on the material's visual appeal, completeness, and usability as a classroom resource. Together, these components ensured a comprehensive evaluation of the recipe book's educational value and practical application.

## Procedures

The data gathering procedure for this study involved several key stages to ensure comprehensive and relevant data collection. After receiving approval from the Dean of the Graduate School, formal requests were submitted to the Schools Division Superintendent and the School Principal of Busok National High School for approval to conduct the study. Data-gathering instruments adapted from the SKSU IMDC (2022) were prepared. A preliminary review of related literature was also conducted to inform the development of the recipe book and the data collection process.

Participants in the study were selected using purposive sampling. Data collection began with interviews with local cooks and culinary experts to gather information on commonly used mudfish recipes, cooking techniques, and local culinary practices. Focus Group Discussions (FGDs) were also conducted with selected teachers and students further to understand their perspectives on the proposed recipe book and gather insights into its potential usability and acceptability in the classroom setting.

Additionally, cooking demonstrations and observations were conducted to document preparation methods and ingredient utilization, ensuring that the proposed recipes were feasible for Grade 10 learners. After data collection, the draft recipe book was subjected to content validation by culinary experts, book authors, and instructional material developers. Feedback from the validation process was incorporated to refine the content, ensuring that the recipes aligned with the learning objectives and competencies of the TLE-Cookery curriculum. The revised recipe book was then prepared for final presentation and dissemination to the target audience. The recipe book underwent content validation by a panel of experts in instructional materials and book developers. These experts evaluated the book's content, organization, mechanics, and overall package based on established criteria. Their feedback is used to refine and improve the recipe book before it is finalized.

## Data Analysis

To analyze the evaluation results, the study employed descriptive statistical methods, specifically the computation of mean and standard deviation, to measure the central tendency and variability of expert ratings across the four evaluation dimensions. These statistical tools were chosen for their effectiveness in summarizing and interpreting evaluative data in developmental research. The mean scores indicated the overall quality and acceptability of the instructional material, while the standard deviation highlighted the level of agreement among the expert evaluators. This analysis guided the refinement of the recipe book and confirmed its readiness for instructional use in the classroom setting.

## Ethical Considerations

Ethical standards were strictly upheld throughout the conduct of this study. Participation was entirely voluntary, and all participants were informed of the purpose, procedures, and scope of the research through a detailed informed consent process. Consent forms were distributed and signed prior to any involvement in data collection or evaluation activities. The confidentiality of all participants was rigorously maintained by anonymizing responses and ensuring that personal identifiers were not disclosed in any part of the study. Furthermore, the data collected was stored securely and used solely for academic and developmental purposes. By adhering to these ethical protocols, the study ensured that the rights, dignity, and safety of all participants were respected and protected, aligning with institutional and national ethical guidelines for research involving human subjects.

## Results and Discussion

This section presents the results, analysis and interpretation of the research according to the order by which the problem statements were presented in this study.

### The Recipes of Mudfish

The list of mudfish (dalag) recipes offers a compelling glimpse into the diversity and dynamism of Filipino cuisine. The variety of preparations highlights the archipelago's rich culinary tapestry, showcasing both the versatility of the ingredient and the diverse regional and cultural influences shaping the nation's gastronomy.

The inclusion of dishes like Paksiw na Dalag sa Kamias (mudfish in kamias souring) and Sinigang na Dalag (mudfish in sour broth) exemplifies the prominent use of souring agents—a common characteristic of

Filipino cooking—with regional variations in the choice of souring ingredient (kamias, tamarind, etc.). This reflects the diverse microclimates and agricultural practices across the islands.

The "Savory with Coconut Milk" category underscores the importance of coconut milk in Filipino cuisine. Dishes like Ginataang Dalag sa Atsuete (mudfish in coconut milk with annatto) and Sinaglay na Dalag (mudfish in coconut milk stew) exemplify the creamy, rich flavor profiles achieved through this ingredient, often used to balance spicier or savory elements.

The recipes showcase a range of flavor profiles, from the raw and spicy (Kinilaw na Dalag, Spicy Linagpan na Haluan) to the rich and savory (Mudfish Arroz Caldo), demonstrating the adaptability of mudfish to various culinary techniques. The inclusion of tomato-based sauces (Mudfish Afritada, Mudfish Escabeche) reflects the influence of Spanish cuisine on Filipino cooking.

