IMPACT OF DEMONSTRATION METHOD ON THE COOKERY SKILLS OF GRADE NINE TLE LEARNERS AT SEÑOR SANTIAGO LEARNING CENTER

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Abstract

Skills-based learning in Technology and Livelihood Education requires instructional strategies that help learners transform theoretical knowledge into observable and standards-based performance. This study determined the impact of the demonstration method on the cookery skills of Grade Nine TLE learners at Señor Santiago Learning Center. Specifically, it assessed the learners' profile in terms of age, sex, previous exposure to cookery-related activities, and availability of cooking tools and equipment at home; determined their cookery skills before and after the use of the demonstration method; tested the significant difference between pretest and posttest performance; examined the relationship between learner profile and posttest cookery skills; identified challenges encountered during the intervention; and proposed an instructional enhancement plan based on the findings. The study employed a pre-experimental one-group pretest–posttest design with a descriptive component. The respondents were Grade Nine TLE learners selected through purposive sampling. A researcher-developed performance-based rubric was used to assess learners' cookery skills in the proper use of tools and equipment, food preparation techniques, safety and sanitation practices, accuracy in following cooking procedures, and the presentation of finished products. Findings revealed that before the intervention, learners were moderately skilled, with an overall pretest mean of 2.63. After implementing the demonstration method, their performance improved to proficient, with an overall posttest mean of 4.24. Safety and sanitation practices had the highest posttest mean of 4.46, while the presentation of the finished product had the lowest posttest mean of 3.98, although it was still described as skilled. The computed t-value of 17.56 and p-value of 0.000 indicated a statistically significant improvement in learners' cookery skills; thus, the null hypothesis was rejected. Age and sex were not significantly related to posttest performance, while previous exposure to cookery-related activities and availability of cooking tools and equipment at home were significantly related to learners' performance after the intervention. The study concluded that the demonstration method had a positive impact on Grade Nine learners' cookery skills. Based on the findings, an instructional enhancement plan in cookery was proposed to strengthen teacher modeling, guided practice, return demonstration, safety and sanitation drills, tool-handling activities, and product presentation skills.

Keywords: Demonstration Method, Cookery Skills, Grade Nine TLE Learners, Performance-Based Assessment, Technology And Livelihood Education, Señor Santdiago Learning Center

1. Introduction

Skills-based education has become an essential direction in basic education because learners are expected to develop competencies that go beyond memorizing concepts and answering written activities. In practical learning areas, students must be able to apply knowledge, perform tasks, follow standards, solve problems, and improve outputs through guided practice. This direction is consistent with the broader purpose of contemporary education, which emphasizes the development of knowledge, skills, attitudes, and values that learners can use in authentic life and work situations (OECD, 2019). The uploaded manuscript similarly explains that

skills-based education prepares learners for lifelong learning, employability, productive work, and active participation in community and workplace settings.

Technical and vocational education strengthens this orientation by connecting classroom learning with practical, livelihood-oriented, and employment-related competencies. TVET is intended to equip learners with skills for empowerment, productive employment, decent work, and participation in changing economic and social conditions (UNESCO, 2022). In the Philippine basic education system, Technology and Livelihood Education serves as a practical learning area that introduces learners to home economics, agriculture, industrial arts, and information and communications technology. DepEd identifies TLE and the Technical-Vocational-Livelihood track as integral parts of the K to 12 curriculum, with specializations offered to prepare learners for work, entrepreneurship, and further technical training (Department of Education, n.d.).

Cookery is one of the TLE specializations that provides learners with structured opportunities to develop technical, procedural, and performance-based skills. The DepEd Cookery NC II Curriculum Guide presents cookery as a course designed to develop learners' knowledge, skills, and attitudes in performing cookery tasks, including maintaining kitchen premises, preparing food products, packaging prepared foods, and demonstrating workplace behavior (Department of Education, 2016). The uploaded manuscript states that cookery instruction requires learners to handle tools and equipment correctly, prepare ingredients with precision, observe safety and sanitation practices, follow cooking procedures accurately, and present finished products in accordance with accepted standards.

