

Original Article

Culinary Arts Facilities & its Effect on Students' Academic Performance: Basis for Plant & Facilities Improvement Plan

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Abstract: This study aims to determine the impact of culinary arts facilities on students' academic performance and provide a basis for developing a comprehensive plan to improve the plant and facilities. The culinary arts education landscape is evolving rapidly, and the role of state-of-the-art facilities in enhancing students' learning experiences has gained significant attention. This research intends to bridge this gap by systematically investigating the potential influence of culinary arts facilities on students' academic achievements. By utilizing a correlation-quantitative data collection technique, the study was provided empirical evidence to establish a connection between the quality of facilities and the academic performance of students in culinary arts subject. Based on the findings, a comprehensive plant and facilities improvement plan is proposed. This plan outlines the necessary upgrades and enhancements to existing facilities and considering budget constraints. The proposed plan aims to create an enriched learning environment that fosters students' academic success, nurtures their passion for culinary arts, and prepares them for real-world challenges in the culinary industry. To improve academic performance in the Culinary Arts subject in terms of functionality and usability, several recommendations were proposed. By implementing these improvements, the learning environment will be optimized, leading to enhanced student performance and overall academic success.

Keywords: culinary arts, facilities, effect on students' academic performance, improvement plan

1. INTRODUCTION

Culinary arts education has evolved from being merely focused on cooking techniques to encompass a comprehensive and interdisciplinary approach, emphasizing not only the mastery of culinary skills but also the development of critical thinking, creativity, teamwork, and problem-solving abilities. As culinary arts programs continue to gain prominence in educational institutions, the role of facilities in shaping students' learning experiences becomes increasingly significant [1]. The lack of proper laboratory resources can significantly hinder the effective teaching and learning of practical subjects like Culinary Arts within the TLE curriculum [2]. Culinary Arts involves hands-on skills development, where students need access to well-equipped kitchens, tools, ingredients, and cooking equipment. Inadequate resources can lead to several challenges. This study aims to fill the existing research gap in understanding how culinary arts facilities impact students' academic performance. By focusing on this specialized area of education, the study aims to contribute valuable knowledge that can inform the development of a strategic Plant and Facilities Improvement Plan, ensuring that culinary arts education continues to evolve in tandem with the needs of both students and the industry. Culinary Arts is a vital component of the Technology and Livelihood Education (TLE) program, focusing on preparing students for careers in the food service industry [3]. This subject goes beyond just teaching students how to

cook; it provides a comprehensive understanding of cooking techniques, food safety, presentation, and kitchen management. Culinary arts facilities within educational environments provide a vital function by furnishing students with essential resources and equipment to augment their culinary aptitude and understanding. The proper facilities signal institutional commitment to excellence in Culinary Arts education and prepare students for career success [4]. As Arida recommends, vocational education requires optimized physical learning environments paired with effective teaching strategies. Optimizing learning facilities and environments is critical in career and technical education to equip students with job-ready skills. According to using visualization techniques can enhance students' application of conceptual knowledge into practical psychomotor abilities. Similarly, culinary arts facilities designed to simulate real professional kitchens can provide an authentic learning experience for students to develop cooking skills. Creating immersive, professional-grade culinary facilities can provide authentic contexts for students to hone cooking techniques, mirroring real commercial kitchens. However, such facilities must be paired with student-centered, engaging teaching approaches to fully optimize learning. The physical environment plays a significant role in educational settings, including culinary arts education. The quality of the learning environment can have a profound impact on students' performance and overall academic outcomes. Stated that the Culinary Arts facilities that are intentionally constructed to promote an immersive and interactive learning environment have the potential to enhance student interest, attendance, and academic achievement. The optimization of the environment for the development of practical skills can be achieved through the provision of state-of-the-art studios, commercial equipment, and high-quality ingredients. The findings of this study indicate that interventions with a culinary focus possess the capacity to enhance student engagement; however, it is crucial to ensure the availability of adequate resources and effective implementation strategies. This suggests the physical learning environment impacts engagement and academic behaviors. For technical fields like culinary arts, creating positive, professional-grade studios is key for student success. As Kitambazi and discussed, inadequate school facilities failed to attract and retain students in academics. Similarly, outdated culinary labs could inhibit student participation and learning. Providing state-of-the-art culinary studios signals institutional commitment to excellence in education, motivating engagement. Fifolt and Morgan focused on exploring the effects of hands-on teaching in a culinary arts laboratory setting. The researchers aimed to understand whether the active engagement of students in practical, experiential learning could enhance their motivation, participation, and overall growth. The findings of the study indicated that customized, experiential learning spaces, such as culinary arts laboratories, have the potential to make academic learning more engaging, captivating, and relevant to students' educational experiences. This, in turn, could lead to improvements in student performance. Modern kitchens enable technique refinement by simulating genuine restaurant environments. The ideal hands-on environment supports competency development in conjunction with solid courses. Active learning pedagogies combined with ideal facilities, enhance the standard and effectiveness of culinary instruction. Giving students access to top-notch cooking labs equips them with information and abilities for the workplace. The necessity of maximizing in-person culinary arts facilities and experiences is underscored by the findings of, which indicate that students' involvement and satisfaction with online culinary labs during the COVID-19 pandemic. The findings of the study indicated that online laboratories served as a valuable tool for acquiring skills during periods of campus closures. However, students expressed a significant inclination towards enhanced peer engagement and practical experiences, thereby highlighting the constraints associated with exclusive reliance on virtual teaching methods. At Saint Francis of Assisi College, they implemented three modalities for the School Year 22-23 to provide flexibility and accommodate different learning situations. These modalities are: Online Modality Hybrid Blended Modality (Second Quarter), and Face-to-Face Modality. During the first quarter of the school year, students was engaging in online learning. In this mode, students were completed performance tasks and coursework at home using digital tools and online platforms. This

