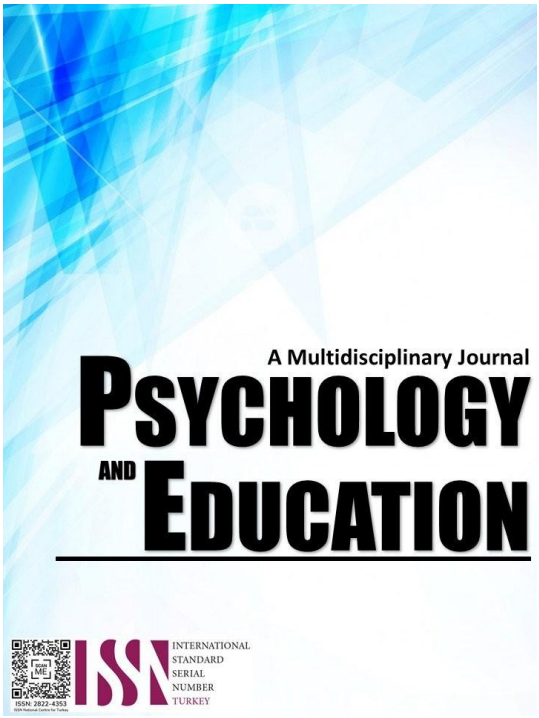
GUIDED DEMONSTRATION AS A PEDAGOGICAL APPROACH: ENHANCING COOKING SKILLS IN TECHNICAL-VOCATIONAL-LIVELIHOOD EDUCATION



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Research Article

Guided Demonstration as a Pedagogical Approach: Enhancing Cooking Skills in Technical-Vocational-Livelihood Education

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Abstract

This study investigated the effect of the guided demonstration method on the acquisition of fundamental cooking skills (knife skills, basic sauce making, and baking techniques) among grade 12 technical-vocational-livelihood (TVL) food consumer science (FCS) students at Alugan National School of Craftsmanship and Home Industries (ANSCHI). A pretest-posttest design was used to assess the cooking skills of 23 grade 12 TVL-FCS students. The pretest results indicated a basic level of proficiency (mean score of 19.57), suggesting that most students had limited prior experience. The posttest results demonstrated a substantial improvement in cooking performance (mean score of 35.87). Statistical analysis confirmed a significant difference between pretest and posttest scores (mean difference = -16.3, $t = -6.74$, $p < 0.001$). The findings suggest that guided demonstration is an effective method for enhancing cooking skills in TVL-FCS students. Incorporating guided demonstration into the TVL-FCS curriculum could significantly enhance students' employability in the culinary arts.

Keywords: *TVL, FCS, guided demonstration method, cooking skills, culinary education, vocational training, hands-on learning, skill development*

Introduction

Cooking is a foundational life skill that is crucial to an individual's personal development. This can be extended beyond just food preparation and covers decision-making, nutritional awareness, time management, and creativity. In the field of education, especially in food preparation and cooking, cooking has become a core competency for students to be prepared for real-life challenges, whether in the workplace or their personal lives. As countries strive for 21st-century skills, cooking remains a significant part of a holistic education that encompasses cognitive, psychomotor, and affective learning domains.

However, a global decline in students' interest in cooking has been recorded, despite its significance. Several studies express a decrease in students' interest and engagement in cooking. In Brazil, most individuals aged 14-19 were reported to have minimal involvement in meal planning, selection of grocery items, and home food preparation, with over 60% showing little to no participation (Neves et al., 2023). Additionally, a study by Brown et al. (2021) in Canada found that adolescents' food and nutrition knowledge was generally poor. It was also found that only those who expressed interest in cooking showed higher levels of understanding. Consequently, Griffith, Jin, and Lechene (2021) emphasized the steady decline in home-cooked meals in the United Kingdom, indicating reduced engagement in cooking practices and a shift toward convenience foods.

