

Training on How to Prepare Two Main Course Recipes Using Lobi-Lobi and Gowok Fruits at Vocational High School (SMK) Gema Gawita – Tangerang

William Matthew*, Valentino Jovan Emanuel, Sandra Maleachi, Elang Kusumo

Universitas Pelita Harapan, Indonesia

Email: Wmatthew2905@gmail.com*, valentinojovan12@gmail.com,
sandra.maleachi@uph.edu, henricus.kusumo@uph.edu

Abstract

Keywords:

Local Fruit, Culinary Innovation, Gowok, Lobi-Lobi, Gandaria, Vocational High School, Community Service

The utilization of local Indonesian fruits as innovative culinary ingredients remains limited, despite their potential nutritional value, cultural significance, and economic opportunities. Fruits such as gowok (*Syzygium polycepalum*) and lobi-lobi (*Flacourtia inermis*) are still rarely incorporated into modern culinary products, particularly among vocational culinary students who require creativity and innovation skills to compete in the food industry. This community service activity aimed to improve students' knowledge and skills in processing local fruits into innovative main course recipes while increasing awareness of the potential of local food resources. The activity was conducted using a participatory workshop method involving observation, educational sessions, cooking demonstrations, hands-on practice, and evaluation through pre-tests, post-tests, and participant satisfaction questionnaires. The results showed a significant improvement in students' understanding of local fruit utilization and culinary innovation. The total correct answers increased from 102 in the pre-test to 137 in the post-test, with the average score improving from 3.64 to 4.89 and a knowledge increase of 34.3%. Furthermore, participants provided a very positive response, with an overall satisfaction score of 4.59, indicating that the training was effective and beneficial. In conclusion, this program successfully enhanced students' culinary creativity, knowledge, and skills in utilizing local fruits as valuable ingredients for innovative culinary products

INTRODUCTION

Indonesia is one of the countries that has a high level of biodiversity, including a wealth of local fruits that have great prospects to be developed as food raw materials and creative food products (Ruwaida et al. 2022; Suwardi et al. 2023). However, the development of the modern culinary industry today relies more on food ingredients that are commonly found in the market, while various types of local fruits such as gowok (*Syzygium polycepalum*), gandaria (*Bouea macrophylla*), and lobbies (*Flacourtia inermis*) are still underutilized in making food menus (Pratama et al. 2019). This condition causes the economic ability, nutritional health, and cultural value of local fruits to be not utilized optimally.

In the context of vocational education, educational institutions such as Vocational High Schools (SMK), especially the culinary expertise program, have a very important role in

forming a workforce that has competence, creativity, and innovative abilities in the culinary field. Students in Vocational High School are not only required to master basic cooking techniques, but must also be able to create new culinary products that suit the needs of the food and beverage industry sector (Firdaus et al. 2024; Setiawati 2021). Research conducted by Febriani, Nurjanah, and Setiawati in 2021 shows that creativity is the main ability in the learning process of culinary subjects. This creativity must be supported by the exploration of local food so that students can create products that are unique and reflect local identity (Kuo et al. 2020; Pereira et al. 2019; Pugra et al. 2025).

The selection of Culinary Vocational School students as the target of PKM activities is based on stronger reasons than other community groups, such as the church community, housewives, or the community in general. Vocational students are in the stage of forming professional competencies, so that the knowledge and skills they acquire can be applied directly in the learning process and in the world of work (Baartman et al. 2011; Schaap et al. 2012; Triyono et al. 2023). In addition, the results of the training can be redistributed through practical activities in schools, so that the resulting impact can be more sustainable. Unlike the general public who mostly only use cooking skills for daily needs, vocational school students have the opportunity to develop these skills into work skills and entrepreneurial spirit in the culinary field (Fine 1996; Smilow et al. 2010; Widasari et al. 2019). Research shows that education about creative products and entrepreneurship provided to students in the field of Culinary has a positive effect on their readiness to work, their ability to produce innovative products, and their ability to build a culinary business independently.

In addition, the application of local wisdom in workshop learning has been proven to increase students' creativity, sense of independence, and entrepreneurial ability. Product development using local ingredients provides an opportunity for students to understand the potential resources in their area while creating products that have greater economic value (Porter et al. 2018; Weetman 2016). Therefore, introducing local fruits such as gowok, gandaria, and lobbies is very important in the learning process in the field of Culinary Arts.