The "Fusion and Creative Dishes" category—including Mudfish Fillet with Béchamel Sauce, Mudfish Chorizo, and Swampy Mudfish Sandwich—shows how traditional mudfish recipes are being adapted to contemporary tastes and culinary trends. This represents a dynamic interplay between tradition and innovation in Filipino cuisine.

The presence of Mudfish Sweet Soup and Mudfish in Sweet Mango Sauce in the "Desserts and Sweet Dishes" category is particularly intriguing. This challenges conventional notions of fish in desserts and highlights the unique culinary perspectives of Filipino cuisine.

In summary, the diverse mudfish recipes offer a compelling case study for understanding the complexity and dynamism of Filipino cuisine. The variety in preparation methods, flavor profiles, and the unexpected inclusion of sweet mudfish dishes all contribute to a rich culinary heritage.

### Extent Quality of Developed Instructional Material as to Its Content, Mechanics, Organization and Overall Package

The assessment of the extent of quality of the developed instructional material, specifically the mudfish recipe book, was conducted across four key aspects: content, mechanics, organization, and overall package. The evaluation aimed to determine the quality and effectiveness of the material as perceived by the Editorial Board, using specific criteria for each aspect.

Table 1. Overall Total Quality of Developed Instructional Material

Aspect	Mean	SD	Description
Content	4.87	0.25	Exceeds 96-100% of Editorial Board's expectations
Mechanics	4.83	0.17	Exceeds 96-100% of Editorial Board's expectations
Organization	4.76	0.34	Exceeds 96-100% of Editorial Board's expectations
Overall Package	4.86	0.21	Exceeds 96-100% of Editorial Board's expectations
Overall Total	4.83	0.24	Exceeds 96-100% of Editorial Board's expectations

The content of the instructional material received consistently high ratings, with a mean score of 4.87 and a standard deviation of 0.25. This rating exceeds 96-100% of the Editorial Board's expectations, indicating that the material is highly effective in delivering educational content in a comprehensive and culturally and gender-sensitive manner. Categories such as "Coverage of the Lesson," "Content is culture-sensitive," and "Illustrations are in accordance with ethical standards" achieved perfect scores of 5.00, reflecting exceptional alignment with educational standards. Furthermore, clarity of instructions and understandability of explanations received ratings of 4.90, suggesting a well-structured and accessible content presentation.

The high content quality aligns with contemporary pedagogical practices emphasizing active learning and inclusivity. The findings also correspond with Zhang's (2006) emphasis on learner engagement through interactive and structured content delivery. The instructional material's high ratings indicate a strong emphasis on clear communication and ethical considerations, thereby enhancing the learning experience for Grade 10 students.

The mechanical aspect of the instructional material also demonstrated exceptional quality, with a mean score of 4.83 and a standard deviation of 0.17. This score also exceeds 96-100% of the Editorial Board's expectations, indicating that the instructional material is user-friendly, well-designed, and appropriately structured. Categories such as "General instruction is simple and user-friendly,"



"Examples are clear," and "Step-by-step procedure is in order" received perfect scores, underscoring the material’s clarity and ease of use.

Moreover, the consideration of individual differences and potential weaknesses of the target users, both of which received high ratings, suggests a deliberate effort to accommodate diverse learning styles and abilities. This approach aligns with Zhang’s (2006) framework for interactive learning, which emphasizes the importance of user-friendly content that enables learners to control the learning process. The high scores in these categories affirm the effectiveness of the material’s mechanical design in promoting an engaging and accessible learning experience.

The organization of the instructional material received a mean score of 4.76 with a standard deviation of 0.34, also exceeding 96-100% of the Editorial Board’s expectations. The assessment focused on the logical sequencing of topics, order of presentation, and consistency of layout. High ratings for "Sequence of topics," "Order of presentation of lessons," and "Uniformity of layout" indicate a well-structured presentation of content that facilitates comprehension and ease of navigation.

The slightly lower scores in "Font style used" and "Technical descriptions of information" suggest areas for potential refinement. While these scores are still within the "Excellent" range, minor adjustments could further enhance readability and instructional clarity. The emphasis on structured content presentation aligns with findings by Biard, Cojean, and Jamet (2020), who advocate for well-segmented instructional materials to optimize learning outcomes.

The overall package of the instructional material received a mean score of 4.86 with a standard deviation of 0.21, maintaining the trend of exceeding 96-100% of expectations. The assessment considered aspects such as cover design, handiness, paper quality, binding technique, and usability. Categories such as "Paper size used," "Label and Captions," and "Usability" received exceptionally high ratings, indicating that the material is both visually appealing and functional.