For Grade Nine learners, cookery instruction is especially important because it marks the beginning of specialized technical-vocational preparation. At this stage, learners begin to connect classroom lessons with possible livelihood, employment, entrepreneurship, and future training opportunities. The TESDA Cookery NC II Training Regulations emphasize that candidates must demonstrate competence in the required units of competency before certification, which shows that cookery learning must be assessed through actual performance rather than simple recall of information (Technical Education and Skills Development Authority, 2014). This supports the need for instructional strategies that allow learners to observe correct procedures, practice skills, receive feedback, and improve their performance based on clear standards.

Food safety and sanitation also make cookery a high-responsibility learning area because learners' practices can affect health and consumer safety. The World Health Organization identifies the Five Keys to Safer Food as keeping clean, separating raw and cooked food, cooking thoroughly, keeping food at safe temperatures, and using safe water and raw materials (World Health Organization, 2006). These principles show that cookery performance should be evaluated not only through taste and appearance but also through hygienic preparation, safe handling, and responsible food service. The uploaded manuscript likewise emphasizes that safety and sanitation practices are essential indicators of cookery skills among Grade Nine TLE learners.

Despite the importance of cookery, learners may experience difficulty when instruction relies mainly on lectures, printed procedures, or verbal explanations. Some learners may know the names of kitchen tools but may not be confident in selecting, handling, cleaning, and storing them properly. Others may understand a recipe in written form but still struggle with measurement, sequencing, tool handling, heat control, sanitation, timing, and food presentation during actual performance. The uploaded manuscript identifies these concerns as part of the instructional problem because cookery requires observable competence in the proper use of tools and equipment, food preparation techniques, safety and sanitation practices, accuracy in following cooking procedures, and presentation of finished products.

The demonstration method offers an appropriate instructional response because it allows teachers to model the correct performance of a task before learners perform it independently. Demonstration-based instruction aligns with explicit instruction, which emphasizes clear explanation, modeling, guided practice, checking for understanding, and gradual movement toward independent practice (Australian Education Research Organization, 2022). The uploaded

manuscript explains that demonstration allows learners to observe step-by-step procedures, see how ingredients and tools are handled, understand how safety standards are applied, and perform return demonstrations with teacher feedback. This method is relevant in cookery because learners benefit from visual, auditory, and kinesthetic cues before attempting performance-based tasks.

The demonstration method is also consistent with the competency-based nature of TLE cookery. TESDA defines training regulations as documents that establish competency standards and serve as bases for curriculum development, instructional materials, assessment tools, and recognition of competence (Technical Education and Skills Development Authority, n.d.). This means that cookery instruction should provide learners with opportunities to demonstrate skills under conditions that reflect actual performance expectations. In this study, the demonstration method is expected to help learners improve their proper tool use, food preparation techniques, safety and sanitation, procedural accuracy, and the presentation of finished products.

Accordingly, this study determined the impact of the demonstration method on the cookery skills of Grade Nine TLE learners at Señor Santiago Learning Center. Specifically, it assessed learners' cookery skills before and after the demonstration method, tested for a significant difference between pretest and posttest performance, examined the relationship between learner profile and posttest performance, identified challenges encountered during the intervention, and proposed an instructional enhancement plan based on the findings. By generating school-based evidence, the study aimed to determine whether teacher modeling, guided practice, return demonstration, and immediate feedback can improve learners' performance in a practical and standards-based TLE cookery classroom.

