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Development of a Skills-Based Cake Making Textbook for Hospitality Program

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ABSTRACT

This study aims to detect and analyze students' needs for a textbook and recipe book that efficiently address their academic, experiential learning requirements in cake making and to contribute to the enhancement of instructional resources in pastry and culinary education by ensuring that learning materials are appropriate, learner-centered, and helpful of skill development. This research used a descriptive quantitative method. The results of this study indicate that: (a) Textbook and recipe book is very important to support students' skills in their chosen program; (b) The existing baking recipes on school that is aligned with TESDA requirements are not sufficient for students to pass National Certificate in Bread and Pastry Production Level II (NCII); (c) students Likes to read recipe books outside of class; (d) Activities are necessary to improve student's underpinning knowledge in baking; (e) Recipe book help students to innovate existing dishes; (f) Hospitality management Students and TESDA learners need to study Bread and Pastry Production books and recipes; (g) Students need a textbook that is aligned with TESDA requirements to pass National Certificate in Bread and Pastry Production level II. In conclusion, students of the Bread and Pastry production training and Program need textbooks that suit their needs. The need for Cake making TEXTBOOK and recipe book is vital for students and people who are enthusiast in bread and pastry production for their theoretical needs and skill enhancement while they are finishing their study and they can use this to innovate new recipes.

KEYWORDS: Needs Analysis, Cake making Textbook, Recipe.

ARTICLE DETAILS

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INTRODUCTION

Textbooks play an essential role in education and teaching by providing structured content, helping as a dependable reference, and encouraging consistency in the learning experience and skills enhancement. They are essential tools for both students and teachers, offering a structured approach to knowledge acquisition and skill development. A book is a collection of writing or images that are available in printed form, known as textbooks and non-printed books, known as e-books, both forms of books contain knowledge (Prajawinanti, 2020). A book is a written work that is available either in manuscript or printed form which is quite thick and long. Books are also used as a means of communication. Books have various functions, such as developing modern science and technology. The function of books in the world of education is beyond doubt. The function of books has been proven since ancient times where books are very effectively used as a means of education and scientific institutions. The existence of technology and the internet has never affected the existence of books in the world of education (Prajawinanti, 2020). "learning with game designing" and integrating activities can boost learners' attainment, especially when learning content became more extensive; and it was most helpful in terms of promoting and retaining the gain in the long term. (Chen, S., & Liu, Y.,2021).

Hasanah, U., & Syamsi, K. (2020). Stated that it is necessary to develop teaching materials specifically the skill of writing texts in the form of textbooks with certain approaches to facilitate student learning in class. They found the need for non-literary textbooks to improve learning. Mubaroh, S., & Fujiyanti, L. (2022). Stated that there is the needs of textbook for the students mastery in their program. This research study is initial development of Bread and Pastry Production textbooks to be utilize for learners and interested students in bread and pastry production and help them to pass National certificate of Technical Vocational Skills Development Authority (TESDA). It is hoped that this Cake making textbook can be enhance and developed to another stage.

It is strong-willed to know that Textbook and recipe book plays an important role in the educational system nowadays, particularly in Hospitality and Tourism sector. Utilizing textbook and recipe book especially in Cake making can be very appealing and interesting for it seeks to warrant that learning develops even we are not physically in the school or training institutions. By using such material in Bread and Pastry production, students and Trainers will be actively engaging in the learning process and overcome the stigma that when calamities and problems encountered during school days, the teaching-learning process stops. This study with cake making textbook in Bread and Pastry production is very valuable and will definitely lead the teacher and the learners to work hand in hand in achieving a common goal – assimilating lessons in a self-pace manner and enhancing skills at home– which is a skill that will be valuable for them in training Institutions and in life.

LITERATURE REVIEW

The main component of the teaching profession is the collection and analysis of large amounts of information to carry out effective and efficient research, this proves how important it is to analyze the needs to be done before preparing or developing teaching material like book, textbook and activities. (Manzura, 2021). In addition, Manzura also explained that if the results of the needs analysis assessment obtained are accurate, this is evidence that the teacher is responsive to the needs of his students.