approach allows students to learn from the comfort of their homes and promotes safety during times when face-to-face interactions may be limited or restricted. In the second quarter, the school adopts a blended learning approach. This means that students will experience a mix of online and face-to-face learning. Some parts of the curriculum may be delivered online, while other aspects may involve attending physical classes or activities on campus. This blend of modalities aims to combine the benefits of online flexibility with the advantages of in-person interactions. In the third quarter of the academic year, the school shifts to a traditional face-to-face learning modality. Students were attending classes physically on campus, allowing for direct interaction with teachers and peers. This mode offers the most immersive learning experience and can facilitate better social engagement among students specially in conducting performance task in TLE - Culinary Arts subject. The pandemic's aftermath revealed numerous challenges in TLE Culinary Arts facilities, with a particular focus on the lack of maintenance and availability of essential tools and equipment in the laboratory. These challenges stem from several factors that have disrupted the normal functioning of culinary arts. Some of the students during the practical task encountered difficulties and frustrations due to the inadequacies in the culinary arts facilities. The lack of maintenance and availability of essential tools and equipment in the laboratory has been a significant hindrance to the students' learning and practical experiences. One of the primary factors contributing to these challenges is the financial strain that many educational institutions, including culinary arts facilities, have faced as a result of the pandemic. Budget cuts, reduced funding, and reallocated resources have often led to neglect in maintaining the facilities and updating equipment. The pandemic forced many institutions to divert their resources towards implementing remote learning solutions, leaving physical facilities with less attention and funding. Culinary Arts facilities under TLE subject must follow the training regulations set by TESDA for each specific course or program. These regulations outline the curriculum, competency standards, and other essential guidelines for the training programs. Culinary Arts under TLE facilities must have adequate infrastructure, tools, and equipment to support the training needs of the students. This ensures that learners have hands-on experience and exposure to the actual tools and technologies used in their chosen trade. TESDA requires TLE facilities to maintain a safe and secure learning environment for the students. Also, TESDA encourages Culinary Arts facilities to engage in continuous improvement by updating their curriculum and facilities to keep pace with technological advancements and changing industry demands. This research aims to investigate the impact of culinary arts facilities on students' academic performance and identify the gaps in plant and facilities that may hinder optimal learning outcomes. The availability, functionality, usability of culinary arts facilities plays a crucial role in shaping students' practical skills and theoretical understanding in this field. By analyzing the relationship between facility conditions and academic performance, this research intends to provide valuable insights for improvement plans in culinary arts education. The findings of this study serve as a basis for developing a plant and facilities improvement plan. This enhanced and developed the relevant knowledge and skills as part of the overall academic performance of students at various levels or situations to achieve the school's vision, mission, goals, and objectives and become globally competitive individuals. This study anchored on Kolb's Experiential Learning Theory & Learning Style by Kurt, which was based on Kolb's four stages of learning (Concrete Experience, Reflective Observation, Abstract Conceptualization, and Active Experimentation). The researcher used this theory because well-equipped culinary arts facilities promote experiential learning among students. Learning through doing is the process of experiential learning. Thus, this theory emphasized the significance that laboratories and equipment play crucial role in the learning processes of the students in TLE subjects. In the form of laboratories and equipment, schools provided students with the "real-life" experiences they need to understand the world around them. The field of Culinary Arts falls under the Technology and Livelihood Education (TLE). Practical cooking sessions offer students studying culinary arts a comprehensive and experiential approach to learning. Through hands-on tasks that are quantifiable, students gain