2. Method

2.1 Research Design

The study employed a pre-experimental research design, specifically the one-group pretest–posttest design with a descriptive component, to determine the impact of the demonstration method on the cookery skills of Grade Nine TLE learners at Señor Santiago Learning Center (Navarro, n.d.). This design was appropriate because the study measured the same group of learners before and after exposure to the instructional intervention, allowing the researcher to determine whether learners' cookery skills improved after the use of teacher modeling, step-by-step explanation, guided practice, return demonstration, and immediate feedback (Campbell & Stanley, 1963; Shadish et al., 2002). The pretest served as a baseline measure of learners' initial cooking skills, while the posttest assessed their performance after implementing the demonstration method (Navarro, n.d.). The study was considered pre-experimental because it involved only one group of respondents and did not include a separate control or comparison group (Campbell & Stanley, 1963). This design is commonly used in classroom-based intervention studies where the main objective is to determine measurable improvement in learner performance after exposure to a specific teaching strategy (Creswell & Creswell, 2018). The descriptive component was also appropriate because the study described the learners' profiles, their levels of cooking skills before and after the intervention, and the challenges they encountered during the implementation of the demonstration method (Navarro, n.d.). Since cookery is a practical and performance-based subject, the design enabled the researcher to assess improvement through actual task performance rather than relying solely on written tests (DepEd, 2016; TESDA, 2014). Through this design, the study generated classroom-based evidence on whether demonstration-based instruction could improve learners' proper use of tools and equipment, food preparation techniques, safety and sanitation practices, accuracy in following cooking procedures, and presentation of finished products (Navarro, n.d.).

2.2 Participants

The study involved Grade Nine Technology and Livelihood Education learners at Señor Santiago Learning Center who were officially enrolled at the time of the study. They were selected because they were taking TLE and had been exposed to cookery-related competencies, making them the most appropriate respondents for assessing the impact of the demonstration method on cookery skills. The study used purposive sampling to select learners who met the criteria aligned with the research objectives, specifically those enrolled in Grade Nine TLE and participating in cookery lessons using the demonstration method. The respondents were composed of 40 Grade Nine learners, with 24 learners (60.00 percent) aged 15 years old, 8 learners (20.00 percent) aged 14 years old, 6 learners (15.00 percent) aged 16 years old, and 2 learners (5.00 percent) aged 17 years old and above. In terms of sex, 22 learners (55.00%) were female, while 18 learners (45.00%) were male. With respect to previous exposure to cookery-related activities, 26 learners or 65.00 percent had prior exposure, while 14 learners or 35.00 percent had no previous exposure. Regarding the availability of cooking tools and equipment at home, 28 learners (70.00%) reported that tools and equipment were available, while 12 learners (30.00%) reported that they were not. The inclusion criteria were limited to Grade Nine TLE learners who participated in demonstration-based cookery activities and completed both the pretest and posttest assessments, while learners from other grade levels, learning areas, or schools were excluded from the study. This participant selection was appropriate because the study aimed to measure actual cookery performance before and after the demonstration method in the same group of learners, thereby generating classroom-based evidence on whether teacher modeling, guided practice, return demonstration, and immediate feedback improved learners' practical cookery skills.

2.3 Instrumentation

The study used a researcher-developed performance-based rubric as the main instrument for measuring the cookery skills of Grade Nine TLE learners before and after the implementation of the demonstration method. The rubric was administered as both a pretest and a posttest, allowing the researcher to compare learners' actual cooking performance before and after exposure to teacher modeling, step-by-step demonstration, guided practice, a return demonstration, and immediate feedback. The rubric measured five cookery skill indicators: proper use of tools and equipment, food preparation techniques, safety and sanitation practices, accuracy in following cooking procedures, and presentation of finished product. Each indicator was rated using a five-point performance scale: 5 – Highly Skilled, 4 – Skilled, 3 – Moderately Skilled, 2 – Slightly Skilled, and 1 – Not Skilled. The pretest established the learners' baseline cookery skills before the intervention, while the posttest measured their performance after the demonstration method was implemented using the same rubric for consistency of comparison. In addition to the performance rubric, the study used a learner profile checklist to gather information on age, sex, previous exposure to cookery-related activities, and availability of cooking tools and equipment at home. A separate challenge-response checklist was also used to identify difficulties encountered by learners during the implementation of the demonstration method, including limited time for guided practice, difficulty during return demonstration, lack of confidence, limited prior cookery experience, difficulty using tools and equipment, limited materials, inconsistent safety and sanitation practices, difficulty preparing ingredients, problems with measurement and timing, and difficulty presenting the finished product properly. These instruments were appropriate because cookery is a performance-based TLE subject that requires learners to demonstrate actual skills rather than merely recall concepts. Collectively, the profile checklist, pretest-posttest performance rubric, and challenge-response checklist generated the data needed to determine learners' initial and final cookery skill levels, analyze improvement after the intervention, examine related learner profile variables, identify implementation challenges, and develop an instructional enhancement plan for TLE cookery.

