

The Influence of Bread and Pastry Curriculum Strand on Students' Employability

Florence C. De Lugar ¹

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Abstract

This study examined the impact of the Bread and Pastry Production strand under the Technology and Livelihood Education (TLE) curriculum, along with its associated practical training, on the employability of senior high school students. Specifically, it aimed to determine how curriculum content, hands-on training, skill development, and work-related competencies influence students' readiness for employment. Guided by Human Capital Theory, Experiential Learning Theory, Competency-Based Training Theory, and Social Cognitive Career Theory, the study utilized a quantitative research design employing a descriptive-correlational approach. Data were collected through a structured questionnaire administered to 150 senior high school students enrolled in the Bread and Pastry Production strand. Statistical tools such as frequency and percentage distribution, weighted mean, and correlational analysis were used to analyze the data. The findings revealed that the Bread and Pastry TLE curriculum and its practical training components significantly contributed to the development of students' technical skills, work attitudes, and employability competencies. Moreover, a significant positive relationship was found between the quality of practical training and students' perceived employability. The study concluded that strengthening hands-on learning experiences and aligning curriculum content with industry standards enhance students' readiness for employment. Based on the findings, it is recommended that continuous curriculum improvement, enhanced teacher training, and stronger school-industry partnerships be implemented to further improve the employability outcomes of students in Bread and Pastry Production.

Keywords: *Bread and Pastry Production, TLE, Employability, Practical Training*

1. Introduction

Background and Rationale

Education plays a significant role in preparing learners for employment, entrepreneurship, and lifelong productivity. In recent years, nations have increasingly focused on aligning educational curricula with labor market demands to ensure that students acquire not only academic knowledge but also practical skills needed in the workplace. Technical and Vocational Education and Training (TVET) has gained recognition as an important approach to addressing skills gaps and improving youth employability, particularly in fields that require industry-based competencies.

In the Philippines, the implementation of the K to 12 Basic Education Curriculum introduced the Technical-Vocational-Livelihood (TVL) track, which aims to develop students' technical competencies and readiness for employment or entrepreneurship. One of the specializations under this track is Bread and Pastry Production, which focuses on developing learners' skills in baking, food preparation, kitchen safety, food costing, and entrepreneurial practices. This strand is designed to provide students with practical and competency-based training that prepares them for work in bakeries, hotels, restaurants, catering services, and food-related businesses.

The Bread and Pastry Production curriculum is aligned with the standards of the Technical Education and Skills Development Authority (TESDA), allowing students to prepare for the National Certificate II (NC II) in Bread and Pastry Production. This certification serves as proof of students' technical competence and may enhance their employability both locally and internationally. Aside from technical skills, the curriculum also emphasizes soft skills such as communication, teamwork, time management, adaptability, problem-solving, professionalism, and customer service, which are necessary in the food and hospitality industry.

Despite the promising framework of the Bread and Pastry Production curriculum, it remains important to assess whether the curriculum effectively contributes to students' employability. Factors such as curriculum content, practical training, availability of facilities and equipment, student participation, and industry exposure may influence students' readiness for work or entrepreneurship. Therefore, this study examines the influence of the Bread and Pastry Production strand under the Technology and Livelihood Education curriculum on students' employability.

Review of Related Literature

Bread and Pastry Production is an important component of the Technical-Vocational-Livelihood track under the Technology and Livelihood Education curriculum. It integrates theoretical knowledge and practical skills to prepare students for employment and entrepreneurship in the food industry. Students are exposed to baking procedures, food preparation, preservation, laboratory activities, simulation exercises, and school-based production. These learning experiences support experiential and competency-based learning, which are essential in vocational education (Mesuwini et al., 2023).



The Technology and Livelihood Education curriculum is designed to equip learners with practical competencies necessary for employment, entrepreneurship, and further technical education. Under the K to 12 Basic Education Program, the curriculum emphasizes skills-based learning aligned with labor market demands (Hubalovska & Major, 2023). Its alignment with industry standards helps ensure that students acquire relevant competencies that may be applied in actual work settings (Wang et al., 2023).