Nevertheless, the slightly lower score for "Color combinations" suggests a minor area for improvement. Ploetzner and Lowe’s (2012) study on the impact of visual design in educational materials underscores the importance of cohesive visual presentation, further emphasizing the potential benefit of refining color usage to enhance aesthetic appeal and learner engagement.

Overall, the instructional material demonstrated a high degree of quality across all four aspects, with consistently excellent ratings. The comprehensive assessment revealed that the mudfish recipe book effectively integrates principles of content clarity, mechanical structure, organizational coherence, and visual design. The slight variations in ratings suggest opportunities for further refinement, particularly in areas such as font style consistency, technical descriptions, and color combinations. Nonetheless, the instructional material’s high overall scores underscore its effectiveness in delivering educational content that is user-friendly, culturally inclusive, and pedagogically sound.

**The market Value of the Recipe book when commercialized**

In determining the economic or market value of the Recipe Book for Mudfish Dishes, a total costing method was employed. Total costing considers all direct and indirect expenses involved in the production process to ensure that the final price accurately reflects the investment made in the material (Kotler & Keller, 2016). Below is the breakdown of the total production costs:

Table 2. Total Costing of the Recipe Book

Item	Quantity	Unit Cost	Total Cost
Printing and Binding of Recipe Book	1 copy	₱1,000.00	₱1,000.00
Drafts copy (for checking)	2 copies	₱500.00	₱500.00
Paper (Photopaper glossy)	2 reams	₱220.00	₱440.00
Illustrator’s Labor Fee	1 service	—	₱17,000.00
Transportation Expenses	Estimated	—	₱500.00
Food Ingredients (for photos/testing)	—	—	₱6,000.00
<i>Total Project Cost:</i>			<i>₱25,440.00</i>

The total cost incurred to produce the recipe book amounted to ₱25,440.00. This total includes expenses for the physical production (printing, paper, binding), service fees (illustrator’s labor), operational costs (transportation), and materials for recipe testing (food ingredients).

To ensure that the project does not incur any financial loss and generates a reasonable profit, the economic or market value of the mudfish recipe book was determined based on a cost-based pricing strategy (Kotler & Keller, 2016). The following formula was used:

Formula for Selling Price per Copy (SPC):

$$SPC = \left( \frac{\text{Total Project Cost}}{\text{Number of Copies}} \right) + \text{Printing and Binding Cost} + \left[ \left( \frac{\text{Total Project Cost}}{\text{Number of Copies}} + \text{Printing and Binding Cost} \right) \times \text{Mark-up Percentage} \right]$$

Based on the computations, the suggested selling price of the mudfish recipe book is ₱1,350.00 per copy when producing 200 copies. This pricing covers the full project cost of ₱25,440.00 while ensuring a 20% profit margin.

This study, entitled Contextualized Innovative Recipe Book of Mudfish Utilizing Various Cooking Styles to Enhance Gastronomic Experiences, was conducted at Busok National High School in Bagumbayan, Sultan Kudarat, in January 2025. The study aimed to address the lack of readily available resources for Technology and Livelihood Education (TLE) cookery students by developing an innovative recipe book for mudfish, a culturally significant and versatile ingredient in Filipino cuisine.

The research involved gathering existing recipes, conducting sensory evaluations, and refining the instructional materials. The sensory evaluation involved testing and refining recipes based on taste, texture, aroma, and appearance, ensuring the quality and appeal of the final product. The research also drew upon existing knowledge about mudfish in Filipino cuisine, incorporating traditional techniques and flavors.

The developed recipe book comprises twenty-five (25) recipes for mudfish, utilizing various cooking styles to enhance the gastronomic experience. The recipe book was evaluated using the Evaluation Rating sheet for Printed Resources by the SKSU - Instructional Materials Development Center (IMDC, 2022). Ten (10) randomly selected evaluators, who were either private or public high school teachers (with professional licenses), subject area supervisors, or curriculum specialists with at least five (5) years of relevant experience in a specific learning area, evaluated the recipe book. The Evaluators used the Evaluation Rating Sheet to assess the suitability of the materials for use in public schools and to ensure that they were free of errors. The rating sheet included criteria on the following: Content, Mechanics, Organization, and Overall Package.