knowledge that empowers them for various aspects of their lives. Participation in practical cooking naturally encourages teamwork among students. The effects of students immersing themselves in active learning through cooking are diverse. Students exhibit a greater understanding of sustainable living, a readiness to explore with ingredients, improved self-assurance, the capacity to absorb and remember relevant information, and a heightened eagerness for further learning. A study by Limon demonstrated the long-term efficacy of hands-on food safety training for junior high students in the Philippines. Even two years after the lessons, participants showed significant retention of food safety knowledge and skills. The research highlights the benefits of active, experiential learning approaches in culinary education. With proper facilities, students can repeatedly practice and apply skills to support durable competency. Limon's findings indicate integrating topical curriculum materials like safety principles empowers student learning. According to Eren and Aydin, Culinary arts facilities are of utmost importance in facilitating students' acquisition of practical skills and experiential learning opportunities. These facilities comprise fully equipped kitchens, cutting-edge equipment, and resources that facilitate the development of culinary students' culinary techniques and knowledge. With the provided culinary arts laboratory, students can perform learning activities or demonstrate competencies. When learners utilize various cooking tools and equipment, they can achieve mastery of the skills in this area of specialization. According to Kolb's experiential learning theory, students learn best when action or application of knowledge is incorporated into the learning process. If schools could provide "hands-on" activities that replicated the actual world, students' skills would be considerably improved. In order to maximize students' abilities, instructors must provide opportunities for concrete experiences, reflective observation, abstract conceptualization, and active experimentation. Therefore, instructors must provide opportunities for continuous practice. Concrete Experience. The first step in Kolb's learning process cycle is a tangible experience. This can be a brand-new experience or a redesign of an experience that has already occurred. Each student performs a task or activity during experiential learning. Kolb thought that engagement is the key to learning. It is not sufficient for students to simply read about it or observe it in action. To obtain new information, students must actively participate in the activity. Reflective Observation. After engaging in the practical experience, the student reflects on the task. This stage of the learning cycle allows the learner to ask questions and engage in group discussions on the experience. Communication is crucial at this stage because it allows the learner to discover any gaps between their understanding and the actual experience. In addition to allowing for a solid review of the events that transpired, a rich vocabulary also facilitates this. Abstract Conceptualization. The student strives to conclude the experience by reflecting on existing knowledge, employing known concepts, or discussing potential theories with others. The learner transitions from reflective observation to abstract conceptualization when he or she begins to classify concepts and draw conclusions about past events. This requires interpreting the experience and comparing it to the learner's present grasp of the idea. Concepts do not need to be "fresh"; learners can assess new information and adjust their findings based on previously established concepts. Active Experimentation. This stage of the cycle involves testing. Learners participate in a task again, this time with the objective of applying their conclusions to new situations. They can create predictions, analyze problems, and prepare for the future using their learned knowledge. By allowing students to apply their knowledge and demonstrating its relevance to their life, you ensure that the material be remembered in the future. Although the stages operate together to form a learning process, some components may be preferred by particular individuals. Although one may rely largely on tangible and introspective experiences, one may opt to devote less attention to the abstract and active stages.

