EXPERIENTIAL LEARNING AND COMPETENCE DEVELOPMENT IN TVL–COOKERY

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ABSTRACT

Technical-Vocational-Livelihood (TVL) education in the Cookery area of specialization is certainly a good way for students to acquire the basic culinary and employability skills needed by the industry. However, many students have difficulty combining the theoretical part with the practical one. Guided by Kolb's Experiential Learning Theory, this study evaluated students' competence in cookery and their engagement across the four phases of experiential learning. A descriptive-quantitative research design was employed, involving TVL–Cookery strand students from selected national high schools in the CARCANMADLAN area (Carrascal, Cantilan, Madrid, and Lanuza, Surigao del Sur). A validated survey questionnaire assessed students' competence in three domains—food preparation, cooking execution, and presentation/sanitation—and their engagement in Kolb's learning stages: concrete experience, abstract conceptualization, reflective observation, and active experimentation. Weighted means with Likert scale descriptors were used for data analysis. Findings revealed that students demonstrated commendable competence in cookery, showing particular strength in food preparation, presentation, and sanitation. Cooking execution, while still rated positively, emerged as a relative area for improvement. Engagement across Kolb's cycle was consistently high, with the strongest involvement in concrete experience and reflective observation. Meanwhile, although positively rated, active experimentation and abstract conceptualization reflected lower engagement than the other stages. The results affirm the value of experiential learning in strengthening technical competence, reflective thinking, and collaborative practice among TVL–Cookery students. However, the comparatively lower engagement in active experimentation and abstract conceptualization highlights the need for pedagogical strategies that better integrate theory, structured reflection, and feedback-driven innovation. Strengthening these areas will ensure that TVL graduates are better prepared for industry demands and lifelong learning.

KEYWORDS: TVL–Cookery, experiential learning, Kolb's learning cycle, competence, vocational education

INTRODUCTION

Technical-Vocational-Livelihood (TVL) education, particularly in cookery, equips students with job-ready skills needed to thrive in the food industry. Beyond technical competence, TVL–Cookery aims to develop students' confidence, collaboration, and adaptability in real-world culinary contexts. However, many learners struggle to bridge theoretical concepts with practical application, raising questions about how instructional strategies can better support both skill acquisition and knowledge integration.

Grounded in Kolb's Experiential Learning Theory (1984), experiential learning provides a powerful framework for addressing these challenges. By engaging learners in a cyclical process of concrete experiences, reflective observation, abstract conceptualizations, and active experimentation, students are encouraged to practice tasks and reflect, analyze, and innovate. Yao (2023) notes that experiential methods, including hands-on experiments and simulations, effectively motivate student interest, enhance concept comprehension, and develop critical thinking abilities. Similarly, field-based urban geography courses show how experiential learning can incorporate students' existing knowledge and experiences to foster critical learning (Elwood, 2004)

In the context of TVL–Cookery, experiential learning is often expressed through hands-on food preparation, kitchen simulations, and collaborative cooking tasks, all of which strengthen proficiency and confidence. Technology integration faces similar challenges, with persistent gaps in understanding teacher readiness, ongoing professional development needs, and equitable access strategies, while research often examines isolated aspects rather than holistic impacts (Singh et al., 2025). Further, Dobrzinskiene et al. (2019) emphasized that experiential learning serves as a precondition for teacher professional competence development, providing rich opportunities for methodological and personal growth through informal learning processes.

In many National High schools, including those within the CARCANMADLAN area (Carrascal, Cantilan, Madrid, and Lanuza), access to industry-standard facilities, authentic kitchen environments, and structured internships remains limited. This constrains students' full engagement with Kolb's experiential cycle, particularly in abstract conceptualization and active experimentation. It leaves them well-prepared in procedural competence but underexposed to higher-order thinking and adaptive skills. Given these conditions, this study evaluates how experiential learning influences students' competence in food preparation, cooking execution, and presentation/sanitation, and their engagement across the stages of Kolb's learning cycle. By identifying areas of strength and points of improvement, the study aims to

contribute to a more structured, context-sensitive, and industry-aligned framework that enhances both the technical and cognitive dimensions of TVL–Cookery education.

