

# Training of Resin Keychain Making Based on Local Wisdom for Supporting Independent Entrepreneurship Program of Independent Campus

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## ABSTRACT

The community service activity was carried out based on the results of a needs survey for community service implementation, which has been distributed to active students from various academic and vocational programs of Chemistry Education program in South Kalimantan. The need analysis survey results showed that students are already aware of the independent curriculum, but many of them are still unaware of the independent entrepreneurship program. In addition, students also hope for entrepreneurship training, such as keychain making training. The method used in the community service is the introduction to resin materials and training in making resin keychains. The training activities were conducted in the integrated laboratory of Universitas Islam Negeri Antasari with a total of 60 participants. The results obtained from this community service are that students acquire new skills in making resin keychains, which can be used as products for entrepreneurship. The pretest showed that initially the participants' insight did not know and recognize resin and catalyst materials, and the result of the posttest showed that the participants were able to be creative by using dried flowers, leaves, and grass typical of the surrounding area to produce beautiful resin key chains.

**Keyword:** independent campus, independent entrepreneurship, local wisdom resin keychains.

## ABSTRAK

Kegiatan pengabdian masyarakat dilaksanakan berdasarkan hasil survei kebutuhan pelaksanaan pengabdian yang telah disebarkan ke mahasiswa aktif dari berbagai program studi Tadris Kimia di perguruan tinggi akademik dan vokasi di Kalimantan Selatan. Hasil survei kebutuhan menunjukkan mahasiswa/i sudah mengetahui mengenai kurikulum merdeka, namun ternyata masih banyak yang tidak mengetahui mengenai program wirausaha merdeka. Selain itu, mahasiswa (i) juga berharap adanya pelatihan-pelatihan kewirausahaan seperti pelatihan pembuatan kunci. Metode yang digunakan dalam pengabdian adalah pengenalan terhadap bahan resin, dan pelatihan pembuatan gantungan kunci resin. Kegiatan pelatihan dilaksanakan di laboratorium terpadu UIN Antasari dengan peserta sebanyak 60 mahasiswa. Hasil yang diperoleh dari pengabdian ini adalah mahasiswa memiliki keterampilan baru dalam pembuatan gantungan kunci dari resin dan bisa dijadikan sebagai produk dalam berwirausaha. Hasil pretest menunjukkan bahwa wawasan awal peserta tidak mengetahui dan mengenal bahan resin dan katalis, dan hasil posttest menunjukkan peserta mampu berkreasi dengan memanfaatkan bunga kering, dedaunan dan rumput yang khas di daerah sekitar menghasilkan gantungan kunci resin yang indah.

**Keyword:** gantungan kunci resin, kampus merdeka, kearifan lokal, wirausaha merdeka



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## 1. Introduction

The Independent Entrepreneurship Program, an integral part of the Independent Learning Program at the Independent Campus, aims to provide students with opportunities for learning and self-development, fostering their potential to become entrepreneurs through activities beyond the lectures. This program instills in students the values of collaboration and proactive engagement, as well as serve the country for contributing to the economic development of Indonesian society. The program, by molding students into agents of change, envisions them enhancing the quality of the community's economy and serving as catalysts for innovative solutions, thereby creating employment opportunities through student business ventures and development. Additionally, these students are encouraged to become pioneers, cultivating new entrepreneurial potential within Indonesia [11].

This community service initiative is grounded in the results of a survey analyzing the need for implementing community service, gathered through Google Forms. The survey link was randomly distributed to various academic and vocational universities in South Kalimantan, seeking responses from active students across diverse study programs. The majority of respondents came from the UIN Antasari Banjarmasin, then Muhammadiyah University of Banjarmasin, ULM, STAI Rakha, Uniska, UNUKASE, State Polytechnic of Banjarmasin, and UCB. The initial target of assisted subjects in this community service activity is that must participants come from the tadris chemistry study program UIN Antasari and general participants from various study programs at PTKIN, PTKIS, PTN, PTS and Vocational Schools throughout South Kalimantan. However, there were changes and adjustments to the subject of assistance which were made after considering suggestions from reviewers and the available budget. So, the assisted subjects in this activity are mandatory participants from active students in the Tadris Chemistry study program and general participants from various study programs and faculties at UIN Antasari Banjarmasin. Despite students' familiarity with the independent curriculum and learning at independent campuses, it was revealed that many were unaware of the Independent Entrepreneurship Program. Beyond awareness, the initiative aims to understand students' perspectives on the necessary form of entrepreneurship training for those who will be recipients of assistance in community service. A specific area of interest is training in crafting accessory products, such as key chain production.

