

Cake Decoration Training as a Model for Strengthening Basic Cake Decoration Skills and an Introduction to Culinary Vocational Education for Vocational High School Students

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Abstract. *This community service program was designed to strengthen basic cake decorating skills and to promote vocational culinary education among senior high school and vocational high school students through a practice-based cake decoration workshop. Conducted by the Culinary Arts Study Program as part of an Open Campus initiative, the program sought to provide participants with an initial experience of applied learning that characterizes vocational education. The activity was implemented through preparation, instructional sessions, demonstration, hands-on practice, mentoring, and evaluation. Evaluation data were drawn from 63 participant responses collected after the activity. The findings revealed that 100% of participants considered the program beneficial and were satisfied with the overall activity, 90.5% felt more capable of decorating cakes after the training, 93.7% reported increased interest in the culinary field, and 98.4% expressed interest in joining advanced training. These findings indicate that practice-based cake decoration training is effective in providing early learning experiences, strengthening basic decorating skills, and introducing the applied nature of vocational culinary education to school students. Therefore, cake decoration training can serve as a relevant community service model for integrating basic skill development with the educational promotion of vocational culinary education.*

Keywords: *Cake Decoration, Hands-On Training, Skill Development, Vocational Culinary Education, Community Service*

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INTRODUCTION

Community service in vocational higher education should not stop at conveying information, but rather be directed at the transfer of applicable knowledge and skills, in keeping with the character of applied education. Normatively, Law Number 12 of 2012 emphasizes that higher education implements education, research, and community service as a unified whole, while vocational education is positioned as higher education that prepares students for jobs with specific applied skills (Republic of Indonesia, 2012). Within this framework, Community Service Program (PKM) activities in the Culinary Arts Study Program are ideally designed as applied learning spaces that allow participants to gain hands-on experience with basic culinary competencies.

Conceptually, vocational education and training are oriented toward acquiring the knowledge, skills, values, and competencies required for specific jobs and the broader labor market (UNESCO-UNEVOC, n.d.). UNESCO's TVET transformation direction for 2022–2029 also positions skills development as a crucial instrument for empowerment, productive employment, and preparedness for economic and social change. This means that introducing vocational education to secondary school students will be more effective if it is conducted through activities that demonstrate how basic skills are developed, practiced, and evaluated, rather than simply through verbal promotion of study programs.

From a pedagogical perspective, the approach most aligned with the character of vocational education is experiential learning (Clark et al., 2010). UNESCO-UNEVOC explains that experiential learning, or learning by doing, places participants' actions and experiences as the starting point of learning, while theoretical explanations are provided minimally to strengthen understanding through practical experiences. This concept is important because it demonstrates that skills are not simply transmitted through lectures but need to be developed through direct participant involvement in real-life activities. In the context of PKM, this approach is particularly relevant for high school/vocational school students because it can accelerate initial understanding, increase engagement, and build positive perceptions of the field of expertise being introduced.

In the culinary field, the importance of practical learning has also been emphasized by previous research. Ko (2012) showed that effective learning is positively related to professional competence and learning performance in the culinary field. This finding confirms that the quality of the learning experience not only influences participants' understanding but also contributes to the development of more concrete competencies. These findings are reinforced by Koerich et al. (2024) showed that the learning experience in culinary classes is largely determined by factors that support or hinder direct practice, making hands-on learning a core component of the gastronomy learning process. Therefore, training activities that provide space for direct practice are more likely to produce meaningful learning experiences than approaches that are merely informative.

In terms of the target audience, high school (SMA/SMK) students are a strategic group to be introduced to vocational education and basic culinary skills. An applied introductory program is crucial for this group, as high school is the initial stage in developing interest in further study and career orientation. Therefore, Community Service Program (PKM) activities targeting high school (SMA/SMK) students need to be designed not only to provide new experiences but also to foster an initial understanding of the character of vocational learning, which emphasizes skills, practice, and tangible work outcomes. This perspective aligns with the UNESCO-UNEVOC TVET profile, which positions vocational education as a pathway directly connected to job competency needs and career readiness.