2.4 Data Analysis

The data gathered from the profile checklist, performance-based rubric, and challenges checklist were organized, checked, scored, tabulated, and analyzed using descriptive and inferential statistical tools. Frequency counts and percentages were used to describe the profile of the Grade Nine TLE learners in terms of age, sex, previous exposure to cookery-related activities, and availability of cooking tools and equipment at home (Navarro, n.d.). Weighted mean and standard deviation were used to determine the learners' level of cookery skills before and after the implementation of the demonstration method in terms of proper use of tools and equipment, food preparation techniques, safety and sanitation practices, accuracy in following cooking procedures, and presentation of finished product (Navarro, n.d.). The weighted mean described the average level of performance for each cookery skill indicator, while the standard deviation showed the extent of variation or consistency in learners' performance scores (Navarro, n.d.). To determine whether a significant difference existed between the learners' pretest and posttest cookery skills performance, the paired-samples t-test was employed at the 0.05 level of significance (Navarro, n.d.; Campbell & Stanley, 1963; Shadish et al., 2002). This test was appropriate because the same group of learners was assessed before and after the demonstration method, allowing the researcher to determine whether the observed improvement in performance was statistically significant (Creswell & Creswell, 2018). To examine the significant relationship between learners' profile variables and their posttest cookery skills performance, correlational analyses were applied according to the type of variable involved (Navarro, n.d.). Pearson product-moment correlation was used for continuous or numerical variables, Spearman rho was used for ordinal or ranked variables, and the chi-square test of independence was used for categorical variables such as sex, previous exposure to cookery-related activities, and availability of cooking tools and equipment at home (Navarro, n.d.). To analyze the challenges encountered by learners when using the demonstration method, frequency counts, percentages, weighted means, and rankings were used to determine the extent and order of difficulties experienced during the intervention (Navarro, n.d.). The results of these analyses served as the empirical basis for determining the impact of the demonstration method and for developing the proposed instructional enhancement plan in cookery for Grade Nine TLE learners at Señor Santiago Learning Center (Navarro, n.d.).

3. Results

The profile of the Grade Nine TLE learners showed that most respondents were within the expected age range for their grade level. The majority of learners were 15 years old, representing 24 learners (60.00 percent of the respondents), while female learners slightly outnumbered male learners, with 22 female learners (55.00 percent) and 18 male learners (45.00 percent). In terms of previous exposure to cookery-related activities, 26 learners or 65.00 percent had prior exposure, while 14 learners or 35.00 percent had none. Moreover, 28 learners (70.00%) reported that cooking tools and equipment were available at home, while 12 learners (30.00%) reported that they were not. These findings indicate that many learners already had some background and home resources that could support their cookery performance, although some in the class still had limited experience and access to tools.

Before the demonstration method was used, the Grade Nine TLE learners had an overall weighted mean of 2.63, indicating Moderately Skilled. Among the cookery skill indicators, safety and sanitation practices had the highest mean of 2.85, while presentation of the finished product had the lowest mean of 2.36, indicating Slightly Skilled. This result suggests that the learners had basic familiarity with cookery tasks before the intervention, but they still needed structured modeling, guided practice, teacher feedback, and repeated performance opportunities to improve their skills in tool use, food preparation, procedural accuracy, sanitation, and product presentation.

After implementing the demonstration method, the learners' cookery skills improved to an overall weighted mean of 4.24, indicating Skilled. Safety and sanitation practices remained the highest indicator, with a mean of 4.46, while presentation of finished product remained the lowest indicator, with a mean of 3.98, although it was still described as Skilled. These findings show that teacher-led demonstration, step-by-step modeling, guided practice, return demonstration, and immediate feedback helped learners improve across all cookery skill indicators.