It is necessary to develop teaching materials specifically the skill of writing texts in the form of textbooks with certain approaches to facilitate student learning in class and it can improve knowledge. (Hasanah, U., & Syamsi, K., 2020). The Needs analysis leads to the development of teaching materials, curricula, and teaching methods that increase student motivation and success (Sulistiyo et al., 2021). If students are motivated, it will automatically increase their literacy. In the current era, students feel challenged to access, select, and use the information and track the information required by the accuracy and quality of the intervention information (Mubaroh et al., 2021). Textbook should be taken as a description of one of the many paths in which written curriculum can be taught conveniently. Textbook helps student to organize his study and proceed in such a way that he can work basic theme of subject. (Rai, H & Kharwar, P., 2025).

There is no sure victory in the teaching and learning process only depends on the teacher and students, but the material taught through specific approaches, methods, and strategies can help improve student learning outcomes (Hasanah & Syamsi, 2020). Textbooks or learning materials prepared based on curriculum design play an essential role in creating a positive learning environment, and with the help of independent learning activity it helps students cope in the learning process. (Wardiyah, J., Budianti, Y., Al Farabi, M., Sirojuddin, A., & Fatikh, M. A., 2023).

RESEARCH METHOD

2.1 Research Design

The study used a descriptive quantitative research design, a scientific method that involved observing and describing the behavior of a subject without influencing it in any way (Houts et al., 2016). It was also beneficial when it was impossible to test and measure the large number of samples needed for more quantitative types of research. The survey research approach involved studying a group of people or items by collecting and analyzing data from only a few individuals or items considered representative of the entire group. In other words, only a part of the population was studied, and findings from this were expected to be generalized to the whole population (Creswell, 2018).

2.2 Research Participants

The study was conducted in two (2) batches studying Bread and pastry production. Batch one (1) composed of Hospitality management students and home bakers, consisting of 50 respondents, batch two (2) composed of students learning hot and cold desserts course, and private household cook consisting of 50 students; a total of one hundred (100) respondents.

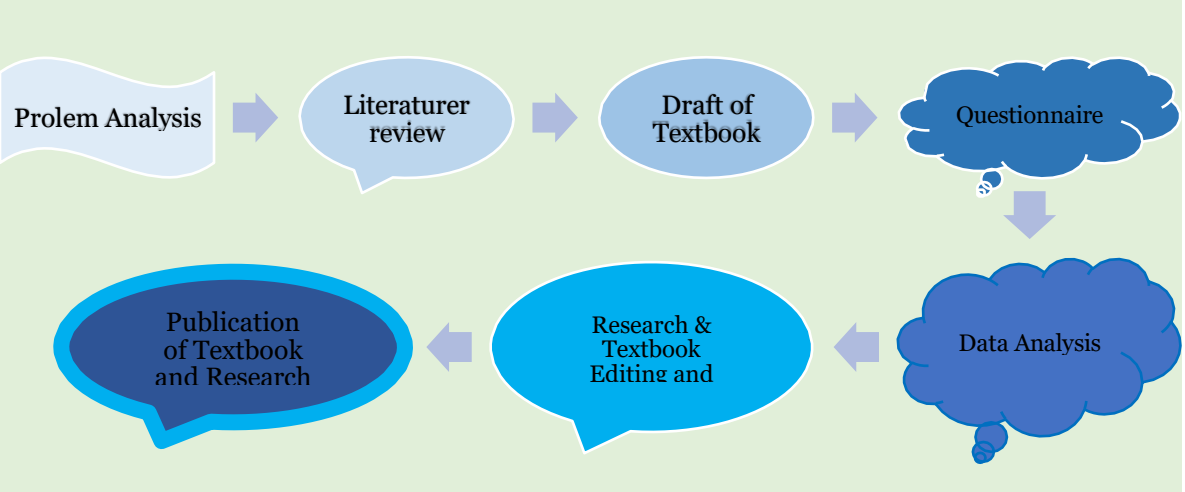
2.3 Research Instruments

A questionnaire was used as the main instrument for gathering the needed data in the study. This instrument was constructed and developed through reading and lifted from other studies, consisting of two main parts. Part I Evaluation Rating of the textbook in Cake making; Part II Need analysis on the development of Cake making Textbook