The study successfully developed a comprehensive recipe book that serves as a valuable resource for students, enhancing their culinary skills and promoting the preservation of traditional Filipino cuisine. This instructional material aims to contribute to the development of globally competitive and innovative learners, addressing a critical gap in culinary education.

## Conclusions

Based on the study's findings, the developed mudfish recipe book demonstrates significant value as an instructional material for culinary education and as a means of preserving cultural heritage. It met the high standards set by expert evaluators in terms of content accuracy, clarity, organization, and overall presentation. The integration of diverse cooking styles also reflects a deliberate effort to promote the versatility of mudfish as a culturally relevant food item, thereby contributing to the documentation and transmission of traditional culinary knowledge.

The pricing strategy employed in the study strikes a balance between affordability and sustainability. By considering the purchasing capacity of its primary users—Grade 10 students and TLE educators—the recipe book becomes a practical and accessible resource for classroom use. This approach not only enhances its educational reach but also supports the potential for wider market adoption. The strategy's emphasis on affordability and cost recovery lays a solid groundwork for successful commercialization, making the recipe book both a viable product in the educational sector and a potential model for similar culturally rooted instructional materials.

## References

- Albrecht, J., & Sweeney, J. (2017). Recipe development: A practical guide to culinary writing. *Culinary Arts Journal*, 4(2), 56-67.
- Appadurai, A. (1988). *The Social Life of Things: Commodities in Cultural Perspective*. Cambridge University Press.
- Barash, M., & Spector, E. (2018). Cultural influences on culinary creativity: Exploring the chef's perspective. *Journal of Culinary Science & Technology*, 16(3), 245-261.
- Bhatta, R., Shrestha, N. K., & Dhakal, S. (2020). Nutritional and health benefits of mudfish (*Channa spp.*). *Journal of Aquatic Food Product*
- Biard, N., Cojean, S., & Jamet, E. (2018). Effects of segmentation and pacing on procedural learning by video. *Computers in Human Behavior*, 89, 411–417. *Technology*, 29(6), 675-683.
- Bowers, J., & Landry, P. (2020). The impact of recipe organization on user experience: A culinary perspective. *Journal of Food Studies*, 9(3), 45-58.
- Chen, R., Zhang, X., & Li, Y. (2023). Enhancing student engagement in culinary education through interactive learning. *International Journal of Hospitality Management*, 99, 103072.
- Chikanda, A. (2024). Cultural Practices and Culinary Traditions in Africa. *African Journal of Food Studies*, 12(1), 45-60.
- Choi, J., & Jang, H. (2019). Factors influencing culinary creativity among professional chefs. *Culinary Research Journal*, 11(1), 30-41.
- Damasio, A., & Haug, M. (2022). User-centered design in culinary education: Engaging students in recipe development. *Journal of Food Science Education*, 21(2), 75-84.
- Dela Cruz, M., & Santos, J. (2023). The Role of Mudfish in Filipino Culinary Traditions. *Philippine Journal of Culinary Arts*, 10(2), 34-47.

