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Guided Baking Sessions for Cake Preparation in Bread and Pastry Production Among Grade 9 Students at Sta. Teresa College Bauan Batangas

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Abstract

This study examined the effectiveness of guided baking sessions in improving the mastery of cake preparation among Grade 9 students enrolled in Bread and Pastry Production at Sta. Teresa College, Bauan, Batangas during the School Year 2025–2026.

The research aimed to determine the students' level of mastery in cake preparation before the intervention and to evaluate the extent to which guided baking sessions improved their performance in terms of procedural accuracy, creativity in output, adherence to food safety practices, and confidence in performing baking tasks.

A quantitative research design was utilized, involving 52 Grade 9 students as participants. Data were gathered through a researcher-made questionnaire using a four-point Likert scale and analyzed using weighted mean, frequency, percentage, and ranking.

Findings revealed that students initially had a low level of mastery in cake preparation before the intervention. After the implementation of guided baking sessions, learners demonstrated significant improvement in their baking skills, creativity, safety practices, and confidence. However, challenges such as limited baking equipment, complex procedures, and time constraints were also identified.

The study concludes that guided baking sessions are an effective instructional strategy for improving practical baking competencies. The study recommends the continuous use of structured demonstrations, adequate baking resources, and guided practice to strengthen students' mastery in Bread and Pastry Production.

Keywords: *guided baking sessions, cake preparation, bread and pastry production, technical-vocational education, culinary skills*

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1. Introduction

Background and Rationale

Technical-Vocational-Livelihood (TVL) education under the K–12 curriculum emphasizes the development of practical skills that prepare students for employment and entrepreneurship. Bread and Pastry Production is one of the key subjects that develops students' culinary competencies, particularly in baking and cake preparation. However, students often struggle with mastering baking procedures due to limited hands-on experience, lack of confidence, and insufficient guidance during practical activities.

Globally, the food and hospitality industry continues to grow, creating demand for skilled bakery professionals. As a result, culinary education increasingly emphasizes experiential learning and guided practice to ensure learners acquire both theoretical knowledge and practical competence.

In the Philippines, the Enhanced Basic Education Act of 2013 (Republic Act 10533) and TESDA's Bread and Pastry Production NC II standards highlight the importance of developing technical skills through practical training. Despite these initiatives, many learners still encounter difficulties in mastering cake preparation techniques such as accurate measurement, mixing methods, baking control, and decoration.

To address these challenges, this study introduced Guided Baking Sessions, a structured teaching approach that provides step-by-step instruction, hands-on practice, and immediate feedback. The intervention aims to strengthen students' mastery of cake preparation, improve their confidence, and prepare them for real-world culinary tasks.

Statement of the Problem

This study aimed to examine how guided baking sessions influence the mastery of cake preparation among Grade 9 students.

Specifically, the study sought to answer the following questions:

1. What is the level of students' mastery in cake preparation before guided baking sessions in terms of:
    - knowledge of ingredients and measurements
    - application of baking techniques
    - quality of cake outputs
2. To what extent do guided baking sessions improve students' performance in terms of:
    - accuracy of procedures
    - creativity in presented output
    - adherence to food safety and sanitation
3. How beneficial are guided baking sessions in terms of:

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- development of practical baking skills
- increased confidence in performing tasks

4. What challenges do students encounter during guided baking sessions?
5. What intervention activities may be proposed to further enhance cake preparation skills?

Objectives of the Study

This study aimed to determine the effectiveness of guided baking sessions in improving the mastery of cake preparation among Grade 9 students in Bread and Pastry Production.

2. Materials and Methods

Research Design

The study employed a **quantitative research design** to determine the effectiveness of guided baking sessions in improving students' mastery of cake preparation. The design allowed the researcher to measure students' performance and analyze changes after the intervention through numerical data.

Participants

The participants of the study were **52 Grade 9 students enrolled in Bread and Pastry Production at Sta. Teresa College, Bauan, Batangas during School Year 2025–2026**. These students were selected because they were currently learning practical baking competencies as part of the Technical-Vocational-Livelihood program.

Instruments

The study utilized a **researcher-made questionnaire** designed to measure students' mastery of cake preparation, their learning experiences during guided baking sessions, and the challenges they encountered. The questionnaire used a **four-point Likert scale** and was validated by experts including TLE coordinator and the school principal.

Procedure

The researcher first secured approval from the school administration and coordinated with the TLE coordinator. Parental consent and student assent were obtained before data collection. Guided baking sessions were then conducted, allowing students to participate in structured hands-on baking activities with step-by-step instruction and teacher guidance. After the intervention, questionnaires were administered to gather data on students' experiences and performance.