Practical training is a fundamental part of vocational education because it bridges the gap between classroom learning and actual industry practice. In Bread and Pastry Production, hands-on training allows students to apply theoretical knowledge in baking, food safety, kitchen management, and product preparation (Makole et al., 2023). Work immersion further enhances this training by exposing students to real workplace environments where they can develop technical competencies, discipline, confidence, and professional behavior (Li & Seeberg, 2022).

The availability of facilities and equipment also affects the quality of vocational training. Adequate tools, modern kitchen facilities, and industry-standard equipment allow students to practice skills under conditions similar to actual workplaces. UNESCO (2022) emphasized that functional facilities and equipment improve learning outcomes in vocational education. However, inadequate equipment and limited resources may hinder skill development and affect students' readiness for certification and employment (Bolaños et al., 2024).

TESDA certification is another important factor related to employability. The National Certificate II in Bread and Pastry Production validates students' competencies and provides evidence of their readiness for employment. Industry-recognized certification gives students a competitive advantage because many employers prefer applicants with verified technical skills (Hojeij & Al Marzouqi, 2023). In addition, entrepreneurial education within Bread and Pastry Production helps students develop the ability to start small food-related businesses. This is significant because graduates may pursue self-employment through home-based baking, cafés, or small bakery enterprises (Razak et al., 2022).

Employability refers to the ability of graduates to secure and sustain employment. It includes technical competence, job readiness, soft skills, adaptability, and access to career opportunities. Kilag et al. (2023) emphasized that employability involves both technical and interpersonal competencies. Likewise, López et al. (2023) noted that vocational programs improve employability when education is aligned with industry needs and supported by practical training and certification opportunities. However, issues such as skills mismatch, limited work immersion, and inadequate soft skills training remain challenges in vocational education (Bano et al., 2022).

The present study is anchored on Human Capital Theory, Experiential Learning Theory, Competency-Based Training Theory, Social Cognitive Career Theory, and Constructivist Learning Theory. Human Capital Theory explains that education, training, and skill development increase a person's productivity and employability (Becker, 1964). Experiential Learning Theory emphasizes that learning occurs through direct experience, reflection, and active application of skills (Kolb, 1984). Competency-Based Training Theory highlights the importance of mastering industry-required skills and performance standards. Social Cognitive Career Theory explains that



self-efficacy, learning experiences, and outcome expectations influence career readiness and employment goals (Lent, Brown, & Hackett, 1994). Constructivist Learning Theory further supports the idea that students construct knowledge through hands-on experiences, collaboration, and guided practice.

Statement of the Problem

The study examined the influence of Bread and Pastry Production as part of the Technology and Livelihood Education curriculum, along with its accompanying practical training, on the employability of senior high school students.

Specifically, the study answered the following questions:

1. What is the demographic profile of the respondents in terms of:
 - 1.1 Age;
 - 1.2 Gender; and
 - 1.3 Grade level?
2. What is the extent of influence of the Bread and Pastry TLE curriculum in terms of:
 - 2.1 Curriculum Content;
 - 2.2 Practical Training; and
 - 2.3 Availability of Facilities and Equipment?
3. What is the employability level of the Bread and Pastry Production Curriculum as perceived by the student respondents in terms of:
 - 3.1 Job readiness;
 - 3.2 Acquisition of TESDA NC II Certificate;
 - 3.3 Entrepreneurial Skills; and
 - 3.4 Access to Career Opportunities in the Food Industry?
4. Is there a significant difference in the extent of influence of the Bread and Pastry TLE curriculum when grouped according to the demographic profile?



5. Is there a significant difference in the employability level of the Bread and Pastry Production Curriculum as perceived by the student respondents when grouped according to the demographic profile?
6. Is there a significant relationship between the extent of influence of the Bread and Pastry TLE curriculum and the employability level of the Bread and Pastry Production Curriculum as perceived by the student respondents?
7. Based from the results of the study, what action plan may be proposed?

Objectives of the Study

This study aimed to determine the influence of Bread and Pastry Production as part of the Technology and Livelihood Education curriculum on the employability of senior high school students.