The results of initial observations conducted at Vocational High School Gema Gawita show that the majority of students do not understand the characteristics of gowok, gandaria, and lobbies, and have never used these fruits in the manufacture of main dishes. Practical learning today is still dominated by the usual use of food ingredients and pre-established recipes, so students' opportunities to explore local ingredients are still limited (Chen et al. 2016; Daws 2017; Gisslevik 2018; Osorio et al. 2026). On the other hand, research on the use of local food by vocational school students shows that the provision of training and guidance can improve students' understanding of various types of food and encourage more effective use of local resources.

Another problem is the limited learning resources that discuss local fruit processing techniques in modern dishes. However, the ability to master food processing methods and techniques is a very important competency and must be mastered by students who have expertise in the culinary field, in order to produce quality products and in accordance with industry needs. The availability of sufficient learning media has been proven to be able to increase the effectiveness of the learning process for students of culinary skills programs at vocational schools.

Based on these conditions, Community Service activities (PKM) are needed in the form of training and assistance in the development of main dish recipes that use gowok, gandaria, and lobbies for students at SMK Culinary Arts. This program aims to increase students' understanding of the potential of local Indonesian fruits, develop skills in processing modern food, increase creativity in designing innovative menus, and strengthen students' work readiness and entrepreneurial spirit in the culinary field. Therefore, choosing Culinary Vocational Vocational School students as partners in these activities is very relevant because it has a broader, sustainable, and in accordance with the goals of vocational education.

Students of the Gema Gawita Tangerang Vocational High School or SMK who major in Culinary Arts, hospitality, especially culinary are required to have creative, innovative, and in accordance with the latest and modern culinary industry developments. But in reality there are very many students who only use common and popular ingredients in cooking ingredients, while the use of lesser-known local fruits is still very much. This causes students' insight into the richness of local food and the potential of Indonesian gastronomy that has not been developed optimally.

Based on the results of observations made in the recipe book design, local fruits such as gowok, lobi-lobi, and gandaria have considerable potential to be developed into modern dishes because they have unique taste characters and high nutrition can be processed into sauces, purees, or the main components of dishes, but most of the students of SMK Gema Gawita Tangerang do not know the techniques of processing fruits because of the lack of learning media and culinary references that discuss fruits local in modern cuisine.

In addition, practical learning at SMK Gema Gawita Tangerang more often focuses on standard recipes or international dishes with modifications with local fruits. This condition makes it impossible for students to explore and innovate food products with local fruits. Another problem found is the limited knowledge of students about modern processing techniques such as emulsification, and the manufacture of fruit puree to produce a balanced flavor in dishes.

METHOD

This Community Service Program (PKM) applied a participatory, hands-on workshop approach to enhance the knowledge and skills of Vocational High School Gema Gawita Tangerang students in processing local fruits (gowok, lobi-lobi, and gandaria) into main dishes. The PKM team conducted initial observations, site surveys, and interviews with school representatives to understand the learning environment, training needs, and challenges related to students' culinary skills.

To overcome the various obstacles faced by target partners, the main solution offered is the implementation of structured training and mentoring programs in the development of main dish recipes based on gowok fruit, gandaria, and lobby lobby. This program is designed to change the mindset of students to be able to see the potential of local ingredients as world-class culinary assets. The activity began with providing in-depth education about the characteristics of local ingredients, ranging from unique flavor profiles to their nutritional potential. This step is important so that students have a solid theoretical foundation before entering the execution stage in the kitchen.

Furthermore, technical skills training is carried out through direct practice in processing the fruits into innovative main dish components. Students are not only taught ordinary cooking methods, but also techniques to extract sour and fresh flavors from fruits to be used as protein side sauces, marinades that soften meat, and decorative elements that beautify dishes. Participants are encouraged to actively develop creativity through recipe exploration so that original menu variations are created. In addition, strict assistance is provided in maintaining product quality standards which include taste balance, correct processing techniques, and food serving aesthetics.

This solution also touches the economic side through the introduction of the basics of culinary entrepreneurship. This aims to make students understand that their creativity has real selling value and business potential. With this series of solutions, it is hoped that there will be an overall improvement in student competence both in terms of knowledge, technical skills, and the spirit of innovation so that it is able to produce main dishes with high economic value.