The test of significance confirmed that the demonstration method had a positive, statistically significant impact on learners' cookery skills. The overall pretest mean of 2.63 increased to an overall posttest mean of 4.24, with a mean difference of 1.61. The computed t-value of 17.56 and p-value of 0.000 indicated that the improvement was statistically significant at the 0.05 level; therefore, the null hypothesis was rejected. This result means that the use of the demonstration method significantly improved the cookery skills performance of Grade Nine TLE learners at Señor Santiago Learning Center.

The test of significant relationship showed that age and sex were not significantly related to learners' posttest cookery skills performance, while previous exposure to cookery-related activities and availability of cooking tools and equipment at home were significantly related to posttest performance. This means that learners' improvement was not dependent on age or sex, but learners with prior cookery experience and access to cooking tools and equipment were more likely to perform better after the intervention. The learners also encountered moderate challenges when using the demonstration method, with an overall weighted mean of 3.24; the most common challenges were insufficient time for guided practice and return demonstration, limited tools and equipment during cookery activities, and difficulty presenting the finished product properly. Based on these findings, the study proposed an Instructional Enhancement Plan to Improve the Cookery Skills of Grade Nine TLE Learners, focusing on tool use, food preparation, safety and sanitation, procedural accuracy, product presentation, guided practice, return demonstration, learner confidence, performance-based assessment, and instructional resource support.

4. Discussion

The study found that the demonstration method had a positive impact on the cookery skills of Grade Nine TLE learners at Señor Santiago Learning Center (Navarro, n.d.). Before the intervention, the learners obtained an overall pretest mean of 2.63, indicating Moderately Skilled, suggesting they had basic cookery skills but still required structured modeling, practice, and feedback to perform cookery tasks more competently (Navarro, n.d.). After implementing the demonstration method, the learners' overall posttest mean increased to 4.24, indicating Skilled performance, suggesting that teacher-led demonstration, guided practice, return demonstration, and immediate feedback contributed to improved performance in cookery (Navarro, n.d.).

The improvement in learners' cookery skills supports the nature of TLE as a performance-based learning area where students are expected to demonstrate practical competencies rather than merely recall information (Department of Education, 2016; Navarro, n.d.). The DepEd Cookery NC II Curriculum Guide emphasizes the development of learners' knowledge, skills, and attitudes in performing cookery tasks, which confirms the need for instruction that allows learners to observe, practice, and demonstrate actual procedures (Department of Education, 2016). The TESDA Cookery NC II Training Regulations also require competency standards to be demonstrated through actual performance, which strengthens the interpretation that demonstration-based instruction is appropriate for cookery learning (Technical Education and Skills Development Authority, 2014). These curricula and competency standards support the finding that learners improved when they were given clear models of proper tool use, food preparation techniques, safety and sanitation practices, accurate procedures, and finished-product presentation (Department of Education, 2016; TESDA, 2014; Navarro, n.d.).

The significant increase in performance from pretest to posttest further demonstrates that the demonstration method was effective in transforming learners' theoretical knowledge into

observable skills (Navarro, n.d.). The computed t-value of 17.56 and p-value of 0.000 indicated a statistically significant difference between the learners' pretest and posttest cookery skills performance, leading to the rejection of the null hypothesis (Navarro, n.d.). This result implies that the improvement was not merely incidental but was associated with the instructional intervention used in the study (Campbell & Stanley, 1963; Shadish et al., 2002; Navarro, n.d.). The finding is consistent with explicit instruction principles, which emphasize breaking down learning tasks into smaller steps, modeling each step, guiding practice, and gradually moving learners toward independent performance (Australian Education Research Organization, 2022; Rosenshine, 2012).

The demonstration method was particularly useful because cookery requires learners to process visual, auditory, and kinesthetic information during task performance (Australian Education Research Organization, 2022; Navarro, n.d.). When the teacher demonstrated the correct use of tools and equipment, learners observed not only the names and purposes of each tool but also its safe handling, proper use, and correct storage (Department of Education, 2016; Navarro, n.d.). When the teacher modeled food preparation techniques, learners could see the correct sequence, pacing, measurement, and handling of ingredients before performing the task themselves (TESDA, 2014; Navarro, n.d.). This supports the idea that demonstration is suitable for skills-based instruction because learners gain a clearer understanding when procedures are shown before they are independently practiced (Australian Education Research Organization, 2022; Rosenshine, 2012).