Data Analysis

The collected data were analyzed using statistical tools including:

- **Mean and Weighted Mean** to determine students' level of mastery
- **Frequency and Percentage** to summarize common challenges

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- **Ranking** to determine the most significant factors influencing mastery

3. Results

Section 1: Level of Mastery

The results revealed that students had a **low level of mastery (M = 2.26)** in cake preparation before the guided baking sessions. This indicates that learners had difficulty in applying baking knowledge and techniques.

Level of Mastery in Cake Preparation Before Guided Baking Sessions in Terms of Knowledge of Ingredients and Measurements

Indicators	WM	VI	Rank
1. I can identify common cake ingredients and their functions.	3.02	Highly Mastered	2
2. I know the proper measurements of ingredients for cake recipes.	2.10	Low Mastered	4
3. I can differentiate between wet and dry ingredients.	3.08	Highly Mastered	1
4. I can substitute ingredients when needed without affecting quality.	2.08	Low Mastered	5
5. I understand the importance of accurate measurement in baking.	2.13	Low Mastered	3
Composite Mean	**2.48**	**Low Mastered**	

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Level of Mastery in Cake Preparation Before Guided Baking Sessions in Terms of Application in Baking Techniques

Indicators	WM	VI	Rank
1. I can follow step-by-step baking instructions properly.	2.40	Low Mastered	2
2. I am familiar with different mixing methods (e.g., creaming, folding).	1.85	Low Mastered	4
3. I know how to properly preheat and use an oven.	2.45	Low Mastered	1
4. I can apply techniques to avoid common baking mistakes.	2.15	Low Mastered	3
5. I am able to prepare cakes with minimal guidance.	1.75	Low Mastered	5
Composite Mean	**2.12**	**Low** Mastered	

Level of Mastery in Cake Preparation Before Guided Baking Sessions in Terms of Quality of Cake Outputs

Indicators	WM	VI	Rank
1. My cakes have the right texture (soft, moist, or fluffy).	2.25	Low Mastered	4
2. I can achieve an evenly baked cake without undercooking or burning.	1.12	Low Mastered	5
3. I can decorate and present my cake neatly.	2.59	High Mastered	1
4. I can prepare cakes that taste good and are enjoyable to eat.	2.50	High Mastered	2
5. I produce cakes that meet acceptable baking standards.	2.40	Low Mastered	3
Composite Mean	**2.17**	**Low Mastered**	

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Section 2: Effectiveness of Guided Baking Sessions

After the implementation, the results showed improvement:

- Accuracy of procedures: **3.13 (Great Extent)**

Extent of Guided Baking Session in Terms of Accuracy of Procedures

Indicators	WM	VI	Rank
1. Guided sessions help me follow recipes more accurately.	3.25	Great Extent	2
2. I can measure ingredients more precisely with guidance.	3.50	Very Great Extent	1
3. I commit fewer errors in mixing and baking procedures.	3.10	Great Extent	3
4. I can organize my steps in baking properly.	2.95	Great Extent	4
5. I can complete tasks in the correct order with less confusion.	2.85	Great Extent	5
Composite Mean	**3.13**	Great Extent	

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- Creativity: **3.25 (Great Extent)**

Extent of Guided Baking Session in Terms of Creativity and Presented Output

Indicators	WM	VI	Rank
1. I become more creative in decorating cakes after guided sessions.	3.35	Great Extent	2
2. I can try new designs and presentations with confidence.	3.25	Great Extent	3
3. I experiment with flavors and styles in my cake outputs.	3.45	Great Extent	1
4. I enjoy adding artistic touches to my finished product.	3.15	Great Extent	4
5. Guided sessions encourage me to explore my creativity.	3.05	Great Extent	5
Composite Mean	**3.25**	Great Extent	

- Food safety practices: **3.57 (Very Great Extent)**

Extent of Guided Baking Session in Terms of Adherence to Safety and Sanitation

Indicators	WM	VI	Rank
1. I always wash my hands and sanitize equipment before baking.	3.55	Very Great Extent	3
2. I use clean and safe ingredients in cake preparation.	3.70	Very Great Extent	1
3. I properly store ingredients to maintain freshness.	3.52	Very Great Extent	4
4. I keep my workstation clean while baking.	3.60	Very Great Extent	2
5. I follow safety precautions when using baking equipment.	3.50	Very Great Extent	5
Composite Mean	**3.57**	**Very Great Extent**	

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This indicates that guided baking sessions contributed positively to students' performance.