Specifically, it aimed to determine the demographic profile of the respondents in terms of age, gender, and grade level; assess the extent of influence of the Bread and Pastry TLE curriculum in terms of curriculum content, practical training, and availability of facilities and equipment; determine the employability level of the Bread and Pastry Production curriculum as perceived by student respondents in terms of job readiness, acquisition of TESDA NC II certificate, entrepreneurial skills, and access to career opportunities in the food industry; determine whether there is a significant difference in the extent of influence of the curriculum when grouped according to demographic profile; determine whether there is a significant difference in the employability level of students when grouped according to demographic profile; determine whether there is a significant relationship between the extent of influence of the curriculum and students' employability level; and propose an action plan based on the results of the study.

Research Hypotheses

The following null hypotheses were tested in the study:

1. There was no significant difference in the extent of influence of the Bread and Pastry TLE curriculum when grouped according to the demographic profile.
2. There was no significant difference in the employability level of the Bread and Pastry Production Curriculum as perceived by the student respondents when grouped according to the demographic profile.
3. There was no significant relationship between the extent of influence of the Bread and Pastry TLE curriculum and the employability level of the Bread and Pastry Production Curriculum as perceived by student respondents.

2. Materials and Methods

Research Design

This study employed a **quantitative descriptive-correlational research design** to examine the influence of the Bread and Pastry Production Curriculum Strand on students' employability. The descriptive component was used to determine the extent of influence of the curriculum and the perceived employability level of the respondents, while the correlational component was utilized to determine the relationship between curriculum implementation and employability outcomes.

Participants

The participants of the study consisted of **150 Senior High School students** enrolled in the Bread and Pastry Production specialization under the Technical-Vocational-Livelihood (TVL) Track in selected public secondary schools in Santa Rosa, Laguna. The respondents included **96 Grade 11 students (66%)** and **54 Grade 12 students (34%)**. A **purposive sampling technique** was employed to select students who were currently enrolled in or had completed the Bread and Pastry Production course and had undergone both theoretical and practical training relevant to the study.

Instruments

Data was collected using a researcher-developed questionnaire that was validated by experts in Technology and Livelihood Education (TLE) and educational research. The instrument consisted of three major sections:

1. Respondents' Profile – age, gender, and grade level;
2. Extent of Influence of the Bread and Pastry Production Curriculum – curriculum content, practical training, and availability of facilities and equipment; and
3. Perceived Employability Level – job readiness, acquisition of TESDA NC II certification, entrepreneurial skills, and access to career opportunities.

A four-point Likert scale was used to measure respondents' perceptions, with responses ranging from 1 (No Influence at All) to 4 (Highly Influenced). The questionnaire underwent expert validation and pilot testing to ensure clarity, validity, and reliability.

Procedure

Prior to data collection, the researcher secured permission from school administrators and relevant educational authorities. Informed consent was obtained from all participants, and parental consent was secured when necessary.

The validated questionnaires were distributed to qualified respondents during scheduled class periods. Participants were informed about the purpose of the study and provided instructions for completing the survey. Completed questionnaires were collected, checked for completeness, and

encoded for statistical analysis. All information gathered was treated with strict confidentiality and used solely for research purposes.

Data Analysis

The collected data were analyzed using the Statistical Package for the Social Sciences (SPSS).

The following statistical tools were utilized:

- Frequency Counts and Percentages – to describe the demographic profile of the respondents;
- Weighted Mean and Standard Deviation – to determine the extent of influence of the Bread and Pastry Production curriculum and the perceived employability level;
- Independent Samples t-Test – to determine significant differences in respondents' perceptions when grouped according to age, gender, and grade level; and
- Pearson Product-Moment Correlation Coefficient (Pearson r) – to determine the significant relationship between the influence of the Bread and Pastry Production curriculum and students' employability.

All hypotheses were tested at the **0.05 level of significance**.