2.4 Data Gathering Procedure and Analysis

After the questionnaires were finalized, a draft of the textbook was prepared. the researcher coordinated with the target respondents and personally distributed copies of questionnaire and sample textbook. Retrieval of written responses was done after several days, the data collected from respondents were encoded into computer, classified, analyzed and described.

The research flow diagram



Picture 1. Research Flowchart

Finding problem analysis

It is essential that school should have plenty of learning materials and resources coming from different publishing company and authors, but if teaching resources and activities are not aligned with the curriculum or learning objectives, resources may be used inefficiently, and when references are too much and not associated with the subject or learning objectives, it can lead to numerous problems, including mix-up, decreased student motivation, and ineffective learning.

The National Certificate Level II (NC II) plays a vital role in curriculum implementation by connecting the gap between education and industry needs, ensuring graduates possess the skills demanded by the job market. It enhances employability and contributing to skilled workforce.

To enhance skills of students and increase the passing rate in National certification, it is vital to produce textbook that is aligned in the objective of the subject and Instructor should arrange their learning tools, activities and textbooks, based on the needs analysis of their students.

Literature Study and Draft of Textbook

Knowing the needs of the students, the first step the researcher took was to do a literature study such as how to apply Textbook material in learning Bread and pastry production NCII and what materials are possible to be adopted. Various reading sources such as journals, books, recipes, and articles become references for the preparation of content, be it the content of questionnaires, recipes, or content from textbooks that are compiled, recipes that underwent trials, measurement and re-measurements.

Questionnaire

The researcher compiled several structured questions. Next, the researcher distributed questionnaires to students of Bread and pastry production Level II and Cookery level II. There are two questions, part 1 Need analysis on the development of Cake making Textbook, with seven statements. Part 2 Students' Evaluation Rating of the textbook in cake making as to Format and Content.

FINDINGS AND DISCUSSION

Based on the questionnaires distributed, then the data was analyzed. The following is the data from the questionnaire distribution, which is shown in table 1 below:

Table 1. Need analysis on the development of Cake making Textbook

	Answer Results	
Statement	**Yes**	**No**
1. Textbook and recipe book are very important to support students' skills in their chosen program.	98%	2%
2. The existing baking recipes on school that are aligned with TESDA requirements are sufficient for students to pass National Certificate in Bread and Pastry Production.	28%	72%
3. Likes to read recipe books outside of class (at home).	75%	25%
4. Activities are necessary to improve student's underpinning knowledge in baking.	88%	12%
5. Recipe book help students to innovate existing dishes.	93%	7%

6. Hospitality management Students and TESDA learners need to study Bread and Pastry Production books and recipes.	100%	0%
7. Students need a textbook that is aligned with TESDA requirements to pass National Certificate in Bread and Pastry Production level II.	96%	4%

This research has produced a Published textbook for the Cake Making.
Developing textbooks for cake making is a student need. The results of the questionnaire distributed revealed the following information.

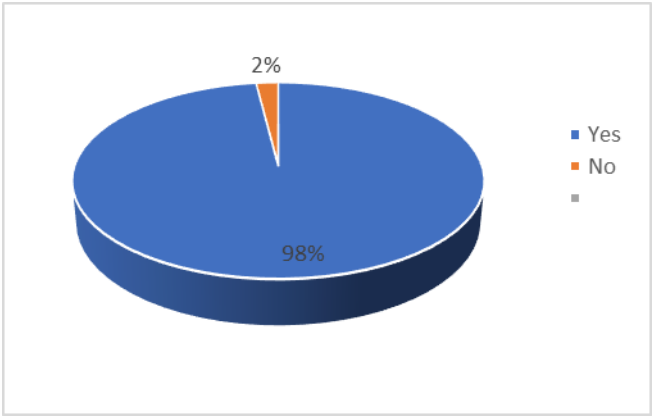


Figure 1. Textbook and recipe book are very important to support students' skills in their chosen program.