Section 3: Development of Skills and Confidence

The findings showed:

- Practical baking skills: **3.65 (Very Great Extent)**

Development of Practical Baking Skills

Indicators	WM	VI	Rank
1. I improve my mixing, measuring, and baking skills through guidance.	3.65	Very Great Extent	3
2. I can prepare cakes more independently after guided sessions.	3.80	Very Great Extent	1
3. I gain new techniques that improve my baking performance.	3.70	Very Great Extent	2
4. I have become more consistent in producing quality cakes.	3.50	Very Great Extent	5
5. I feel more competent in baking compared to before.	3.60	Very Great Extent	4
Composite Mean	**3.65**	**Very Great Extent**	

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- Confidence: **3.74 (Very Great Extent)**

Increased Confidence in Performing Tasks

Indicators	WM	VI	Rank
1. I feel more confident in handling baking tasks	3.70	Very Great Extent	4
2. I am less afraid of making mistakes when guided by the teacher.	3.60	Very Great Extent	5
3. I am more willing to experiment with new recipes.	3.75	Very Great Extent	3
4. I actively volunteer to demonstrate baking tasks in class.	3.85	Very Great Extent	1
5. I feel proud of my achievements in cake preparation.	3.80	Very Great Extent	2
Composite Mean	**3.74**	**Very Great Extent**	

Students became more capable and confident in performing baking tasks.

Section 4: Challenges Encountered

The most common challenges were:

- Lack of equipment
- Complex procedures
- Limited time
- Low confidence

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Challenges Encountered by the Learners in Guided Baking Sessions

Challenges Encountered	WM	VI	Rank
1. I sometimes feel shy to participate in baking activities.	3.68	Strongly Agree	2
2. I find it difficult to perform physically demanding baking tasks.	3.60	Strongly Agree	4
3. Some classmates do not cooperate well during group baking sessions.	3.45	Agree	8
4. I feel discouraged when my group's cake preparation is unsuccessful	3.42	Agree	9
5. I find it hard to communicate my ideas during group baking activities.	3.40	Agree	10
6. I experience conflicts or misunderstandings with my baking teammates.	3.50	Strongly Agree	7
7. Limited time prevents me from completing the baking task properly	3.52	Strongly Agree	6
8. Lack of proper baking facilities or equipment affects our performance.	3.72	Strongly Agree	1
9. I feel anxious when baking activities are graded or evaluated.	3.57	Strongly Agree	5
10. Some baking procedures are confusing or difficult to follow	3.65	Strongly Agree	3
Composite Mean	**3.58**	**Strongly Agree**	

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4. Discussion

The results indicate that guided baking sessions significantly improved students' mastery of cake preparation. The intervention enhanced procedural accuracy, creativity, and adherence to food safety practices, demonstrating the effectiveness of structured hands-on learning in technical-vocational education.

These findings support previous studies that highlight the importance of guided instruction and experiential learning in developing culinary skills. When learners receive clear demonstrations, supervised practice, and immediate feedback, they become more confident and capable of performing technical tasks independently.

Despite the improvements, challenges such as limited equipment and time constraints were observed. These barriers emphasize the need for better facilities, adequate resources, and supportive learning environments to maximize the effectiveness of practical learning activities.

5. Conclusion

The study concluded that guided baking sessions are an effective instructional strategy for improving the mastery of cake preparation among Grade 9 students in Bread and Pastry Production. Before the intervention, students had low mastery of baking skills. However, after participating in guided sessions, learners demonstrated significant improvements in procedural accuracy, creativity, food safety practices, and confidence.

Despite these positive outcomes, challenges such as limited equipment, procedural complexity, and time constraints were identified. Addressing these issues is essential to ensure continuous improvement in culinary education.

Recommendations

1. Teachers may continue providing hands-on demonstrations, step-by-step instructions, and immediate feedback to strengthen learners' procedural accuracy and confidence.
2. Teachers may incorporate projects that encourage experimentation with flavors, designs, and presentation techniques to further develop students' creativity.
3. The teachers may encourage collaboration, positive reinforcement, and inclusive participation to address confidence issues, shyness, and group dynamics during baking activities.
4. The school may provide adequate baking facilities and resources and may ensure that learners have access to sufficient tools, equipment, and ingredients to practice baking effectively.
5. Teachers may continuously emphasize and model proper hygiene, sanitation, and safety measures to instill lifelong good practices.

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