2. MATERIALS AND METHODS

It describes a comprehensive roadmap of the research methodology, offering readers a deep understanding of the systematic processes employed to address the research questions. By

meticulously detailing the research design, research instrument, population sampling, data gathering procedure, research instrument, and statistical treatment of the data, the credibility and validity of the findings were established, bolstering the overall impact and significance of this study. This study was using a quantitative type of research that used the correlational study since the researcher measures two variables and assesses the statistical relationship. Marling (2018) defined correlation survey method as a study that involves collecting data from a sample of participants and determining the degree to which two or more variables are related. Furthermore, the correlation survey method is a research technique used to examine the relationship between two or more variables. It involves collecting data from a sample of participants and determining the degree to which the variables are related. The correlation coefficient, such as Pearson's correlation coefficient (r), is commonly used to measure the strength and direction of the relationship between variables. The purpose of this study was to determine the Culinary Arts facilities and its effect on students' academic performance in the selected campuses of Saint Francis of Assisi College (SFAC). The respondents of the study was 239 students from the big campuses of SFAC namely: Bacoor Campus at 96 Bayanan, Bacoor City, 4100; Las Piñas Campus at 045 Admiral Village, Talon 3, Las Piñas City; and, Taguig Campus at Holy Family Village, Bagumbayan, Taguig, 1630. The researcher collected data from 100% of the total population. The respondents were comprised of students from Grade 9 to 10. The researcher was prepared a survey questionnaire which was utilized to determine the effect of Culinary Arts facilities on students' academic performance. The questionnaire included various statements regarding the Culinary Arts facilities and their effects on the student's academic performance. The survey instrument was consisting of both hard and soft copies and was validated and unbiased. All statements in the questionnaire evaluated based on how the Culinary Arts facilities affect the students' academic performance. The researcher was adapting the thesis questionnaire uploaded by Miaka Urgino "Evaluation of HRM Facilities and Equipment of St. Anne College Lucena Inc. Academic Year." Moreover, researcher was modified the survey questionnaire by adding two categories of questions and dividing it into four parts.

3. RESULTS AND DISCUSSION

The purpose of this study is to determine the Culinary Arts Facilities and Its Effect on Academic Performance of Students at the Las Piñas, Bacoor, and Taguig Campuses in order to develop a plan for plant and facilities improvement. This study sought answers to the following specific questions what is the assessment of the respondents on their Culinary Arts Facilities specifically on.

Table 01: Assessment of the Respondents on Culinary Arts Tools and Equipment in terms of Availability

Tools and Equipment Availability	Frequency	Percentage
Highly Available	8	8 %
Moderately Available	34	34 %
Available	52	52 %
Not Available	6	6 %
	100	100

Based on the data provided in Table 01, it appears that 239 students were surveyed regarding their assessment of the availability of tools and equipment in the Culinary Arts. The results indicate the frequency and percentage distribution of the students' responses. The following are the implication of results The fact that 52% of the respondents assessed the availability of tools and equipment in the culinary arts as "Available" suggests that a significant portion of the students perceive the school's

culinary facilities to be adequate and functional. This is a positive sign, as it indicates that a majority of students are content with the resources available to them for their culinary education. The 34% of students who rated the availability as "Moderately Available" implies that a considerable number of respondents hold an even more positive view of the tools and equipment. This suggests that SFAC might have invested in maintaining and upgrading its culinary resources, creating a conducive learning environment for aspiring culinary professionals. While the majority of responses are positive, it's worth noting that 8% of students still rated the availability of tools and equipment as "Highly Available." This indicates that there might be areas where SFAC can further enhance its culinary facilities to cater to the needs of the students who have higher expectations or more specific requirements. The data shows that only 6% of students rated the availability of tools and equipment as "Not Available." While this is a relatively low percentage, it still implies that there are some students who are dissatisfied with the culinary resources offered by SFAC. The school should pay attention to the feedback of these students and identify areas that need improvement to address their concerns. Overall, the results suggest that SFAC has generally provided a positive learning environment for culinary arts students, with the majority of respondents expressing satisfaction with the tools and equipment available. However, there is still room for improvement, and the school should use this data to identify specific areas where enhancements can be made to better meet the needs of their students. It is anchor on the study of Christensen and Stuart (2019); the presence of quality spaces alone is inadequate for facilitating comprehensive learning. The research suggests that a combination of advanced culinary facilities, interactive teaching techniques, and customized curriculum is most effective in facilitating meaningful technical education. This indicates the utilization of comprehensive approaches to improve facilities, curriculum, and teaching methods in order to get the best possible outcomes for students.