3. Results

3.1 Demographic Profile of Respondents

Table 1

Demographic Profile of Respondents (N = 150)

| Variable | Category | Frequency | Percentage (%) |
|-------------|-------------|-----------|----------------|
| Age | 18–21 years | 116 | 79 |
| | 22–25 years | 34 | 21 |
| Gender | Male | 66 | 42 |
| | Female | 84 | 58 |
| Grade Level | Grade 11 | 96 | 66 |
| | Grade 12 | 54 | 34 |

Interpretation:

Table 1 shows that most respondents were aged 18–21 years, with 116 students or 79% of the total sample. This indicates that the majority of the participants were within the typical senior high school age range. In terms of gender, female respondents were greater in number, with 84 students or 58%, compared with 66 male students or 42%. For grade level, Grade 11 students composed the majority, with 96 respondents or 66%, while Grade 12 students accounted for 54

respondents or 34%. Overall, the respondents were mostly younger students, female, and enrolled in Grade 11.

3.2 Extent of Influence of the Bread and Pastry Curriculum

Table 2

Extent of Influence of the Bread and Pastry Curriculum

| Dimension | Mean | SD | Interpretation |
|--------------------------|------|------|-------------------|
| Curriculum Content | 3.53 | 0.63 | Highly Influenced |
| Practical Training | 3.57 | 0.62 | Highly Influenced |
| Facilities and Equipment | 3.53 | 0.67 | Highly Influenced |

Interpretation:

Table 2 shows that all dimensions of the Bread and Pastry Production curriculum were rated as **Highly Influenced**. Practical Training obtained the highest mean score of 3.57, indicating that hands-on activities and actual skill practice had the strongest influence on students' learning and employability preparation. Curriculum Content and Facilities and Equipment both obtained a mean of 3.53, showing that students also perceived the lessons, competencies, tools, and training facilities as highly influential in developing their skills. These findings suggest that the curriculum effectively supports both theoretical and practical preparation for work in the bread and pastry industry.

3.3 Perceived Employability Level

Table 3

Perceived Employability Level

| Dimension | Mean | SD | Interpretation |
|--------------------------------|------|------|----------------|
| Job Readiness | 3.55 | 0.63 | Strongly Agree |
| TESDA NC II Certification | 3.59 | 0.62 | Strongly Agree |
| Entrepreneurial Skills | 3.60 | 0.62 | Strongly Agree |
| Access to Career Opportunities | 3.61 | 0.61 | Strongly Agree |

Interpretation:

Table 3 reveals that all employability dimensions were rated as **Strongly Agree**. The highest mean was obtained by Access to Career Opportunities, with a mean of 3.61, suggesting that students strongly perceived the curriculum as helpful in connecting them to possible employment and industry-related opportunities. Entrepreneurial Skills followed with a mean of 3.60, indicating that the curriculum also supports students' ability to start or manage small food-related businesses. TESDA NC II Certification obtained a mean of 3.59, showing that students recognized the importance of certification in improving employability. Job Readiness obtained a

mean of 3.55, which still indicates a strong perception that the curriculum prepares students for work. Overall, the results show that the Bread and Pastry curriculum contributes positively to students' employability.

3.4 Differences in Curriculum Influence Across Age Groups

Table 4

Differences in Curriculum Influence by Age

| Variable | t-value | p-value | Decision |
|--------------------------|---------|---------|-----------------|
| Curriculum Content | 1.377 | .171 | Not Significant |
| Practical Training | -2.561 | .012 | Significant |
| Facilities and Equipment | 1.525 | .132 | Not Significant |

Interpretation:

Table 4 shows that there was no significant difference in the respondents' perceptions of Curriculum Content and Facilities and Equipment when grouped according to age, since their p-values were greater than 0.05. This means that both age groups had similar perceptions of these two areas. However, Practical Training showed a significant difference, with a p-value of .012, which is below the 0.05 level of significance. This indicates that age affected how students perceived the influence of practical training. The effect size for practical training was approximately Cohen's $d = 0.41$, which indicates a moderate effect. This suggests that older respondents may have viewed practical training as more influential in developing employability skills.

3.5 Differences in Curriculum Influence Across Gender

Table 5

Differences in Curriculum Influence by Gender

| Variable | t-value | p-value | Decision |
|--------------------------|---------|---------|-----------------|
| Curriculum Content | -0.672 | .503 | Not Significant |
| Practical Training | -0.785 | .434 | Not Significant |
| Facilities and Equipment | 0.031 | .975 | Not Significant |

Interpretation:

Table 5 shows that there were no significant differences in the perceptions of male and female respondents regarding Curriculum Content, Practical Training, and Facilities and Equipment. All p-values were greater than 0.05, which means that gender did not significantly affect how respondents assessed the influence of the Bread and Pastry curriculum. This implies that both male and female students perceived the curriculum similarly and had equal recognition of its contribution to their skill development and employability preparation.