- Fernandez, R., & Lim, T. (2021). Instructional Materials in Technology and Livelihood Education. *Journal of Educational Resources*, 8(3), 78-89.
- Hargrove, M., Smith, L., & Thompson, R. (2019). The importance of clarity in recipe writing: Insights from culinary professionals. *Culinary Research Journal*, 8(1), 12-20.
- Hsu, S., & Chen, Y. (2021). Nutritional labeling in recipe books: A study on user preferences and perceptions. *International Journal of Culinary Arts and Sciences*, 9(2), 67-78.
- Johnson, L. (2022). Food and Identity in the Modern World. *Cultural Studies Review*, 29(4), 102-117.
- Kauffman, J., & Dupree, A. (2021). The role of ingredient specificity in recipe adherence: Implications for recipe book design. *Journal of Culinary Science & Technology*, 19(4), 289-302.
- Khan, M. A., & others. (2013). "The Role of Fish in Food Security in Southeast Asia." *Food Security*, 5(1), 1-12.
- Khan, R., et al. (2020). Fishing Practices and Culinary Traditions in Southeast Asia. *Journal of Southeast Asian Studies*, 15(1), 88-102.
- Kwan, P., Chua, K. H., & Tan, C. (2020). Culinary applications of mudfish in Southeast Asian cuisine. *Asian Journal of Food Science and Technology*, 12(1), 15-24.
- Lin, Y. C., Wang, H. Y., & Wu, C. H. (2021). Students' engagement with culinary materials: A study on the impact of recipe relevance and accessibility. *International Journal of Culinary Arts and Sciences*, 12(1), 45-59.
- Mabula, N. (2016). Cultural Significance of Mudfish in African Rituals. *Journal of African Cultural Studies*, 14(3), 112-125.
- Mamuye, A., Belayneh, A., & Abate, T. (2021). Nutritional benefits of mudfish: A comprehensive review. *Food Science and Nutrition*, 9(4), 2253-2261.
- McDonald, T., & Smith, E. (2022). Organizing culinary content: Best practices for recipe book layout and structure. *Journal of Culinary Education*, 14(2), 34-50.
- McGee, H. (2015). *On Food and Cooking: The Science and Lore of the Kitchen*. Scribner.
- Md Sahak, Adibah & Abdul Rahman, Abdul Wafi & Diyana, Nur. (2022). Developing of Recipe Books Based On Local Fruits. 10.30880/ritvet.2022.02.02.003
- Mintz, S. W. (1985). *Sweetness and Power: The Place of Sugar in Modern History*. Penguin Books.
- Mwale, M., & Chikanda, A. (2022). Mudfish as a Cultural Symbol in African Societies. *African Journal of Culinary Heritage*, 5(1), 22-38.
- Nguyen, T., et al. (2023). Culinary Diversity in Southeast Asian Mudfish Recipes. *Asian Culinary Journal*, 9(2), 56-73.
- O'Neill, M., Smith, L., & Johnson, T. (2019). Evaluating culinary materials: The role of expert panels in recipe development. *Journal of Culinary Arts and Sciences*, 7(2), 91-104.
- O'Mahony, M., & O'Leary, R. (2018). Assessing the diversity of culinary content in recipe books: A framework for evaluation. *Journal of Gastronomy and Food Science*, 6(1), 78-89.
- Omoriege, E., & others. (2009). "Culinary Uses of Mudfish in African Cuisine." *Journal of Ethnic Foods*, 2(2), 61-66.
- Patel, R., & O'Reilly, M. (2022). Enhancing culinary resources: The value of supplementary materials in recipe books. *Culinary Arts Journal*, 5(3), 100-112.
- Pérez, A. (2024). Globalization and the Threat to Traditional Filipino Cuisine. *Philippine Cultural Review*, 11(1), 19-31.
- Pruitt, L., & Adair, K. (2013). The role of creativity in culinary arts: A qualitative study. *Culinary Research Journal*, 5(2), 101-110.
- Reyes, L., & Tan, S. (2023). Celebrating Culinary Traditions: A Guide to Mudfish Recipes. *Culinary Heritage Magazine*, 7(3), 66-75.
- Richey, R. C., & Klein, J. D. (2007). *Design and Development Research: Methods, Strategies, and Issues*. Routledge. <https://doi.org/10.4324/9780203826033>
- Rojas, C., & Lutz, K. (2018). Evaluating instructional materials: Expert validation in culinary education. *Journal of Hospitality and Culinary Education*, 6(1), 23-34.
- Sayadi, M. (2016). The Role of Recipe Books in Culinary Education. *Journal of Culinary Education*, 6(2), 45-60.
- Slow Food International. (2017). "Preserving the Heritage of Traditional Foods." Retrieved from Slow Food.
- Smith, J., & Martin, P. (2021). Food as a Medium of Cultural Expression. *Cultural Anthropology Quarterly*, 18(2), 120-135.



Sweeney, J., & Albrecht, J. (2018). Visual storytelling in culinary literature: The impact of design and imagery. *Journal of Food Photography and Design*, 2(1), 15-29.

Sweeney, J., et al. (2020). Integrating Traditional Recipes into Culinary Curricula. *Journal of Culinary Education Research*, 12(1), 100-115.

Sweeney, W., & others. (2020). "Culinary Education: Bridging Theory and Practice." *International Journal of Culinary Arts and Sciences*, 12(1), 23-34.

Tzeng, Y., Lee, C., & Chang, Y. (2020). Content evaluation in culinary publications: Insights from industry experts. *International Journal of Food Science and Technology*, 55(7), 2950-2958.

### **Affiliations and Corresponding Information**

**Jessie Mae F. Catacutan**

Sultan Kudarat State University – Philippines

**Abraham S. Accad, PhD**

Sultan Kudarat State University – Philippines