One potential skill that can be used as an introduction to culinary vocational education is cake decorating (Rahmah et al., 2019). This activity not only requires creativity but also involves precision, fine motor coordination, mastery of tools and materials, technical understanding, and aesthetic sensitivity to food products. Therefore, cake decorating can be seen as a representative basic skill for introducing the character of learning in the culinary arts (Tien et al., 2020). From a pedagogical perspective, cake decorating training is also relevant because it produces results that can be directly observed, evaluated, and appreciated by participants, thus strengthening the practice-based learning experience (Hamilton & Margot 2023; Rovio-Johansson, 2018). This argument aligns with the findings of Hariyanto et al. (2018), which show that cake decorating lessons can be strengthened through media that help participants understand the work stages in detail and systematically.

Previous research and community service activities also demonstrate that cake decoration has strong potential as a means of strengthening skills and introducing the pastry industry. Indra et al. (2022), reported that the Cake Decoration 101 training for Santa Maria

Vocational High School students aimed to provide knowledge in decorating cakes accurately and professionally while encouraging participant innovation in the bread and pastry industry. Meanwhile, Zaenal et al. (2024) demonstrated that implementing cake decoration lessons for students with special needs in Makassar can be used as a form of community service that supports adaptive vocational skills training. Both studies demonstrate that cake decorating is not simply a creative activity but can function as a medium for learning basic skills that is inclusive, applicable, and relevant to the development of participant competencies.

However, previous research tends to position cake decoration as a technical training, a learning medium, or a specific skill in a specific context. Few articles explicitly position cake decoration training as a model for strengthening basic cake decorating skills and as a medium for introducing culinary vocational education within the context of Open Campus activities. This is where this article contributes (Belliveau, 2007). The Community Service Program (PKM) activities conducted by the Culinary Arts Study Program not only serve to train participants' basic skills but also to provide initial experience with the learning culture in vocational education: learning through practice, precision in work, product creativity, and evaluation of results. Thus, cake decoration training has a dual value: as a means of strengthening basic skills and as a promotional-educational strategy for introducing culinary vocational education to high school/vocational high school students.

Based on this background, this article aims to describe the implementation of cake decoration training as a model of community service and analyze its contribution to strengthening basic cake decorating skills and introducing culinary vocational education to high school/vocational high school students.

THEORETICAL BASIS

Community Service in the Context of Vocational Higher Education

In vocational higher education, community service is not simply positioned as a social service activity or institutional promotion, but rather needs to be understood as a form of downstreaming applied knowledge and skills to target groups. Normatively, higher education in Indonesia integrates education, research, and community service, while vocational education is directed at preparing students for jobs with specific applied skills (Republik Indonesia, 2012; Triyono & Mateeke Moses, 2019; Muharam et al., 2025). This position emphasizes that Community Service Activities (PKM) activities in vocational study programs should ideally be designed as applied learning experiences that enable participants to gain practical benefits and a concrete understanding of the nature of vocational learning.

Vocational Education and Experiential Learning

From an international perspective, TVET is understood as education and training oriented toward developing skills for learning, working, and living productively. The UNESCO Strategy for TVET 2022–2029 emphasizes that skills development is a crucial instrument for empowerment, decent work, and the transition to a more inclusive, digital, and sustainable economy and society. Within this framework, an experiential learning approach becomes highly relevant because applied skills cannot be developed solely through exposure to information, but through direct involvement in the work process (Chisholm et al., 2009). UNESCO-UNEVOC defines experiential learning as the process of developing knowledge, skills, and attitudes based on direct experience, conscious reflection, and feedback. Therefore, practice-based training activities have a strong theoretical basis for use in introducing vocational education to secondary school students.