This global trend extends to developing countries, including the Philippines. Local studies and educational observations suggest that many Filipino students, particularly in senior high school, exhibit low motivation and enthusiasm toward cooking-related subjects. Ronquillo and Manaog (2025) found that Grade 10 students faced numerous challenges in their cookery classes, including a lack of initiative in practical food preparation and minimal participation in hands-on activities, indicating reduced enthusiasm for the subject. Likewise, Sumayang and Saab (2025) reported that despite high ratings on module quality and relevance, Grade 12 cookery students in Misamis Oriental demonstrated only "satisfactory" performance levels, reflecting insufficient motivation to apply their learning effectively. Similarly, Soliman and Gabutin (2025) found that entrenched gender stereotypes and socio-cultural perceptions discouraged active participation in TVL-Cookery tracks, particularly among male learners, further evidence of low engagement in culinary education in the Philippines.

Several interrelated factors contribute to this declining interest. Among them are the limited use of interactive or student-centered teaching strategies, inadequate facilities, overcrowded classrooms, and the scarcity of opportunities for experiential learning. Additionally, today's youth's growing digital lifestyle shifts their focus away from hands-on domestic tasks toward virtual or screen-based engagements. These challenges are further compounded by curriculum constraints that prioritize coverage over depth, leaving little room for creative or immersive cooking experiences.

The TVL Food Consumer Science (FCS) strand, in particular, is designed to equip students with essential culinary and food service competencies aligned with industry standards. It aims to produce graduates who are job-ready or capable of starting their own food enterprises. However, for the strand to achieve its intended impact, it must ensure that learners are both competent and motivated. If students lose interest in cooking, it may jeopardize not only their skill development but also the overall effectiveness of the TVL curriculum in addressing national employment and livelihood goals.

Meanwhile, Alugan National School of Craftsmanship and Home Industries has encountered persistent issues related to student performance and engagement in cooking classes. Teachers observe that many students struggle to perform basic cooking tasks

confidently and lack enthusiasm during practical activities. Standard performance tasks often yield low results, indicating possible gaps in both instructional delivery and learner motivation. Despite the presence of food laboratories and regular cooking sessions, the desired proficiency levels remain unmet. These observations suggest that current pedagogical strategies may not be effectively supporting the development of cooking competencies among learners.

This local issue reflects a broader pedagogical gap in the literature and practice. While demonstration methods are frequently employed in vocational education, there is insufficient empirical evidence on how structured, guided demonstration specifically affects cooking skill development in Philippine senior high schools. Most studies focus on general teaching methods, with limited focus on the nuances of hands-on, guided techniques in the FCS context.

To address this research gap, the present study investigates the effect of the guided demonstration method on the cooking skills of Grade 12 TVL Food Consumer Science students. Specifically, it aims to determine whether this instructional approach enhances students' practical skills, confidence, and engagement in cooking tasks. The findings of this study are expected to provide educators, curriculum planners, and school administrators with valuable insights to improve vocational teaching practices and support student success in the TVL track.

Research Questions

This study was conducted to investigate the effect of the guided demonstration method on the cooking skills of grade 12 technical-vocational-livelihood (TVL) food consumer science (FCS) students at Alugan National School of Craftsmanship and Home Industries. Specifically, it aimed to provide an answer to the following research questions:

1. What is the initial level of cooking skill proficiency among Grade 12 TVL-FCS students before the implementation of the guided demonstration method?
2. What is the level of cooking skill proficiency among Grade 12 TVL-FCS students after the implementation of the guided demonstration method?
3. Is there a statistically significant difference in cooking skill proficiency between the pretest and posttest assessments of Grade 12 TVL-FCS students?

Methodology

Research Design

To provide evidence on the effect of the guided demonstration method on students' cooking skills, the study employed a quantitative research approach with a one-group pretest-posttest quasi-experimental design. This design helps compare the cooking skills of grade 12 TVL-FCS students before and after they receive the intervention, a guided demonstration method.

Respondents

The study was participated in by 23 TVL-FCS students enrolled in Alugan National School of Craftsmanship and Home Industries in the 1st semester of the school year 2025-2026. These participants were selected using a purposive sampling technique, as there is only one section of TVL-FCS students in the research locale.

Instrument

To gather the necessary data, the researcher used a researcher-made rating sheet to measure students' cooking skills before and after employing the guided demonstration technique. This rating sheet served as the study's pretest and posttest instruments. It includes two parts: part 1 rates the manner of food preparation, while part 2 rates the output on presentation, palatability, texture, appearance, and aroma. This instrument underwent validity testing with two (2) cookery teachers in the research locale. Based on their suggestions, the instrument underwent several revisions until the final version was developed.