The implementation of this service activity is spearheaded by the authors as lecturers and students from the Tadris Chemistry study program, aligning with the field of chemistry and adopting a learning approach known as chemo-entrepreneurship (CEP) [8]. Chemical-based entrepreneurial products can offer innovation, guide and develop creative habits, and integrating chemistry encourages entrepreneurs to produce a variety of business products [4]. Furthermore, through the application of chemical-based entrepreneurial products, cooperation, and communication can also be increased [9], developing problem-solving and collaboration skills, and improving resource management skills [10]. Beyond the chemical focus, it is imperative to develop entrepreneurial products that integrate local wisdom. The public's ability to harness natural sources of power and local wisdom can contribute significantly to overcoming economic crises. Consequently, there is a need for the public to safeguard and cherish local wisdom to maintain harmony with the environment and culture prevalent in society [8]. The local wisdom emphasized in this activity involves the use of decorations for key chains crafted from dried flowers and leaves native to the South Kalimantan region, including pine flowers, paper flowers, grass, and other materials.

The basic material for making this key is resin. Resin is a sap that comes from plants, its character is to freeze quickly, forming a solid mass. It is a composite material that cannot conduct electric current (acts as an insulator) [6]. Resin is a carbon chain polymer compound that has many chain bonds in carbon. The resin used in this activity is in the form of a thick liquid like glue, clear, resembling cooking oil, but rather thick. Apart from resin, it is also necessary to add a catalyst/ hardener to speed up the dough hardening process. The catalyst liquid is clear and has a slightly pungent odor. The more catalyst, the faster the dough hardens, but the results are not as good [7]. Catalyst is needed in relatively small quantities; in this training the ratio of resin to catalyst is 3:1. This resin dough is then enhanced by incorporating decorations inspired by local wisdom, ensuring a product with high market value and competitive edge among other entrepreneurial offerings or products. This is in accordance with the aims of this community service activity, namely providing counseling facilities, training skills, and providing assistance to students within the UIN Antasari Banjarmasin (especially from the Tadris Chemistry Study Program) and from various other study programs regarding the diversification of "based" entrepreneurial products. chemistry, local care, and global outlook" to support the independent entrepreneurship program, independent campus.

## 2. Methods

This community service activity was carried out for one day on September 23, 2023 and took place at the Integrated Laboratory Campus 2 of UIN Antasari Banjarmasin in Banjarbaru. Training participants were divided into two criteria in which mandatory participants who come from active students of the Tadris Chemistry Study Program for the odd semester of the 2023/2024 academic year, and general participants from various Study Programs and Faculties at UIN Antasari such as Tadris Biology, Tadris Physics, PIAUD, IPII, General Psychology, and the Study of Religions. The total number of participants in this training activity was 60 participants who previously registered voluntarily when this training flyer was distributed with the help of all Study Program Secretaries at the Faculty of Tarbiyah and Teacher Training (FTK), lecturers from various faculties at UIN Antasari, representatives of the Department Student Association (HMJ) each study program, as well as representatives of DEMA UIN Antasari Banjarmasin. The following is a flyer distributed to participate in training activities.



Figure 1 Service activity flyer.

This community service activity was divided into two activities, namely webinars and product manufacturing training. The training activity discussed in this article is one of the product trainings carried out, namely training in making resin key chains. The implementation of making this key chain was divided into two stages, namely delivery of material about tools, materials, and methods for making resin key chains based on local wisdom, and direct practice of making resin key chains grounded in local wisdom. The pre-test and post-test data analysis techniques were carried out qualitative descriptive.