Table 02: Assessment of the Respondents on the Culinary Arts Facilities and Equipment in terms of Functionality

Criteria	Mean	Interpretation
1. Management of drainage and grease traps.	3.10	Very Functional
2. Ventilation of facilities and utilities.	3.10	Very Functional
3. Kitchen lighting.	3.26	Very Functional
4. Exhaust fans/hood.	3.00	Very Functional
5. Fire Distinguisher	3.28	Very Functional
6. Sink and Drainage	3.30	Very Functional
7. Heavy-duty gas range.	3.13	Very Functional
8. High Pressure burners /4 open top burners.	3.09	Very Functional
9. Television for Demonstration of Task	2.66	Very Functional
10. Refrigerators and Freezer	3.00	Very Functional
11. Preparatory Tools	3.29	Very Functional
12. Preparatory Equipment	3.29	Very Functional
Overall Mean	3.12	Very Functional

Legend: 3.25 – 4.00 (Highly Functional), 2.50 – 3.24 (Very Functional), 1.75 – 2.54 (Functional), 1.00 – 1.74 (Not Functional) Based on the assessment results of the culinary arts facilities and equipment, it appears that Saint Francis of Assisi College has generally well-equipped and functional facilities for its culinary arts program. The overall mean rating of 3.12 indicates that, on average, the respondents found the facilities to be "Very Functional." The specific criteria that received the highest mean ratings are as follows, Criteria no. 6: "Sink and Drainage" - This item garnered the highest mean rating of 3.29, indicating that the students were satisfied with the functionality of the sinks and drainage in the culinary

arts facilities. This suggests that the college provides proper and efficient water facilities for the students' use, which is crucial in any culinary setting. Criteria no. "Preparatory Tools" and Criteria no. 12: "Preparatory Equipment" - Both items were ranked second with a mean rating of 3.29, indicating that the students found the tools and equipment used for food preparation to be in good working condition and sufficient for their needs. Criteria no. 5: "Fire Extinguisher" - With a mean rating of 3.28, this item ranked third, suggesting that the college has provided appropriate safety measures by placing functional fire extinguishers in the culinary arts facilities. However, there is also an interesting finding to note. Criteria no. "Television for Demonstration of Task" - Despite still being rated as "Very Functional," this item received the lowest mean rating of 2.66 and settled at the last rank (Rank This indicates that while the functionality of the television for demonstrating tasks is considered acceptable, there might be room for improvement in terms of the quality or availability of the equipment for instructional purposes. Overall, the positive assessment of the culinary arts facilities and equipment suggests that Saint Francis of Assisi College prioritizes the provision of functional and well-maintained resources for its culinary program. However, the lower rating for the television for demonstration could be an area for consideration and improvement, as it plays a role in enhancing the learning experience and understanding of culinary techniques. As a result, the school can use this feedback to make informed decisions about maintaining and upgrading their existing facilities. By addressing any shortcomings and consistently providing high-quality equipment and facilities, the school can continue to attract students interested in culinary arts and ensure a positive learning environment for their education and skill development. According to Hansen, Drake, and Vollmer (2019), examined high school students' views on cooking education and found that culinary classes and facilities help create lasting abilities. Students liked cooking classes because they built confidence and cultural understanding, demonstrating the benefits of quality culinary instruction. The study also found that practical cooking spaces without an interesting curriculum are insufficient. Students wanted to master flexible techniques and explore global cuisines, underlining the need of having state-of-the-art facilities and robust and diversified content for holistic culinary study. According to the study, hands-on classes in optimum locations help students develop.

Table 03: Assessment of the Respondents on the Culinary Arts Facilities and Equipment in terms of Usability

Criteria	Mean	Interpretation
1. Adequate space for students' working area.	3.08	Very Useful
2. Rules and regulation signages inside the Culinary Laboratory.	3.31	Very Useful
3. Working table per group of 5 to 7 students.	3.18	Very Useful
4. Separate locker space for students.	2.73	Very Useful
5. Basic utensils and equipment for each group of students working in the laboratory.	3.28	Very Useful
6. Trash can for segregation of waste.	3.24	Very Useful
7. Two-compartment sink (preferably stainless steel).	3.25	Very Useful
8. Cabinets and drawers for tools.	3.23	Very Useful
9. Cabinets and drawers for equipment.	3.26	Very Useful
10. Dinnerware and service for at least 30 people.	3.04	Very Useful
11. Complete set of dinnerware, utensils, glassware and service ware for 40 people for sit-down service or buffet set-up.	3.01	Very Useful
12. Tablecloths and linens for sit-down service or buffet set-up.	2.89	Very Useful