Practical Learning in Culinary Education

In culinary education, practical experience plays a central role because competence is determined not only by mastery of concepts but also by the ability to perform work procedures accurately, neatly, consistently, and aesthetically. Ko (2012) demonstrated that effective learning

in the culinary field is positively related to professional competence and learning performance, including learning satisfaction, practical value, and academic achievement. These findings demonstrate that the quality of the learning experience directly contributes to competency development. A more recent study by Koerich et al. (2024) also confirmed that the learning process in culinary classes is strongly influenced by factors that support or hinder direct practice, thus ensuring that hands-on learning remains a core component of gastronomy education. Therefore, training that provides space for direct practice has a greater potential to produce meaningful learning than models that are solely informative.

Cake Decoration as a Basic Skill and Vocational Introduction

Cake decoration is a basic culinary skill that is relevant as an early learning medium because it combines technique, creativity, precision, fine motor coordination, and sensitivity to product aesthetics (Indria et al., 2025; Thimthong et al., 2024). This skill is suitable for introduction to high school and vocational school students because learning outcomes can be directly observed, evaluated, and improved in a relatively short time. Pedagogically, this characteristic makes cake decoration an effective tool for experiential initial learning (Bunyamin et al., 2022; Apriadi et al., 2020). Furthermore, cake decoration has a strong visual and emotional appeal, potentially fostering students' interest in the culinary field. In the context of vocational education, this is important because concrete early experiences often serve as entry points for developing interests in further study and career orientation.

Previous research and community service activities have shown that cake decoration training has strong educational value. Hariyanto et al. (2018) demonstrated that cake decoration learning can be strengthened through learning media that help participants understand the work stages more systematically. Indra et al. (2022) reported that Cake Decoration 101 training can be used as an introduction to the pastry field for vocational high school students. Zaenal et al. (2024) also demonstrated that implementing cake decoration learning can support the development of vocational skills in participants with special needs. However, these studies generally still position cake decoration as a technical training or a medium for skills learning. Not many explicitly position it as a model for strengthening basic skills and as a medium for introducing culinary vocational education in the Open Campus context. This is where this article takes its contribution.

METHODS

This article uses a descriptive approach to Community Service activities conducted by the Culinary Arts Study Program in the form of cake decoration training for high school and vocational high school students. The activity was held as part of the Open Campus series and was designed to integrate basic skills training with an introduction to the character of culinary vocational learning. The activity was implemented in three main stages. The first stage was preparation, which included activity planning, material preparation, equipment and material preparation, and coordination with the committee and resource persons. The second stage was implementation, which included material delivery, demonstrations of basic techniques, hands-on practice by participants, and mentoring during the cake decorating process. The third stage was evaluation, conducted after the activity to identify the benefits, level of understanding, participants' interest, and their responses to the overall training. Data were obtained through activity observations, documentation, and participant evaluation questionnaires. Analysis was conducted on 63 participant responses collected after the training. Closed-ended data were analyzed quantitatively using frequencies and percentages, while open-ended responses were analyzed qualitatively to capture participants' perceptions of the benefits of the activity, challenges encountered, and suggestions for program improvements. This approach was chosen because it is suitable for describing the process of implementing activities and interpreting the contribution of training to strengthening basic skills and introducing culinary vocational education.

RESULTS AND DISCUSSION

Participant Overview

Based on the collected questionnaires, there were 63 respondents. Most participants were between the ages of 17 and 18. Information about the Makassar Tourism Polytechnic was mostly obtained from school friends, followed by social media and relatives/family. This indicates that promotions through school networks and peer-to-peer communication remain the primary channels for reaching potential participants.

Table 1. Characteristic Respondent

Aspect	Result	Description
Number of respondents	63 participants	Based on collected questionnaire data
Age range	16–18 years	Average age: 17 years
Have attended similar training	29 participants (46% of 63)	Indicates a considerable number of new participants
Have decorated cakes independently	43 participants (68.3% of 63)	Shows initial interest in culinary practice

Participant Evaluation Results

The evaluation results showed that the cake decoration training was very positively received by participants. All respondents stated that the instructions were easy to understand, the activities were beneficial, and they were satisfied with the overall experience. Furthermore, 90.5% of participants stated that they felt more capable of decorating cakes after the training, while 98.4% expressed interest in further training. These findings indicate that the demonstration method combined with hands-on practice is effective in providing initial learning experiences for high school/vocational school participants.