## 3. Results and Discussion

The first stage in this activity was the delivery of material by the authors as the speakers, who are lecturers at the Tadris Chemistry Study Program of UIN Antasari Banjarmasin. The material presented contains knowledge about the types of resin, tools and materials needed to make resin key chains, tips when working with resin, as well as an explanation of work procedures in the training manual for making resin key chains that have been distributed to the participants (Figure 2 a and b).



Figure 2 (a) Cover of work guidelines, (b) Delivery of material by the presenters.

In the second stage, the presenters divided the training participants into six groups consisting of 10 people and each was guided by one team-member as the assistant to practice making resin-based key chains with additional decorations from dried flower petals and dried leaves found in the South Kalimantan area. The resin used in this training is Lycal resin type 1101. This type of resin has a well-recognized quality and is widely used. Consists of two components, namely part A (resin) and part B (hardener). This resin is made specifically for handicrafts and has a very clear and transparent coating. One of the characteristics of this lycal resin compared to other types is that it is thicker. Lycal resin has several advantages compared to epoxy resin, namely, it is resistant to sunlight [3], environmentally friendly because it comes from natural materials, has a soft texture, and is easy to apply. If the surface of the object is glued using lycal looks uneven, it can be polished until looks smoother and neater [3].



Figure 3 (a) Trainees during training, (b) Resin key chain product ready to be dried.

There are several obstacles experienced when making resin solutions. An exothermic reaction occurs after part A and part B were mixed. It is especially when mixing parts A and B with higher viscosity resins; there may be some bubbles in the mixture. Bubbles naturally migrate to the surface and spread. A heat gun can be applied to the surface of the resin to speed up the process of removing bubbles, which will cause the bubbles to burst. Apart from that, it can also be done using a toothpick to burst the bubbles on the surface of the resin [2]. Bubbles can be avoided by perfecting the mixing technique. Mixing parts A and B was done slowly. Faster and rougher mixing will produce a mixture with lots of bubbles [5].

Apart from the formation of bubbles, another obstacle experienced in making resin key chains is that drying takes a long time. This drying process is greatly influenced by the amount of catalyst (hardener) used. The ratio of resin and hardener materials used in this training is 3:1. Using too much or too little catalyst can result in a long drying process [11]. The participants tried drying using a hairdryer to speed up the drying process.

However, this action was not successful because the distance between the hairdryer and the resin was too close, causing the dough that had started to dry to become soft again. For this reason, drying is continued by leaving the resin in the mold in an open space but not exposed to direct sunlight. The drying time required during training is  $\pm 5$  hours, for maximum results, it can be dried for 24 hours.



Figure 4 (a) Resin key chain in the drying process, (b) Resin key chain product that has been dried and removed from the mold.

During the training process, the participants were asked to fill out pretest and posttest questionnaires which were distributed via Google Forms to find out their insight into resin materials before and after the training. The participants were also asked to fill out a response questionnaire when participating in training activities. The summary results of participants' pretest and posttest questionnaire answers can be seen in Table 1.

Table 1 Results of participants' pretest and posttest questionnaire answers.

No.	Question	General answer (Pretest)	General answer (Posttest)
1.	What do you know about resin?	The chemical is a thick, colorless substance that can harden.	Chemicals that are liquid and they can harden come from plant sap which is processed as raw material for making crafts.
2.	In your opinion, what creations can be made from resin?	Accessories and jewelry	Keychains, case of cellphones, jewelry, frames, clocks, preserved plants or animals, etc.
3.	In your opinion, what obstacles will you face when making products from resin and what are the solutions?	The presence of bubbles makes it difficult to arrange decorations.	Bubbles appear the solution is to break the bubbles with a toothpick. Difficulty arranging flowers, sticky when resin dries. Long drying time.
4.	Criticism and suggestions	Good, useful, and more trainings need to be held.	Entrepreneurship training continues to be held, not just keychain. There is an optimal solution for drying the resin.