RESULTS AND DISCUSSIONS

Community Service Activity " Training on Making 2 Main Dish Recipes Using Lobby Fruit and Gowok at SMK Gema Gawita -Tangerang" as a food innovation idea to SMK Gema Gawita which will be held at SMK Gema Gawita.

Day : Monday

Date : 25 May 2026

Time : 10.00 – 12.00

Location : SMK Gema Gawita Tangerang

PkM activities were carried out at SMK Gema Gawita Tangerang, we brought material about local fruits, namely Gowok and Lobi-Lobi as the main dish. The students will be participants or participants for this training. Each student will follow all the food making simultaneously with the donor team. Our PkM activities will be carried out according to the rundown that we have prepared. Before the practice of making food is carried out, participants are asked to fill out a pre-test form and fill out a post-test and feedback form.

Describe the implementation of the PkM activities carried out. Scheduling starts from preparation to implementation. It was also explained that the run-down at the time of implementation.

This program will be held on Monday, May 25, 2026, at 10:00 am. One week before the event started, the team conducted a preparation phase to ensure that the implementation ran smoothly and efficiently. Our team creates details of activities such as materials and equipment needed. In addition, equipment and materials for cooking practice are also prepared in advance. At the time of implementation, all aspects have been arranged to ensure that the program starts in accordance with the schedule. Full details of the activities are as follows.

Table 1 Rundown Event

Yes	Time	Duration	Activities	PIC
PRE-EVENT				
1	8.45 - 9.15	30'	Departing from UPH	
2	9.15 - 10.00	45'	Team Preparation	William
3	10.00 - 10.15	10'	Attendees	Jovan
OPENING				

4	10.15 - 10.20	5'	Words of Acknowledgment and Prayer	William
5	10.20 - 10.25	5'	Opening Speech from the Team Leader	Sandra Maleachi, S. Pd., M.A.
6	10.25 - 10.30	5'	Opening Speech from the Team	Jovan
7	10.30 - 10.40	10'	<i>Pre-Test</i>	Jovan
ACARA UTAMA				
8	10.40 - 10.50	10'	Presentation Materials	William
9	10.50 - 11.20	30'	Food Recipe Making Training Demonstration Using Lobby Fruit and Gowok as the Main Course	William dan Jovan
10	11.20 - 11.35	15'	Filling out the <i>post-test form</i> and <i>feedback form</i>	Jovan
CONCLUSION				
11	11.35 - 11.40	5'	Certificate Distribution	William
12	11.40 - 11.50	10'	Closing Remarks By Mc and Photo Session	Jovan
13	11.50 - 12.00	10'	Closing prayer, <i>distribution of souvenirs and food</i>	William

The program is carried out in four different segments: Pre-Event, Bookkeeping, Main Event, and Closing. The event was held at Svocational high SchoolMK Gema Gawita Tangerang, about 30 minutes from the gathering point. To avoid delays the team departed at 08.45 am, in order to provide enough free time to arrive on time and have free time to prepare for the event as planned, the team arrived 30 minutes before the event started, immediately started by greeting the team of teachers from SMK Gema Gawita and dividing the implementation team consisting of five members, one member was in charge of documentation, Three members are in charge of preparing materials and equipment for presentations and cooking practices, and one member is in charge of handling the attendance of participants. After all participants arrived, the official program began.

The main event begins with the sharing Booklet that we have prepared for each group that contains basic knowledge about the fruit and the recipe that we are going to make together. During this session we also explained orally about the content of the book, starting from the theory about gowok fruit, lobby lobby, and gandaria, then continued to explain the recipe we had made for today's event. This session is carried out so that everyone knows in theory before starting practice. After the presentation we formed 4 groups to be directly involved in making the prepared recipes. They are guided step by step; we have one member who demonstrates directly and two members who help direct to each Section each to ensure each group is able to follow the instructions and succeed. After each group was done with their food, we tasted one by one. And after finishing we asked the participants to fill in posttest form to find out the understanding gained after the event is over. And followed by charging feedback form so that we get an evaluation of the program as a whole.

We distributed e-certificates at the closing of the event as a form of appreciation from us to the participants. After that our team gave a closing speech thanking the participants and the team who had helped then we ended the event by taking a group photo with all the participants

and the team with our banner for documentation of the event was successful and completed. After the photo event, we gave lunch which was distributed to all participants with our members.