13. Desk and Counters.	3.21	Very Useful
14. Storage Area for Tools and Equipment.	3.25	Very Useful
Overall Mean	3.14	Very Useful

Legend: 3.25 – 4.00 (Highly Useful), 2.50 – 3.24 (Very Useful), 1.75 – 2.54 (Useful), 1.00 – 1.74 (Not Useful)

Exhibited in table 3 is the assessment of the respondents on the usability of culinary arts facilities and equipment. Based on the provided information, the respondents' assessment of the usability of culinary arts facilities and equipment at Saint Francis of Assisi College can be summarized as follows. Criteria No. 2: "Rules and regulation signage's inside the Culinary Laboratory" has a mean rating of 3.31, with an interpretation of "Very Useful." Criteria No. 5: "Basic utensils and equipment for each group of students working in the laboratory" has a mean rating of 3.28, also falling under the interpretation of "Very Useful." Criteria No. 4: "Separate locker space for students" is ranked 14th and has a mean rating of 2.73, which is still interpreted as "Very Useful." The overall mean assessment of all criteria combined is 3.14, which is also interpreted as "Very Useful." Based on these results, it can be inferred that the respondents generally find the culinary arts facilities and equipment at Saint Francis of Assisi College to be highly useful and effective. The aspects that received the highest ratings were the presence of rules and regulation signages inside the Culinary Laboratory and the provision of basic utensils and equipment for each group of students. These positive ratings indicate that the students appreciate having clear guidelines and well-equipped facilities, which likely contribute to a conducive learning environment in the culinary arts subject. The slightly lower ranking for the criterion related to separate locker space may not necessarily indicate dissatisfaction. A mean rating of 2.73, still interpreted as "Very Useful," suggests that while students may appreciate separate locker space, it might not be as critical to their overall experience as the other criteria. It's worth noting that different criteria may hold varying degrees of importance to different individuals, leading to variations in their assessments. In terms of implications for Saint Francis of Assisi College, the positive feedback on the culinary arts facilities and equipment is a good sign. It indicates that the school is investing in and providing valuable resources for its culinary arts students, which can contribute to the enhancement of their learning experiences and skill development. Maintaining and continuously improving the well-equipped and organized culinary laboratory, as well as considering feedback on other aspects such as locker space, can further enhance student satisfaction and overall program effectiveness. Regular assessments of facilities and equipment can help identify areas for improvement and ensure that the college continues to meet the needs and expectations of its culinary arts students. Culinary arts facilities within educational environments provide a vital function by furnishing students with essential resources and equipment to augment their culinary aptitude and understanding. These facilities frequently encompass cutting-edge kitchens, tools, and materials that facilitate students' active participation in experiential learning opportunities. Numerous studies have demonstrated that the presence of adequately equipped culinary arts facilities has a significant impact on students' academic achievements and their overall educational journey.

Table 04: Academic Mean Performance of the students in their Culinary Arts Subjects

Criteria	F	Percentage
95 – 100	73	30.54
91 – 95	131	54.82
86 – 90	25	10.46
81 – 85	10	4.18
TOTAL	239	100.00

Based on the data presented in Table 04, it appears that the students in the culinary arts class at Saint Francis of Assisi College performed quite well academically. The majority of students, accounting for 54.82% of respondents, received grades between 91 and 95. Additionally, 30.54% of students scored between 95 and 100, and 10.46% fell within the 86-90% grade range. The low response rate for the categories between 81 and 85 (4.18%) with only 10 respondents suggests that very few students received grades in that range. This indicates that the majority of students tended to perform at higher levels than this range. The implication of these results in the context of Saint Francis of Assisi College suggests several positive aspects:

Discussion

Teaching competencies are an important factor that can affect students' academic performance and learning outcomes. Specifically in technical and vocational education subjects like Technology and Livelihood Education (TLE), the competencies of teachers play a key role as they need specialized skills and knowledge to effectively teach these subjects. The study utilized a survey questionnaire and statistical tests like frequency count, ranking, and chi-square analysis. It found that most TLE teachers were young to middle-aged females with a master's degree. However, many lacked national certification, seminars, and recent training. The teachers had varying competencies across the TLE topics, with no significant relationship between competencies and teacher profiles except for position title in agriculture. Improving teacher competencies in TLE can lead to better student academic performance and learning outcomes. Remediation and intervention programs can play an important role in improving student academic performance in technical and vocational education subjects. A recent experimental study by Asia and Jimenez examined the effectiveness of remediation activities on Grade 5 students' academic performance in Technology and Livelihood Education (TLE). The study utilized an experimental pretest-posttest design with two schools, one assigned as the experimental group receiving the remediation intervention and the other as the control group following typical teaching methods. The sample included 100 Grade 5 students total with 50 pupils in each school. Pretest scores showed poor academic performance in TLE for both groups. The results highlight the benefits of targeted remediation activities like extra practice, individualized instruction, and skills reinforcement to enhance student academic achievement in TLE. Implementing effective remediation programs can address skill gaps and deficient areas, leading to improved student performance and learning outcomes. The development of engaging, developmentally appropriate instructional materials is critical for effectively teaching technical and vocational skills to young learners. A recent study by Arcadio focused on designing simplified modular instruction tailored to Grade 7 students in Technology and Livelihood Education (TLE). The research involved creating modular, flexible materials aligned with Grade 7 cognitive abilities, curriculum standards, and diverse learning needs. The content selections, visuals, hands-on activities, and assessments were designed to be age-appropriate, interactive, and formative. Providing adequate instructional support and professional development opportunities are key factors impacting vocational teachers' competencies and effectiveness. A recent correlational study by Dioquino and Abellana examined the relationship between instructional support, professional

development, and competencies of 205 TLE teachers in Northern Mindanao. The study found limited provision of instructional materials by schools but high implementation of instructional methods like planning, assessment, and curriculum development strategies by teachers. Developing students' lifelong learning skills is an important goal of technical and vocational education programs like Technology and Livelihood Education (TLE). A recent descriptive study by Mayuga assessed the lifelong learning skills manifested by junior high school students across three TLE areas - Beauty Care, Cookery, and Information and Communication Technology. The specific skills examined were critical thinking, creativity, collaboration, communication, computer literacy, career development, and self-directed learning. Using questionnaires, interviews, and focus groups with teachers and school heads, the study found students demonstrated moderate competencies in the set of lifelong learning skills. Culture and cuisine are intricately connected, with food often representing an important component of regional and ethnic identity. A recent study by Przymuszała and Świtała-Trybek explored the cultural and linguistic significance of culinary traditions in the Silesia region. The research highlighted how Silesian cuisine constitutes a vital marker of cultural identity and a symbol of identification for the Silesian ethnic group. The lexicon of Silesian culinary terms, dishes, and recipes reflects this integral role of food within the broader cultural system. By documenting both extant and forgotten culinary vocabulary, the study aimed to archive the cultural-linguistic heritage encapsulated in Silesian food and cuisine. Teachers are at the core of delivering quality technical and vocational education, but often face myriad challenges that impact their instructional effectiveness.

4. CONCLUSION

The majority of respondents assessed the Culinary Arts Facilities in terms of the availability of tools and equipment in the culinary arts as "good," while they evaluated the functionality and usability of the culinary arts facilities and equipment as "very functional" and "very useful," indicating that the majority of students are able to overcome the difficulties associated with inadequately equipped facilities. Therefore, they have acquired sufficient experience and have been exposed to a variety of conditions and working environments, allowing them to adapt easily. The majority of students (54.82%) received a grade between 91 and 95, which is more than half of the respondents. The categories between 81 and 85 have the lowest response rate, with a mean of 4.18% and a total of only 10 respondents. Therefore, the grades of the respondents were above average. Based on the research findings, there is no significant relationship between the availability of culinary arts facilities and the assessment of the respondents' academic performance. However, there is a significant relationship between the functionality and usability of these facilities and the assessment of academic performance. This means that while the availability of culinary arts facilities does not directly impact academic performance, the functionality and usability of these facilities do have a notable influence. In other words, having access to well-equipped and user-friendly culinary arts facilities is more likely to positively affect the academic performance of the respondents. Therefore, the null hypothesis is accepted in terms of availability while rejected in terms of functionality and usability. To improve academic performance in the Culinary Arts subject in terms of functionality and usability, it is recommended upgrade culinary arts tools and equipment, provide proper ventilation and exhaust systems, provide adequate workstations, focus on ergonomic design, enforce safety measures, expanding and organizing storage area, proper lighting, proper functional layout, integrate technology into the culinary labs, and regular maintenance procedure. By implementing these improvements, the learning environment will be optimized, leading to enhanced student performance and overall academic success.

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