Based on Table 1, it can be seen that initially insight of the participants did not know and recognize resin and catalyst materials, let alone process them. Then, after the training was carried out, the participants were able to be creative by using dried flowers, leaves and grass typical of the surrounding area to produce beautiful resin key chains as seen in figure 3 (b). In general, it can be stated that the training carried out was successful and had a positive impact on students.

After attending the material and training session, the participants filled out a satisfaction questionnaire on Google Forms. The results of the questionnaire can be seen in Figure 5.

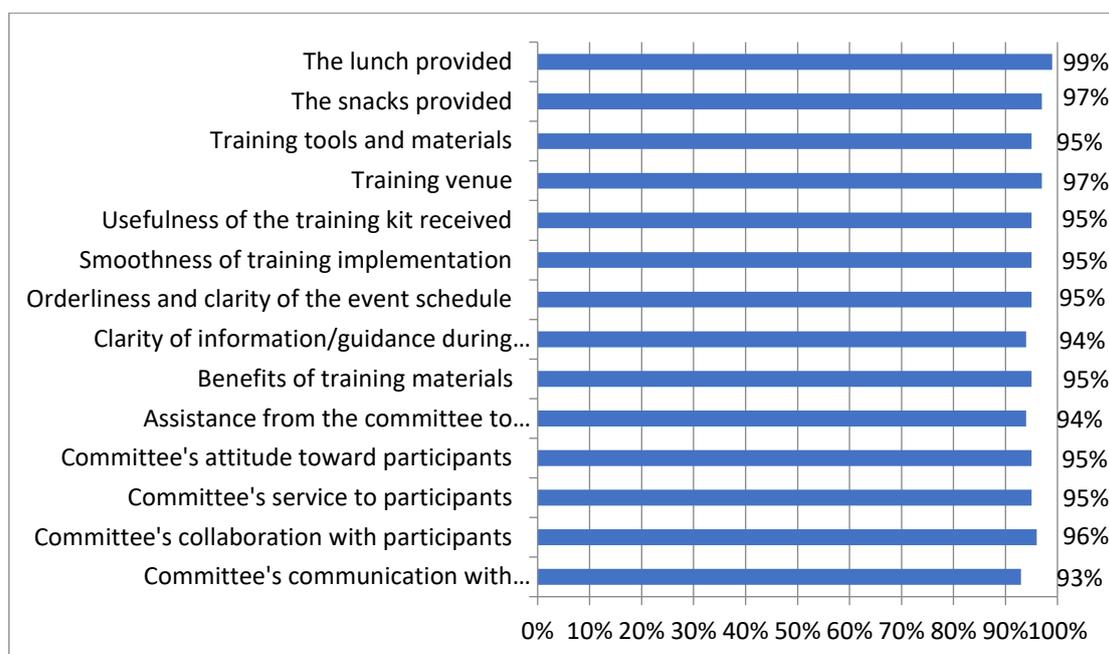


Figure 5 Results of participant satisfaction questionnaire.

The survey results show that the participants' enthusiasm with the overall assessment of the training implementation obtained an average percentage of 95%. The participants' activeness and enthusiasm were also visible when taking part in the activities. They were active in making decorative creations on resin key chains and tried to provide several solutions in dealing with obstacles experienced when making the product. This makes the speakers and the team of this community service confident that if entrepreneurship training is carried out continuously in the future, it is very likely that students will be able to produce entrepreneurial products with various innovations and a higher level of complexity. Hence, it can increase product selling prices and be able to compete globally with other entrepreneurial products.

#### 4. Conclusions

This community service activity has a positive impact on students' knowledge of resin materials and how to make resin key chains based on local wisdom. Based on the results of the questionnaire given, the students as participants were enthusiastic and felt the benefits of the training activities. They hope that training in making entrepreneurial products will often be given to students to support the implementation of the Independent Entrepreneurship Program, Independent Campus.

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