METHODOLOGY
Research Design
This study employed a descriptive-quantitative design to evaluate students' competence in the TVL–Cookery strand and their level of engagement across the four stages of Kolb's Experiential Learning Cycle. The descriptive approach was deemed appropriate as it enabled the systematic assessment of students' self-reported skills, behaviors, and learning experiences without manipulating variables (Creswell & Creswell, 2018).

Respondents and Setting
The respondents were TVL–Cookery strand students enrolled in selected national high schools within the CARCANMADLAN area (Carrascal, Cantilan, Madrid, and Lanuza, Surigao del Sur). These schools were chosen because they represent secondary institutions offering the TVL–Cookery program under the K–12 curriculum. The participants were drawn from Grade 12 classes to ensure sufficient exposure to theoretical instruction and practical cookery training.

Research Instrument
Data were gathered using a structured survey questionnaire developed from existing literature on TVL education and experiential learning. The instrument was divided into two main sections: 1. Students' Competence in Cookery, measured across three domains: *Food Preparation, Cooking Execution, and Presentation/Sanitation*. 2. Engagement in Kolb's Experiential Learning Cycle, assessed through four dimensions: *Concrete Experience, Abstract Conceptualization, Reflective Observation, and Active Experimentation*. Each item was rated using a five-point Likert scale (1.00–1.79 = Strongly Disagree, 1.80–2.59 = Disagree, 2.60–3.39 = Neutral, 3.40–4.19 = Agree, 4.20–5.00 = Strongly Agree). The instrument was subjected to content validation by experts in technical-vocational education to ensure clarity, relevance, and alignment with the study's objectives.

Data Gathering Procedure
Permission to conduct the study was secured from school administrators prior to the distribution of the questionnaire. After obtaining consent, the survey was administered during regular class hours to ensure maximum participation. Respondents were oriented on the study's objectives and were assured of voluntary participation, confidentiality, and anonymity. Completed questionnaires were retrieved immediately after administration to minimize non-response.

Data Analysis

The collected data were tallied, tabulated, and statistically treated using descriptive statistics. Specifically, the weighted mean was computed to determine students' overall level of competence and engagement. Results were then interpreted based on the predefined verbal descriptors of the Likert scale. Findings were compared across domains and dimensions to identify areas of strength and those requiring pedagogical enhancement.

RESULTS AND DISCUSSION

Table 1.
Level of students' competence in TVL-Cookery

	Indicators	Weighted Mean	Verbal Description
Food Preparation	1. I understand cooking better when I personally perform food preparation tasks.	3.97	Agree
	2. I learn more effectively when the lesson involves hands-on cooking activities.	4.06	Agree
	3. I feel more confident and skilled when learning involves actual cooking practice.	4.24	Strongly Agree
	Average Weighted Mean	4.09	Agree
Cooking Execution	1 I can clearly explain cooking theories based on what I have done in the kitchen.	3.89	Agree
	2. I link new cooking lessons to what I have already experienced during practice.	3.69	Agree
	3 I apply my previous practical experiences to understand new lessons in cookery.	3.77	Agree
	Average Weighted Mean	3.78	Agree
Presentation and Sanitation	1. I present cooked food in a visually appealing and professional manner.	3.94	Agree
	2. I follow proper plating and portioning techniques in food service.	4.06	Agree
	3. I maintain a clean and organized workstation throughout the cooking process.	4.19	Agree
	4. I work effectively with my group or classmates during cookery activities.	4.23	Strongly Agree
	Average Weighted Mean	4.10	Agree

Legend: 1.00 – 1.79 SD   1.80 – 2.59 D 2.60 – 3.39 N 3.40 – 4.19 A 4.20 – 5.00 SA

Table 1 presents the level of students' competence in TVL-Cookery across three domains: **Food Preparation, Cooking Execution, and Presentation and Sanitation.** In **food preparation,** students demonstrated high competence with an overall mean of 4.09, which is interpreted as *agree*ment. The highest-rated indicator was *"I feel more confident and skilled when learning involves actual cooking practice"* (mean = 4.24, *Strongly Agree*), underscoring the central role of hands-on engagement in skill mastery. This finding resonates with Pamungkas et al. (2019), who emphasize that Kolb's experiential learning model, which constructs knowledge through direct experience, is particularly effective in vocational education because it emphasizes practical activities over theoretical instruction. This approach builds student confidence and self-efficacy through authentic practice-based learning experiences.