Based on the questionnaire distributed, 98% of respondents agreed that textbook and recipe book is very important to support students' skills in their chosen program. Textbooks and recipe books are vital educational resources that support the development of students' knowledge and practical skills in their chosen programs. Textbooks provide theoretical foundations and structured learning, whereas recipe books serve as practical guides that help students apply concepts in real-world contexts, enhancing competency and professional preparedness (Pecson, R., & Sarmiento, J. 2024).

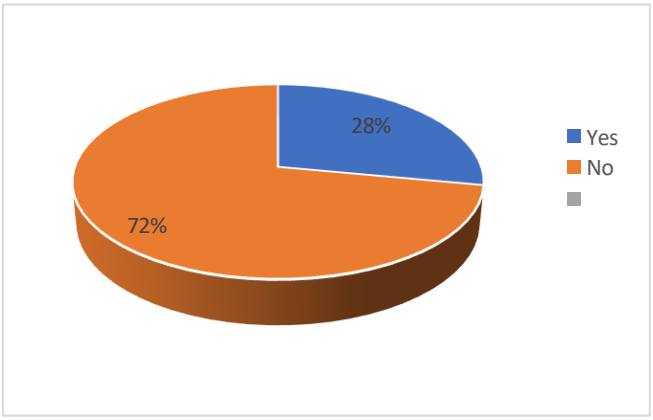


Figure 2. The existing baking recipes on school that are aligned with TESDA requirements are sufficient for students to pass National Certificate in Bread and Pastry Production.

Based on the questionnaire distributed, 72% of respondents agreed that The existing baking recipes on school that are aligned with TESDA requirements are not sufficient to help students in passing National Certificate in Bread and Pastry Production. One of the functions of tbooks, and textbook is to support both teachers and learners in achieving the desired learning outcomes. (Dube, Mbusiseni. 2025).

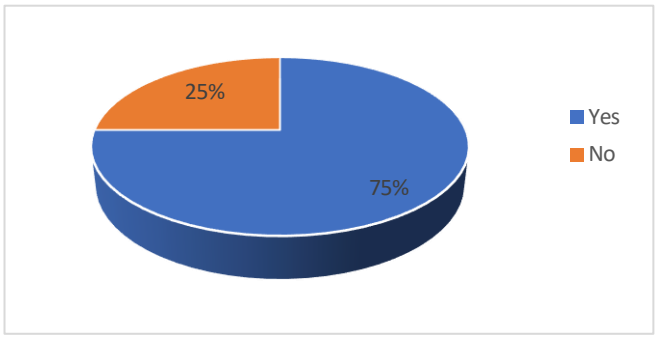


Figure 3. Likes to read recipe books outside of class (at home).

Based on the questionnaire distributed, 75% of respondents preferred to read recipe books outside of class (at home). The use of modules or texbooks encourages independent study. One of the benefits of using modules for instruction is the achievement of better self-study or learning skills among students. (Tenedero, Cynic & Panti, Rose Ann 2024).

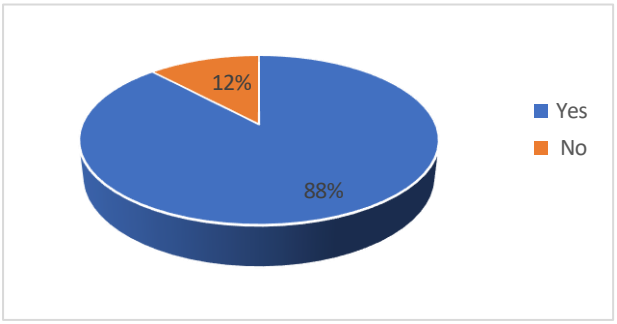


Figure 4. Activities are necessary to improve student's underpinning knowledge in baking.