In terms of skills, the main challenges for participants were smoothing buttercream, smoothing cake surfaces, and determining decoration ideas and topping placement. This indicates that in the advanced training, basic materials such as spatula techniques, hand pressure control, and an introduction to buttercream composition need to be given more space before moving on to the creative decoration stage.

In terms of study program development, data from sources indicates that participants mostly learned about Makassar Tourism Polytechnic through school friends, social media, and family. This demonstrates that school-based promotion and digital communication remain effective strategies for reaching potential students, as seen in Table 1 below.

Table 2. Indicators of Results And Participant Satisfaction

Indicator	Number of Yes/Positive Responses	Percentage	Interpretation
Have heard about cake decoration	55 participants	87.3%	Most participants are already familiar with the topic
Enjoy the activity theme	59 participants	93.7%	The theme is considered attractive
Confident in trying cake decoration	43 participants	68.3%	Initial confidence is fairly good
Instructions are easy to understand	63 participants	100.0%	Material delivery is effective
Feel more capable after training	57 participants	90.5%	There is an improvement in perceived ability
The activity is beneficial	63 participants	100.0%	All participants perceive the activity as beneficial

Increased interest in the culinary field	59 participants	93.7%	The activity strengthens participants' interest
Activity duration is sufficient	55 participants	87.3%	Most participants consider the duration adequate
Satisfied with the overall activity	63 participants	100.0%	Very high level of satisfaction
Understand the function of tools and materials	59 participants	93.7%	The objective of introducing tools and materials is achieved
Interested in attending advanced training	62 participants	98.4%	There is strong potential for program continuation

From the participants' open-ended responses, the most frequently perceived benefits were increased knowledge of cake decorating techniques, an understanding of using buttercream, and increased confidence in experimenting with decorations. Many participants also considered the activity a fun, new experience that broadened their culinary horizons.

Regarding challenges, participants most frequently cited challenges in smoothing and smoothing the buttercream on the cake surface; determining decoration ideas and topping placement. These findings suggest that the practical sessions should continue to focus on basic techniques before participants move on to more creative decorating.

Meanwhile, several suggestions from participants included adding games or challenges relevant to culinary skills; providing step-by-step guidance at a slower pace; and varying the format of the practical challenges to increase participant engagement. Nevertheless, many participants also stated that the activity was well-implemented and worthy of a repeat.

“I understand cake decorating better.”

“This activity has furthered my interest in the culinary field.”

“A suggestion for the next activity is to add games or challenges that hone skills.”

Training as an Implementation of Experiential Learning

The cake decoration training in this activity demonstrated a strong character as experiential learning. Participants not only received information on basic tools, materials, and techniques, but also engaged directly in practice, received mentoring, and observed their own work. This pattern aligns with the concept of experiential learning, which places direct experience, reflection, and feedback at the heart of the learning process. In the context of vocational education, this model is important because it demonstrates that learning means doing, not just knowing. These findings are also consistent with the UNESCO and UNESCO-UNEVOC frameworks, which emphasize the importance of skill development through authentic experiences.



Figure 1. Cake Decoration Training

The initial participant profile indicated that the training was well-targeted. Of the 63 respondents, 55 (87.3%) stated they were familiar with the term cake decorating, 43 (68.3%) had tried decorating a cake themselves, but only 29 (46.0%) had participated in similar training. These findings indicate that most participants already had an initial interest in culinary practices, but many had not received structured training. This means that this activity not only introduced the topic but also transformed informal interests and experiences into a more systematic learning experience. For high school students, this type of experience is important because it helps them understand that culinary skills can be learned in a focused manner as part of vocational education.

Contribution to Strengthening Basic Skills

Evaluation results showed excellent levels of acceptance and understanding. All participants (100%) stated that the speaker's instructions were easy to understand and the activities were useful, while 59 (93.7%) participants stated that they understood the functions of the tools and ingredients after the training. Furthermore, 57 (90.5%) participants felt more capable of decorating cakes after participating. Participants' open-ended responses also showed that they were beginning to understand basic elements of work skills such as cleanliness, neatness, precision, buttercream smoothing techniques, and decoration arrangement. This finding is important because it demonstrates that the training did not stop at trial and error, but began to develop an initial awareness of basic culinary work standards. These results align with Ko (2012), who demonstrated a positive relationship between effective learning, professional competence, and learning performance.