However, some program programs did not go according to the initial plan, we adjusted it directly after arriving, the PKM team found that the projector could not be used, so we only used a booklet to be the material we shared. In addition, there were 2 participants who could not attend from a total of 32 participants to 30 participants.

The effective results are proven from the results of the pretest and posttest that we provide. Before the event was held, almost all participants did not know about the gorok, lobbies, and gandaria. But after the event was over, the participants had new knowledge and understood everything we taught. This is proof that the post test results we provide have higher points.

Table 2 Pre-Test Assessment of Participants' Knowledge on Local Fruit Utilization and Culinary Innovation

Yes	Indicator	Questions						
1	Local fruit knowledge	Gowok fruit is known to have a taste?						
2	Culinary Innovation	Can gowok fruit be used as a dish?						
3	Technician <i>Puree</i>	Lobby Fruit can be processed into <i>puree</i> with the main purpose to?						
4	Utilization of Local Fruits	Gowok fruit can be used in main dishes as?						
5	Preservation of Local Fruits	One of the benefits of using local fruit is?						
Pre-Test								
PARTICIPANTS		P1	P2	P3	P4	P5	TRUE	FALSE
1		A	D	B	C	A	3	2
2		B	C	B	D	A	3	2
3		A	C	D	B	A	4	1
4		B	C	B	B	A	4	1
5		A	C	B	C	D	3	2
6		A	C	B	B	A	5	0
7		A	C	C	D	A	3	2
8		D	A	B	B	A	3	2
9		A	C	D	B	A	4	1
10		A	C	C	D	A	3	2
11		A	C	B	B	A	5	0
12		A	C	B	B	D	4	1
13		C	D	B	B	A	3	2
14		B	C	B	A	A	3	2
15		C	C	B	A	A	3	2
16		D	C	B	B	A	4	1
17		A	C	B	D	A	4	1

18	A	C	B	B	A	5	0
19	A	C	C	B	A	5	0
20	B	C	D	B	A	3	2
21	D	C	B	D	A	3	2
22	A	C	B	D	A	4	1
23	A	C	B	B	A	5	0
24	B	C	D	B	A	3	2
25	D	C	D	B	A	3	2
26	A	C	D	B	A	4	1
27	C	B	B	B	A	3	2
28	B	C	B	D	A	3	2
TOTAL						102	38
Post Test							
PARTICIPANTS	P1	P2	P3	P4	P5	TRUE	FALSE
1	A	C	B	B	A	5	0
2	A	C	B	B	A	5	0
3	A	C	B	B	A	5	0
4	B	C	B	B	A	5	0
5	A	C	B	B	A	5	0
6	A	C	B	B	A	5	0
7	A	C	B	D	A	5	0
8	A	C	B	B	A	5	0
9	A	C	B	B	A	5	0
10	A	C	B	B	A	5	0
11	A	C	B	B	A	5	0
12	A	C	B	B	A	5	0
13	A	C	B	B	A	5	0
14	A	C	B	B	A	5	0
15	A	C	B	B	A	5	0
16	A	C	B	B	A	4	1
17	A	C	B	B	A	5	0
18	A	C	B	B	A	5	0
19	A	C	C	B	A	4	1
20	A	C	B	B	A	5	0
21	A	C	B	B	A	5	0
22	A	C	B	B	A	5	0
23	A	C	B	B	A	5	0
24	A	C	D	B	A	4	1
25	A	C	B	B	A	5	0
26	A	C	B	B	A	5	0
27	A	C	B	B	A	5	0
28	A	C	B	B	A	5	0
TOTAL						137	3

This data table shows the total number of all points, where the total correct answer from the pre-test is the correct answer 102 out of 140 this shows that basic knowledge is still limited,

the posttest gives the total number of correct increased greatly to 137 from 140 where it gives a difference of 35 points. In addition, most participants achieve a near-perfect post test score by having 5 correct answers. This increase proves that PKM is quite effective.