Procedure

Before conducting the study, the researcher sought the principal's approval and the parents' consent, as the participants were minors. After obtaining necessary approvals, the researcher conducted individual practical tests of the students on the preparation of 'cream of mushroom soup', which served as their pretest performance. The students' cooking skills were evaluated by three (3) raters using the provided rating sheet. After the pretest, the researcher employed the guided demonstration method for one 1 week for all the topics discussed. The posttest was administered by having the students complete the same practical test and was rated by the same raters using the same rating sheets as the pretest. The researcher then stored the data in preparation for statistical analysis.

Data Analysis

After gathering the necessary data, the researcher utilized both descriptive statistics and inferential statistics. Descriptive statistics, such as frequency and percentage counts, were used to describe participants' cooking skills before and after the guided demonstration method was employed.

Meanwhile, inferential statistics, such as the t-test for dependent samples, were used to determine whether there is a significant difference in participants' cooking skills before and after the guided demonstration method was employed.

Ethical Considerations

Throughout this study, the researcher remained guided by specific ethical considerations. Approval was sought from the relevant individuals and offices. In addition, participants were assured that their identities and data would remain anonymous and private. Moreover, the integrity of the research process was maintained from start to end.

Results and Discussion

Level of Cooking Skills of the Grade 12 TVL-FCS Students Before Guided Demonstration Method

To measure participants' cooking skills, the teacher used rating scales before and after employing the guided demonstration method in teaching grade 12 TVL-FCS students.

Table 1. *Level of Cooking Skills of the Grade 12 TVL-FCS Students during Pretest*

Score	*Description*	*F*	*%*
41 to 50	Excellent	0	0%
31 to 40	Very Good	0	0%
21 to 30	Good	6	26%
11 to 20	Poor	13	57%
1 to 10	Very Poor	4	17%
	Total	23	100%
	Mean	19.57	
	Standard Deviation	6.56	

Table 1 shows that the majority of the participants (57%) scored between 11 and 20, which is described as "poor". The high percentage of 'poor' scores (57%) aligns with our observations of students struggling with accurate ingredient measurement. In addition, only a smaller number of students (26%) obtained "good" performance and scored between 21 and 30. Meanwhile, 17% of the students show an alarming "very poor" performance, scoring between 1 and 10. Moreover, no participants performed at the "very good" or "excellent" level, which further explained the need for an intervention. It is further supported by a mean score of 19.57, indicating that grade 12 students' overall performance was below average, with most demonstrating limited proficiency in cooking skills during the initial assessment. The 6.56 standard deviation indicates moderate variability in participants' scores, reflecting a gap in their cooking skills.

The abovementioned result implied that grade 12 cookery students have minimal cooking skills and lack sufficient confidence and accuracy in food preparation. In the pretest, it was observed that the students consistently used the wrong measuring tools and struggled to convert measurements accurately.

Moreover, the pretest results serve as baseline data on the grade 12 students' existing cooking skills before the implementation of the guided demonstration method. The large number of "poor" levels of cooking skills underscores the need to implement the guided demonstration method with grade 12 FCS students.

Level of Cooking Skills of the Grade 12 TVL-FCS Students After Guided Demonstration Method

The data below show the level of cooking skills of the grade 12 TVL-FCS students after the guided demonstration method was implemented. The posttest was administered through a similar practical assessment on the preparation of 'Cream of Mushroom Soup', using the same evaluation criteria and rating scales to ensure reliability and consistency of measurement.

Table 2. *Level of Cooking Skills of the Grade 12 TVL-FCS Students during Posttest*

Score	*Description*	*F*	*%*
41 to 50	Excellent	4	17%
31 to 40	Very Good	11	48%
21 to 30	Good	8	35%
11 to 20	Poor	0	0%
1 to 10	Very Poor	0	0%
	Total	23	100%
	Mean	35.87	
	Standard Deviation	7.33	

Participants' cooking performance improved during the posttest. As shown in Table 2, 48% of participants attained a "very good" level, while 17% achieved an "excellent" level. In addition, the remaining 35% of the participants have "good" performance, and no participant performed "poor" or "very poor". The mean score of 35.87 is clear evidence of their improvement, as the posttest results showed a mean score of only 19.57. Furthermore, the varied development of the participants' cooking skills was evidenced by the standard deviation of 7.33.