Based on the questionnaire distributed, 88% of respondents agreed that activities are necessary to improve student's underpinning knowledge in baking. Activities are ways to evaluate and check the success of achieving the objectives of the course and the progress of the learners. (Saeed, Muhammad & Imtiaz, Akifa. 2021).

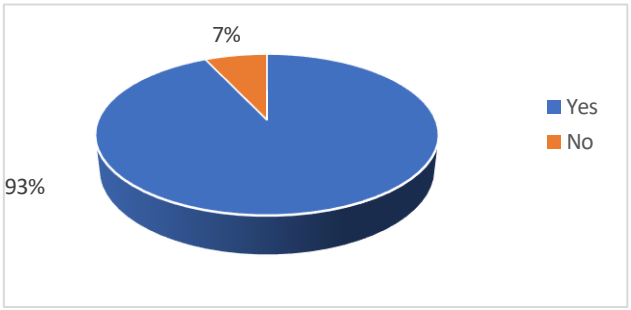


Figure 5. Recipe book help students to innovate existing dishes.

Based on the questionnaire distributed, 93% of respondents agreed that Recipe book help students to innovate existing dishes. It corroborates with the study of Md Sahak, Adibah & Abdul Rahman, Abdul Wafi & Diyana, Nur. (2022). Books are self-learning in nature, in which students can acquire particular knowledge and abilities by following the book's instructions without or with the assistance of a lecturer.

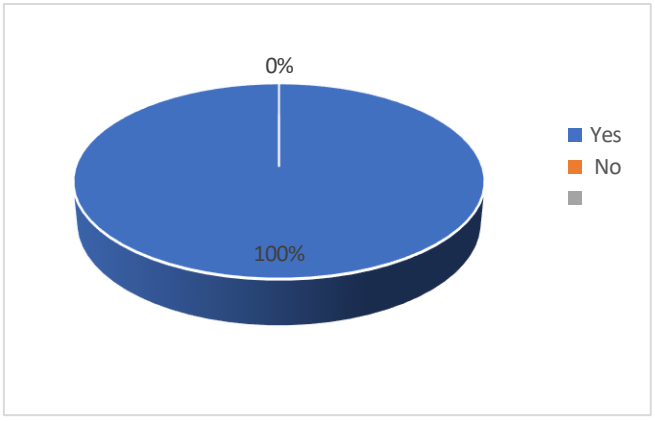


Figure 6. Hospitality management Students and TESDA learners need to study Bread and Pastry Production books and recipes.

Based on the questionnaire distributed, 100% of respondents agreed that Hospitality management Students and TESDA learners need to study Bread and Pastry Production books and recipes. It supports the study of Carale, Regidor & Cornelia, Judy & Carale, Edsel. (2025). Manuals are essential in order for the students to develop mastery in technical processes, creativity, food safety, and familiarity with industry-standard tools and methods in Bread and Pastry Production.

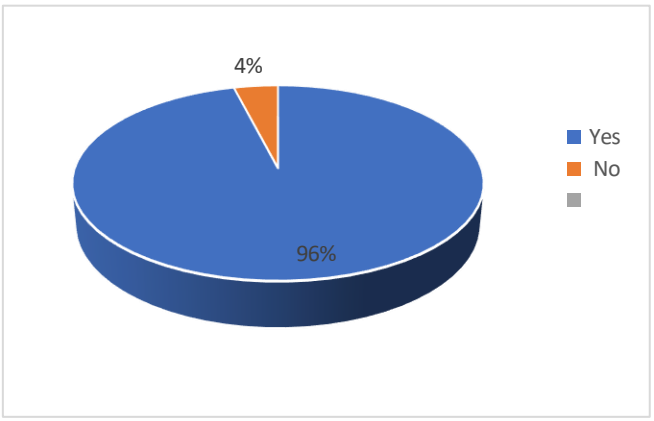


Figure 7. Students need a textbook that is aligned with TESDA requirements to pass National Certificate in Bread and Pastry Production level II.