For **Cooking Execution,** the overall mean was 3.78 (*Agree*), reflecting moderate competence. While students agreed that they could articulate cooking theories based on their kitchen experiences (mean = 3.89), the relatively lower score for *"I link new cooking lessons to what I have already experienced during practice"* (mean = 3.69) suggests challenges in transferring knowledge across contexts. This aligns with Detkova & Rogojnicova (2024). Integration of pedagogical training technologies has emerged as a promising solution for secondary vocational education systems, offering potential to increase student motivation and improve educational quality.

In the domain of **Presentation and Sanitation**, students rated themselves highly with an overall mean of 4.10 (*Agree*). The highest-rated item, *"I work effectively with my group or classmates during cookery activities"* (mean = 4.23, *Strongly Agree*), reflects the significance of collaboration in culinary training. Such findings are consistent with the **socio-constructivist perspective,** which views learning as a socially mediated process that enhances both competence (Muniyappan & Sivakumar, 2018).

Overall, the results indicate that students in the TVL-Cookery strand exhibit commendable competence, particularly in practical food preparation and collaborative work. However, their relatively lower ability to integrate prior experiences with new lessons indicates a need for **reflective and scaffolded learning strategies**. Research supports the integration of experiential learning with guided reflection and structured activities in educational institutions. Experiential learning emerges as a valid pedagogical approach, particularly when teachers effectively combine practical experience with theory and learners assume shared responsibility for learning from experience (Rodrigues, 2023).

Table 2
The extent of students' engagement in each stage of
Kolb's Experiential Learning Cycle

	Indicators	Weighted mean	Verbal Description
Concrete Experience	1. I understand cooking better when I personally perform food preparation tasks.	4.08	Agree
	2. I learn more effectively when the lesson involves hands-on cooking activities.	4.07	Agree
	3 I feel more confident and skilled when learning involves actual cooking practice.	4.20	Strongly Agree
	Average Weighted Mean	4.12	Agree
Abstract Conceptualization	1. I can clearly explain cooking theories based on what I have done in the kitchen.	3.70	Agree
	2. I link new cooking lessons to what I have already experienced during practice.	3.90	Agree
	Average Weighted Mean	3.80	Agree
Reflective Observation	1. Reflecting on my past cooking experiences helps me identify how I can improve.	4.13	Agree
	2. I often think about what went well or went wrong after each cooking activity	3.90	Agree
	Average Weighted Mean	4.01	Agree
Active Experimentation	1. I experiment with new techniques in cooking based on what I previously learned.	3.92	Agree
	2. I apply instructor feedback to improve how I cook and present dishes	3.99	Agree
	3. I use my kitchen experiences to solve cooking problems in new tasks.	3.97	Agree
	Average Weighted Mean	3.96	Agree

Legend: 1.00 – 1.79 SD   1.80 – 2.59 D 2.60 – 3.39 N 3.40 – 4.19 A 4.20 – 5.00 SA

Table 2 presents the extent of students' engagement across the four stages of Kolb's Experiential Learning Cycle: Concrete Experience, Abstract Conceptualization, Reflective Observation, and Active Experimentation. Results reveal that students are meaningfully engaged in all stages, with average weighted means ranging from 3.80 to 4.12, all within the Agree category, and one item reaching the Strongly Agree level.

In the Concrete Experience phase, students demonstrated strong engagement with an average weighted mean of 4.12. The highest-rated item, "I feel more confident and skilled when learning involves actual cooking practice" (mean = 4.20, Strongly Agree), underscores the importance of direct, hands-on experience in vocational education. This finding reinforces Kolb's (1984) principle that authentic experiences serve as the foundation of meaningful learning, particularly in skill-intensive domains such as cookery. Research demonstrates that practical immersion experiences significantly enhance both competence and learner confidence across educational contexts. Immersion through integrated field experiences throughout training programs resulted in significantly higher supervisor ratings and greater self-assurance than traditional preparation sequences (Soares & Soares, 2002).