Impact on Interest in the Culinary Field

In addition to the skills aspect, this activity also demonstrated a strong affective impact. Fifty-nine participants (93.7%) stated that the training theme was enjoyable and their interest in the culinary field increased after the activity. Furthermore, 62 participants (98.4%) expressed interest in further training, while all participants (100%) expressed satisfaction with the overall activity. These findings demonstrate that practice-based training can produce a positive learning experience while fostering interest in the culinary field. From a vocational education perspective, this is crucial because interest in a field often develops from initial learning experiences that are concrete, enjoyable, and provide a sense of competence. Thus, the function of the activity is not only pedagogical, but also promotive-educational.



Figure 2. Cake Decoration Training

Cake Decoration as a Medium for Introducing Vocational Education

The primary value of this activity lies in its ability to connect basic skills with the character of vocational education. Through the training, participants are shown that vocational learning in the culinary field relies on practice, precision, work results, and product evaluation. This is reflected in the participants' responses, which indicated a high level of satisfaction, a good understanding of the function of tools and materials, and a strong interest in pursuing further training. Therefore, cake decoration, in the context of this activity, is not only a training material but also a medium for introducing the learning culture of vocational education. This is where this article's contribution becomes clearer than previous studies that have focused primarily on technical training or learning media. In this article, cake decoration is positioned as the meeting point between strengthening basic skills and introducing culinary vocational education.



Figure 3. Cake Decoration Training Activity

The findings of this article are consistent with previous research and community service. Hariyanto et al. (2018) demonstrated the importance of learning media support in cake

decorating. Indra et al. (2022) demonstrated that cake decoration training was effective as a means of introducing pastry to vocational high school students. Zaenal et al. (2024) demonstrated that cake decoration can also be applied to skill development in more specific contexts. However, this article expands the discussion by demonstrating that cake decoration can also be developed as a strategy for introducing culinary vocational education through the Open Campus scheme. Thus, its contribution lies in strengthening the position of basic skills training as an educational and strategic instrument in experience-based academic promotion.

Implications

Practically, the results of the activity indicate that practice-based training is worthy of being maintained and developed as a PKM model for the Culinary Arts Study Program. The most common challenges experienced by participants related to smoothing buttercream, neatness of cake surfaces, and determining decoration ideas, suggesting that further training should focus more on basic techniques before moving on to the creative decoration stage. Similar activities can also be optimized through phased training, technical in-depth study, or ongoing collaboration with schools. Academically, this article demonstrates that Open Campus activities can be positioned not merely as promotional activities, but as a form of experiential outreach that provides initial exposure to a vocational learning culture.

CONCLUSION

The cake decoration training conducted within the PKM activity of the Culinary Arts Study Program has proven relevant as a practice-based learning model for high school/vocational school students. Based on 63 evaluation responses, this activity contributed to strengthening basic cake decorating skills, particularly in understanding tools and materials, basic techniques, neatness, and product creativity. The high percentage of participants who found the activity useful and satisfied (100%), felt more capable of decorating cakes after the training (90.5%), and expressed interest in pursuing further training (98.4%) indicates that this model is effective not only as a means of introducing basic cake decorating skills but also as an educational means of promoting culinary vocational education to prospective students.

RECOMMENDATIONS

Similar activities are recommended to be developed in a phased format so that participants have the opportunity to deepen their understanding of more specific techniques. Practical sessions should focus more on basic techniques, particularly layering and icing buttercream, before participants move on to the creative decorating stage. Future evaluations should also utilize pre- and post-activity designs to more robustly measure the impact of the training. For higher-quality publications, follow-up articles could include comparative analysis, more standardized instruments, or a mixed approach to enhance their methodological strength.

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