Our team also measured the increase using arithmetic mean calculations. Arithmetic averages, also known as averages, represent the sum of all participant data divided by the sum of the scores (Martinez & Bartholomew 2017). This method provides a more individualized view of student learning. In the pre-test, students get an average of 3.64 correct answers out of 5. This average score is obtained using the formula $102/28 = 3.64$. 102 is the sum of the total correct answers and 28 is the number of students. Meanwhile, the average score for the posttest increased to 4.89, which was also obtained from the same formula $137/28 = 4.89$. This shows that students have a better average score of 1.25 points correct after PKM takes place. This proves that our workshops provide an increase in average scores that reflect each student's improved understanding. This shows that our program has succeeded in helping every student to gain new knowledge.

Table 3 Comparison of Participants' Average Scores Between Pre-Test and Post-Test

	Table of Averages
<i>Pre-test</i>	$102/28 = 3.64$
<i>Post test</i>	$137/28 = 4.89$
<i>Average</i>	$4.89 - 3.64 = 1.25$ Correct answer of each participant

To measure learning progress more objectively, we also calculate the percentage of improvement based on the difference between correct answers in the pre-test and post-test. The percentage calculation will use this formula:

$$\text{\% increase} = \left(\frac{\text{Final Value} - \text{Initial Value}}{\text{Initial Value}} \right) \times 100\%$$

Source: Erik Vaughn (2022)

Using the above formula our program has a 34.3% increase in the knowledge of the students. From these results, it shows the success of the learning events that we provide effectively and the learning methods that are in accordance with the needs of the students.

Table 4 Results of Participants' Satisfaction Assessment Toward PKM Implementation

No	Assessment Indicators	Mean	Category
1	The pkm material is easy to understand.	4,54	Very High
2	The material about gowok fruit and lobby lobbies added to my insights.	4,62	Very High
3	The presentation of material by the presenter was interesting and clear.	4,42	Very High
4	Culinary processing practices are going well	4,75	Very High
5	I became interested in using local fruits.	4,58	Very High
6	PKM activities increased my creativity in cooking.	4,71	Very High

7	The explanation of sanitation and hygiene is easy to understand.	4,71	Very High
8	The time for the implementation of the activity is enough.	4,58	Very High
9	The media and practical tools used are adequate.	4,46	Very High
10	PKM activities as a whole provide benefits for participants.	4,5	Very High

Based on the results of the evaluation obtained from 28 participants, it is known that the average assessment of the Community Service (PKM) event reached 4.59, which is very high. The results showed that the participants gave very positive responses to the material, delivery methods, culinary processing practices, and facilities and infrastructure used during the activity.

The indicator with the highest score was "Culinary processing practices are running well" with an average score of 4.75 and followed by "PKM activities increase my creativity in cooking" with a score of 4.71. This shows that under the activity we have succeeded in increasing the creativity of the students and understanding well about the local fruits that we bring.

CONCLUSION

After the PKM activities carried out at SMK Gema Gawita Tangerang, which is located on Jl. Perintis Kemerdekaan II were successfully completed and achieved the desired goal. This program makes the participants have new knowledge about local fruits that are still rarely known by the participants and makes the participants aware that local fruits can be used for the main course. Most of the participants did not know about the gowok fruit, lobby lobby, and gandaria. And never process it into the main dish from the results of the pretest show this ignorance of understanding. After the training and event are over, participants show new knowledge with post test results that have higher scores. It shows that they have new knowledge about local fruits that are still rarely processed or wasted. Apart from the theory, the participants managed to make the dish. Demonstrate that they follow each demonstrative step independently and accurately. Most of the participants agreed that our event provided quite important information and was easy to follow. They feel that our event makes the participants more creative and wants to know more about local fruits. Although there are small problems that arise due to the differences in knowledge and cooking experience of the participants, it does not hinder them from implementing everything.

REFERENCE

- Baartman, Liesbeth K J, and Elly De Bruijn. 2011. "Integrating Knowledge, Skills and Attitudes: Conceptualising Learning Processes towards Vocational Competence." *Educational research review* 6(2): 125–34.
- Chen, David M et al. 2016. "A Multi-Dimensional Metric for Facilitating Sustainable Food Choices in Campus Cafeterias." *Journal of Cleaner Production* 135: 1351–62.
- Daws, Chelsea. 2017. "An Anthropological Study of Eating Perspectives, Meal Composition, and Food Choices Among Diverse Student Populations."
- Fine, Gary Alan. 1996. "Justifying Work: Occupational Rhetorics as Resources in Restaurant Kitchens." *Administrative science quarterly*: 90–115.
- Firdaus, S, F D Mulyawan, and M Fajriana. 2024. "Pengaruh Teaching Factory Terhadap Kreatifitas, Kompetensi, Serta Inovasi Siswa Sekolah Menengah Kejuruan." *Jurnal Ilmiah Kependidikan* 17(2).