In the Abstract Conceptualization stage, the average weighted mean was 3.80 (Agree), indicating that students were able to draw theoretical insights from practice. The highest-rated item, "I link new cooking lessons to what I have already experienced during practice" (mean = 3.90), suggests that learners are beginning to integrate prior knowledge with new concepts. However, the relatively lower scores in this domain highlight challenges in consolidating experiential insights into theoretical frameworks. This gap aligns with the findings of Oviawe (2020), which state that structured reflection and guided instruction are crucial for strengthening conceptual understanding in technical-vocational education and training (TVET). Reflective teaching models enable educators to critically examine their instructional practices and consider alternative approaches that encourage joint knowledge construction between teachers and students.

For the Reflective Observation phase, students reported strong engagement with a mean of 4.01. The highest-rated indicator, "Reflecting on my past cooking experiences helps me identify how I can improve" (mean = 4.13), illustrates how students employ metacognitive strategies to refine their skills. Reflection, as emphasized in Kolb's cycle, is a crucial step for evaluating performance and planning improvements. This is consistent with Van Diggelen et al. (2009), who stressed that self-assessment shows promise as a professional development strategy, with research developing instruments focused on teachers' coaching competences for student reflection, emphasizing standards that promote favorable learning consequences while maintaining teaching style neutrality.

The Active Experimentation stage yielded an average weighted mean of 3.96 (Agree), showing that students frequently apply learning to new contexts. The item "I apply instructor feedback to improve how I cook and present dishes" (mean = 3.99) was rated highest, reflecting students' responsiveness to corrective input and their willingness to adapt. This finding underscores the iterative nature of skill acquisition, where learners test, revise, and improve performance through practice. Similar patterns were

reported that active learning strategies, including problem-based learning, simulations, and collaborative projects, effectively promote higher-order cognitive skills and practical application of knowledge in vocational settings (Qi et al., 2024).

The findings reveal that students are engaged in all phases of Kolb's Experiential Learning Cycle, with particularly strong involvement in concrete experience and reflective observations. These stages appear to be the most natural entry points for learning in technical-vocational contexts, as students thrive when directly engaged in cooking tasks and encouraged to reflect on outcomes. However, the comparatively lower scores in abstract conceptualization and active experimentations highlight areas for pedagogical enhancement. Research supports the integration of guided conceptualization, structured reflection, and feedback-driven experimentation in instructional design through Kolb's experiential cycle of learning. Svinicki & Dixon (1987) demonstrate that instructors should construct learning sequences leading students through all four phases of the cycle—concrete experience, reflective observation, abstract conceptualization, and active experimentation—to foster more complete learning than single-perspective approaches.

CONCLUSION

The findings of this study demonstrate that students in the TVL-Cookery strand possess a commendable level of competence, particularly in **food preparation, sanitation practices, and collaborative cooking tasks**, with consistent engagement across all stages of **Kolb's Experiential Learning Cycle.** High ratings in *concrete experience* and *reflective observation* confirm the value of **hands-on practice and reflective thinking** in strengthening culinary skills and learner confidence. These results support the centrality of **experiential and socio-constructivist learning theories** in technical-vocational education, where competence is best developed through authentic performance, critical self-evaluation, and group collaboration.

However, the comparatively lower ratings in *abstract conceptualization* and *active experimentation* suggest that while students can draw insights from experience, there is a need for **greater emphasis on theory integration, guided reflection, and feedback-driven innovation**. This implies that instructional strategies in TVL-Cookery should move beyond procedural competence to foster **higher-order thinking, problem-solving, and adaptive learning.**

In conclusion, the study affirms that experiential learning serves as a robust framework for advancing vocational competence in cookery. By designing **balanced pedagogical approaches** that strengthen both practice-based learning and conceptual understanding, educators can better prepare students for industry demands, lifelong learning, and professional growth in technical-vocational careers.

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