The significant improvement in the participants' cooking skills reflects the effectiveness of the guided demonstration method used with them. This means that students learn through the meticulous guidance of their cookery teacher. This result is consistent with the implications of previous studies. Maharani et al. (2025) found that implementing a hands-on cooking method effectively enhanced students' basic cooking skills, demonstrating that direct kitchen engagement strengthens mastery of essential cooking techniques. Similarly, Castillo (2022) reported that students who participated in both individual and group hands-on cookery activities achieved significantly better learning outcomes, confirming the strong link between experiential learning and skill development.

Significant Difference between the Cooking Skills of Grade 12 TVL-FCS Students before and after the Guided Demonstration Method

Table 3 presents the statistical results from a paired-samples t-test used to determine the significance of the difference between the pretest and posttest mean scores.

Table 3. *Difference Between Pretest and Posttest Mean Scores*

Tests	*Mean Difference*	*t-value*	*p-value*	*Effect Size*	*Interpretation*	*Decision*
Pretest vs. Posttest	-16.3	-6.74	< 0.001	.640	Significant	Reject the Null Hypothesis

Table 3 shows the mean difference of -16.3 between the participants' pretest and posttest means scores. It also reflects the computed t-value of -6.74 and a p-value of less than 0.001. As observed in this result, the null hypothesis was rejected since the p-value is below the 0.05 level of significance. This indicates that the observed improvement in cooking skills is unlikely to be due to chance. The effect size, Cohen's d = .640, indicates a moderate to significant effect, suggesting that the difference between the scores is not only statistically significant but also meaningful and practical. This finding revealed a significant difference between the participants' pretest and posttest cooking skills. This further implies that the improvement in participants' cooking skills is statistically significant and that the teacher's guided demonstration technique was highly effective in enhancing the cooking skills of grade 12 TVL-FCS students.

The result above aligns with the findings of Yoshida et al. (2022), who emphasized that when learners engage in deliberate, feedback-driven, hands-on training, they experience noticeable cognitive and psychomotor improvements, enabling more automatic, accurate, and confident task execution. In addition, Ami and Sholihah (2021) found that the guided inquiry model implemented through hands-on learning significantly strengthened students' psychomotor abilities, demonstrating that active, teacher-facilitated practice is crucial for mastering procedural skills. Furthermore, Widagdo et al. (2023) showed that applying a guided demonstration technique to processing tasks led to significant improvements in students' practical skills, indicating clearer procedural mastery and improved outcomes. Moreover, Adhikari (2024) found that employing the demonstration method across skill-based lessons resulted in stronger student engagement and better execution of subject-specific tasks, supporting the effectiveness of guided demonstration in practical performance.

Conclusions

The findings of this study demonstrate that guided demonstration is an effective method for enhancing the cooking skills of Grade 12 TVL-FCS students. This structured, hands-on approach, which includes timely feedback and authentic assessment, fosters significant skill development and bridges the gap between theoretical knowledge and practical application. By providing students with adequate learning environments and active guidance, educators can better prepare them for workforce readiness and contribute to the broader goals of TVL-FCS education.

Based on these results, the following recommendations are made: Cookery teachers should actively integrate experiential learning strategies, such as guided demonstration, into their cooking activities. This could involve providing step-by-step demonstrations, offering individualized feedback during practice, and assessing students' skills through practical performance tasks. School administrators should prioritize equipping cookery students and teachers with well-maintained cooking laboratories, adequate resources (e.g., updated equipment and quality ingredients), and relevant professional development to sustain high-quality TVL-FCS instruction. Future researchers should explore the lived experiences of cookery teachers and students as they utilize the guided demonstration method. This could involve investigating the challenges and successes they encounter, the strategies they develop to overcome obstacles, and the impact of the technique on their overall engagement and motivation.

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