- Febriani, I., Nurjanah, N., & Setiawati, T. (2021). Culinary Creativity in Teaching Factory Learning for Culinary Vocational School Students in Malang Raya. *Scientific Journal of Education and Learning*, 5(3), 465–474. DOI: 10.23887/jipp.v5i3.38010.
- Gisslevik, Emmalee. 2018. *Education for Sustainable Food Consumption in Home and Consumer Studies*. Acta universitatis Gothoburgensis Göteborg.
- Kuo, Wan-Yuan, Sun-Hwa Kim, and Paul Lachapelle. 2020. “Incorporating Community Culture in Teaching Food Innovation: Ideation, Prototyping, and Storytelling.” *Journal of Food Science Education* 19(4): 292–307.
- Osorio, Jazmín, Marta W Vasconcelos, and Elisabete Pinto. 2026. “Underutilized but Sustainable: The Case for Fava Beans in the Iberian Peninsula.” *Nutrients* 18(3): 510.
- Pereira, Laura M et al. 2019. “Chefs as Change-Makers from the Kitchen: Indigenous Knowledge and Traditional Food as Sustainability Innovations.” *Global Sustainability* 2: e16.
- Porter, Michael E, and Mark R Kramer. 2018. “Creating Shared Value: How to Reinvent Capitalism—And Unleash a Wave of Innovation and Growth.” In *Managing Sustainable Business: An Executive Education Case and Textbook*, Springer, 323–46.
- Pratama, M F et al. 2019. “Documentation of Underutilized Fruit Trees (UFTs) across Indigenous Communities in West Java, Indonesia.” *Biodiversitas* 20(9): 2603–11.
- Pugra, I Wayan, Anak Agung Ayu Mirah Kencanawati, and I Gede Wahyu Antara Kurniawan. 2025. “The Cultural Significance of Traditional Foods in Shaping Indonesian Social Identity: Challenges and Preservation Strategies.” *Journal of Language, Literature, Social and Cultural Studies* 3(1): 21–31.
- Ruwaida, I P et al. 2022. “Perceived Biodiversity of Fruit Species for Urban Greenery in Indonesia: Case Studies in Bogor, Jakarta, and Yogyakarta.” *Biodiversitas* 23(6): 3166–77.
- Schaap, Harmen, Liesbeth Baartman, and Elly De Bruijn. 2012. “Students’ Learning Processes during School-Based Learning and Workplace Learning in Vocational Education: A Review.” *Vocations and learning* 5(2): 99–117.
- Setiawati, T. 2021. “Kreativitas Kuliner Dalam Pembelajaran Teaching Factory Peserta Didik SMK Tata Boga Se-Malang Raya.” *Jurnal Ilmiah Pendidikan dan Pembelajaran* 6(1).
- Smilow, Rick, and Anne E McBride. 2010. *Culinary Careers: How to Get Your Dream Job in Food with Advice from Top Culinary Professionals*. Clarkson Potter.
- Suwardi, A B, S Syamsuardi, E Mukhtar, and N Nurainas. 2023. “The Diversity and Traditional Knowledge of Wild Edible Fruits in Bengkulu, Indonesia.” *Ethnobotany Research and Applications* 25: 1–17.
- Triyono, Mochamad Bruri, Galeh Nur Indriatno Putra Pratama, and Thomas Köhler. 2023. “The Future of Vocational Competence: Perspective of Vocational Teachers, Industries, and Educational Expert.” *International Journal of Instruction* 16(4): 543–60.
- Weetman, Catherine. 2016. *A Circular Economy Handbook for Business and Supply Chains: Repair, Remake, Redesign, Rethink*. Kogan Page Publishers.
- Widasari, Sri Rizqi, Permanarian Somad, and Tjutju Soendari. 2019. “Development of Vocational Programs Culinary Based on Competence of the World of Work.” *Advanced Science Letters* 25(1): 162–65.