Based on the questionnaire distributed, 96% of respondents agreed that students need a textbook that is aligned with TESDA requirements to pass National Certificate in Bread and Pastry Production level II. It supports the study of Carale, Regidor & Cornelia, Judy & Carale, Edsel. (2025). Institutions need to implement specialized modules focused on cake assembly and creative presentation, supported by mentorship from certified cake professionals and enriched with scenario-based evaluations.

Table 2 - Students' Evaluation Rating of the textbook in cake making

Indicators	**Yes**	**No**
Format		
The Textbook in Cake making:		
1. is printed in a good quality paper	80%	20%
2. has font which is readable and consistent throughout the textbook.	85%	15%
3. has a vivid subheading to simplify reading.	90%	10%
4. has a clear heading to facilitate navigation and understanding.	90%	10%
5. has a good layout, logical and easy to follow.	89%	11%
6. has proper spaces between words to ease reading.	83%	17%
7. has clear recognizable images related to the texts.	78%	22%
8. is stylish and engaging to look at.	91%	9%
Content		
The Textbook in cake making:		

1. has a content that provides comprehensive coverage of the subject matter.	85%	15%
2. is aligned with the learning objectives and outcomes.	90%	10%
3. has recipes that help pass the TESDA National Certificate.	95%	5%
4. has contents that include a variety of learning activities, such as exercises, and self-check.	85%	15%
5. has a balance between theoretical concepts and practical applications.	83%	17%
6. has recipes that contains ingredients that are readily available in the market.	96%	4%
7. has relevant and timely information.	95%	5%
8. has the potential to stimulate the interest of target reader.	89%	11%

Table 2 - Students' Evaluation Rating of the textbook in cake making as to format the stylish and engaging to look at got the highest percentage of (YES) with 91%, while on the other hand, the clear recognizable images related to the texts got the highest percentage of (NO) with 22%. It corroborates with Li and Wang (2024) Good format contributed more to students' interest and attitudes, and improved their performance, while it is important also to continuously improve, the content, format, images and activities of textbook to encourage the engagement of learners.

Table 2 - Students' Evaluation Rating of the textbook in cake making as to content, indicator number six (has recipes that contains ingredients that are readily available in the market) got the highest percentage of (YES) with 96%, while on the other hand, indicator number five (has a balance between theoretical concepts and practical applications) got the highest percentage of (NO) with 17%. It corroborates with Simply Psychology (2025). Experiential learning theory explains why practice is central to skill development. According to Kolb's learning cycle, effective learning occurs through a process that includes concrete experience, reflection, conceptualization, and active experimentation. In the context of baking, learners gain concrete experience by preparing doughs or batters, reflect on outcomes such as texture or flavor, and then adjust techniques during subsequent attempts. This cyclical process strengthens understanding and supports deeper learning compared with theory alone.

CONCLUSION

Students need textbooks that suit their needs. The findings indicate that: (a) Textbook and recipe book are very important to support students' skills in their chosen program; (b) The existing baking recipes on school that are aligned with TESDA requirements are not sufficient; (c) Activities are necessary to improve student's underpinning knowledge in baking. (d) Students need a textbook that is aligned with TESDA requirements to pass National Certificate in Bread and Pastry Production level II.

This study concludes that students require textbooks and recipe books that are specifically designed to address their academic and practical learning needs in baking. The findings indicate that: (a) Textbook and recipe book are very important to support students' skills in their chosen program; (b) The existing baking recipes on school that are aligned with TESDA requirements are not sufficient; (c) Activities are necessary to improve student's underpinning knowledge in baking. (d) Students need a textbook that is aligned with TESDA requirements to pass National Certificate in Bread and Pastry Production level II.

The results further emphasize the necessity of incorporating structured learning activities that enhance students' underpinning knowledge in baking, including concepts, principles, and techniques essential for skill mastery. Finally, students expressed the need for a comprehensive textbook that is clearly aligned with Technical Education and Skills Development Authority standards.

Overall, the development of a competency-based, standards-aligned textbook and recipe book is strongly recommended to improve students' readiness, performance, and certification outcomes.

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