Among the posttest indicators, safety and sanitation practices had the highest mean of 4.46, suggesting that learners responded strongly to visible modeling of hygienic and safe food-preparation behaviors (Navarro, n.d.). This finding is important because food safety is a critical component of cookery, requiring learners to keep clean, separate raw and cooked food, cook thoroughly, keep food at safe temperatures, and use safe water and raw materials (World Health Organization, 2006). The result indicates that learners may understand safety and sanitation better when the teacher directly demonstrates handwashing, workspace sanitation, safe tool handling, waste management, and contamination prevention during actual cookery tasks (WHO, 2006; Navarro, n.d.). This finding also supports the TLE objective of developing not only technical competence but also responsible workplace behavior and occupational safety awareness (Department of Education, 2016; Department of Education, 2023).

Although all cookery skill indicators improved, the presentation of the finished product remained the lowest posttest indicator, with a mean of 3.98, which was still interpreted as Skilled (Navarro, n.d.). This result suggests that learners could already prepare food more competently after the intervention but still needed additional practice in plating, portioning, garnishing, neatness, arrangement, and overall product appeal (TESDA, 2014; Navarro, n.d.). Product presentation requires aesthetic judgment, consistency, and repeated performance, which may explain why learners needed more guided practice even after teacher demonstration (Department of Education, 2016; Navarro, n.d.). Therefore, future cookery instruction should include more focused demonstrations on plating techniques, quality standards, serving presentation, and peer or teacher feedback on finished outputs (TESDA, 2014; Navarro, n.d.).

The relationship analysis showed that age and sex were not significantly related to learners' posttest cookery skills performance, indicating that improvement after the demonstration method was not dependent on these demographic variables (Navarro, n.d.). However, previous exposure to cookery-related activities and availability of cooking tools and equipment at home were significantly related to posttest performance, suggesting that prior experience and access to resources helped learners perform better after the intervention (Navarro, n.d.). This finding is reasonable because skills development improves when learners have more opportunities to practice, repeat procedures, use tools, and connect classroom demonstrations with home-based experiences (OECD, 2019; UNESCO, 2022; Navarro, n.d.). The result implies that TLE teachers should provide additional guided practice and resource support for learners who have limited

cookery background or limited access to tools and equipment at home (Department of Education, 2016; Navarro, n.d.).

The learners also encountered moderate challenges during the demonstration method implementation, with an overall weighted mean of 3.24 (Navarro, n.d.). The most common challenges were insufficient time for guided practice and return demonstration, limited tools and equipment during cookery activities, and difficulty presenting the finished product properly (Navarro, n.d.). These challenges show that demonstration alone is not enough if learners are not given sufficient time, materials, and opportunities to practice and receive feedback (Australian Education Research Organization, 2022; Rosenshine, 2012; Navarro, n.d.). This finding implies that demonstration-based cookery instruction should be supported by proper scheduling, adequate instructional resources, smaller practice groups, structured rubrics, and continuous monitoring of learner performance (Department of Education, 2016; TESDA, 2014; Navarro, n.d.).

Overall, the findings justify the proposed Instructional Enhancement Plan to Improve the Cookery Skills of Grade Nine TLE Learners at Señor Santiago Learning Center (Navarro, n.d.). The plan should focus on strengthening tool and equipment handling, food preparation techniques, safety and sanitation practices, procedural accuracy, finished-product presentation, guided practice, return demonstration, learner confidence, performance-based assessment, and instructional resource support (Navarro, n.d.). The proposed plan aligns with TVET's goal of developing practical skills for empowerment, employability, lifelong learning, and productive participation in society (UNESCO, 2022). Therefore, the study supports the continued use of the demonstration method as a practical, learner-centered, and competency-based instructional strategy for improving cookery skills in Grade Nine TLE (Department of Education, 2016; TESDA, 2014; Navarro, n.d.).

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