3.6 Summary of Findings

The results show that the Bread and Pastry Production curriculum was perceived as highly influential in developing students' competencies, particularly through practical training. Students also strongly agreed that the curriculum enhanced their employability in terms of job readiness, TESDA NC II certification, entrepreneurial skills, and access to career opportunities. Among the employability indicators, access to career opportunities received the highest rating. Inferential results showed that age had a significant effect on perceptions of practical training, while gender did not significantly affect perceptions of curriculum influence. Overall, the findings support the conclusion that the Bread and Pastry Production curriculum contributes positively to students' employability.

4. Discussion

Interpretation of Findings

The findings revealed that the Bread and Pastry Production curriculum significantly influences students' employability. Among the curriculum dimensions, practical training received the highest rating, indicating that students perceive hands-on experiences as the most valuable component of their learning. This finding supports the concept that vocational education becomes more effective when learners are actively engaged in practical activities that simulate real workplace conditions. The high ratings obtained by curriculum content and the availability of facilities and equipment further suggest that the program provides adequate theoretical knowledge and resources necessary for skill development.

Similarly, the respondents reported a high level of employability, particularly in terms of access to career opportunities, entrepreneurial skills, TESDA NC II certification, and job readiness. These findings indicate that students believe the Bread and Pastry Production curriculum equips them with the competencies needed for employment and entrepreneurship in the food industry. The positive perception of TESDA NC II certification highlights the importance of competency-based assessment in validating students' skills and increasing their confidence in seeking employment.

The inferential analysis revealed a significant difference in perceptions of practical training across age groups. Older students perceived practical training as more influential than younger students, suggesting that maturity and greater exposure to workplace experiences may affect how learners appreciate practical learning opportunities. However, no significant differences were found across gender, indicating that male and female students equally benefit from the curriculum and training experiences provided.

Comparison to Existing Studies

The findings are consistent with the study of Makole et al. (2023), which emphasized that practical training serves as a bridge between theoretical learning and workplace application. Their study found that students who engage in extensive hands-on activities develop stronger



technical competencies and workplace confidence. Likewise, Li and Seeberg (2022) reported that work immersion programs enhance students' understanding of industry expectations and improve their readiness for employment.

The high rating obtained by facilities and equipment supports the findings of UNESCO (2022), which emphasized that access to modern and functional training facilities enhances learning outcomes and allows students to practice skills under conditions similar to actual workplaces. Similarly, Bolaños et al. (2024) noted that adequate training resources contribute significantly to students' competency development and certification success.

The positive perception of TESDA NC II certification aligns with the findings of Hojeij and Al Marzouqi (2023), who reported that industry-recognized certifications increase graduates' competitiveness in the labor market. Certification serves as evidence of technical competence and provides employers with assurance that applicants possess the required industry standards.

The strong rating for entrepreneurial skills also supports the findings of Razak et al. (2022), who observed that many Bread and Pastry Production graduates pursue self-employment opportunities through home-based baking businesses and small food enterprises. Entrepreneurship education allows learners to view vocational skills not only as a pathway to employment but also as a means of creating economic opportunities.

Furthermore, the findings support Human Capital Theory (Becker, 1964), which argues that education and training increase an individual's productivity and employability. The results also support Experiential Learning Theory (Kolb, 1984), which explains that knowledge is strengthened through direct experience and reflective practice. Additionally, Social Cognitive Career Theory (Lent, Brown, & Hackett, 1994) suggests that positive learning experiences enhance self-efficacy and career confidence, which may explain the respondents' high ratings in job readiness and employability.

Implications for Practice and Policy

The findings suggest that schools offering Bread and Pastry Production should continue strengthening practical training activities, as these were identified as the most influential component of the curriculum. Administrators should invest in industry-standard facilities, baking equipment, and laboratory resources to ensure that students acquire skills aligned with current industry demands.

Teachers should incorporate more experiential and competency-based learning activities that allow students to apply theoretical concepts in realistic settings. Continuous professional development programs may also be provided to instructors to ensure that teaching practices remain aligned with industry standards and emerging trends in the baking and pastry sector.

Educational policymakers and curriculum planners may use the findings as a basis for enhancing the Technology and Livelihood Education (TLE) curriculum. Strengthening partnerships with bakeries, restaurants, hotels, and food service establishments can provide students with



additional work immersion opportunities and increase their exposure to actual workplace environments. Furthermore, policies that support TESDA certification programs may improve graduates' employability and competitiveness in the labor market.

Study Limitations

Several limitations should be considered when interpreting the findings of this study. First, the study focused only on senior high school students enrolled in selected schools offering Bread and Pastry Production, limiting the generalizability of the results to other institutions or geographical areas. Second, the study relied on self-reported perceptions of employability rather than actual employment outcomes, which may introduce response bias.

Third, external factors that may influence employability, such as labor market conditions, family support, economic status, and individual motivation, were not included in the analysis. Finally, the study utilized a descriptive-correlational design, which identifies relationships among variables but does not establish causality. Future researchers may conduct longitudinal or experimental studies to further investigate the long-term effects of vocational education and practical training on actual employment outcomes.

5. Conclusion

Conclusion

This study examined the influence of the Bread and Pastry Production Curriculum Strand on students' employability. The findings revealed that the curriculum significantly contributes to the development of students' technical competencies, practical skills, entrepreneurial capabilities, and overall readiness for employment. Among the curriculum dimensions, practical training emerged as the most influential factor, emphasizing the importance of hands-on learning experiences in preparing students for real workplace environments. The respondents perceived the curriculum content, practical training, and availability of facilities and equipment as highly influential in enhancing their knowledge, skills, and competencies. Likewise, students strongly agreed that the curriculum positively affects their employability, particularly in terms of access to career opportunities, entrepreneurial skills, TESDA NC II certification, and job readiness.

The study further revealed that age significantly influenced students' perceptions of practical training, while gender did not significantly affect their assessment of the curriculum. These findings suggest that the Bread and Pastry Production curriculum provides equitable learning opportunities regardless of gender and effectively supports the development of workforce-ready graduates. The results also support Human Capital Theory (Becker, 1964), which emphasizes the role of education and training in improving employability; Experiential Learning Theory (Kolb, 1984), which highlights the value of hands-on experiences in skill development; and Social Cognitive Career Theory (Lent, Brown, & Hackett, 1994), which explains how learning experiences and self-efficacy contribute to career readiness. Overall, the findings indicate that the Bread and Pastry Production curriculum serves as an effective pathway for preparing students for employment and entrepreneurship in the food and hospitality industry.



Recommendations

Based on the findings of the study, it is recommended that schools continue strengthening practical training programs by providing more opportunities for hands-on learning, laboratory activities, and work immersion experiences. Since practical training was identified as the most influential component of the curriculum, enhancing these experiences can further improve students' technical competencies and job readiness. Educational institutions should also invest in modern and industry-standard facilities and equipment to ensure that students receive training aligned with current industry practices and standards.

Furthermore, school administrators and policymakers should strengthen partnerships with bakeries, restaurants, hotels, and other food service establishments to expand opportunities for work immersion, internships, and possible employment placement. Schools should likewise encourage students to obtain TESDA NC II certification, as it enhances employability and serves as proof of technical competence recognized by employers. Entrepreneurship education should also be further integrated into the curriculum through business simulations, financial literacy programs, and product development activities that prepare students for self-employment and business ownership.

Teachers should be provided with continuous professional development opportunities to ensure that their instructional strategies remain relevant and responsive to industry trends. Finally, future researchers are encouraged to conduct longitudinal studies that examine the actual employment outcomes of Bread and Pastry Production graduates. Additional studies may also explore other factors affecting employability, such as socioeconomic background, labor market conditions, employer perceptions, and the effectiveness of work immersion programs. Expanding the scope of future research to include other Technical-Vocational-Livelihood specializations and different geographical locations may provide a broader understanding of the relationship between vocational education and employability.

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