SCHOOL
ISSN (Online): 2988-7100
Vol. 02, No. 01,May 2024, Page. 8-14
Available Online at https://journal2.upgris.ac.id/index.php/schola/

AJANG: INNOVATIVE PRODUCTS IN THE APPLICATION OF SCIENCE CONCEPTS BASED ON LOCAL POTENTIAL

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ABSTRACT

Inovasi pembelajaran memainkan peran penting dalam meningkatkan pemahaman siswa terhadap konsep sains. Penelitian ini memperkenalkan produk inovatif, Abon Jantung Pisang (AJANG), yang diintegrasikan dalam pembelajaran Ilmu Pengetahuan Alam dan Sosial (IPAS) oleh siswa kelas 5 SD Negeri 1 Jugo. AJANG berfungsi sebagai alternatif pemanfaatan potensi lokal sekaligus media pembelajaran interaktif. Metode yang digunakan adalah pendekatan berbasis proyek, di mana siswa terlibat langsung dalam proses pembuatan abon jantung pisang. Melalui kegiatan ini, siswa mempelajari aspek-aspek sains, termasuk manfaat tanaman, proses pengolahan makanan serta nilai-nilai kewirausahaan. Hasil penerapan AJANG dalam kurikulum menunjukkan peningkatan pemahaman konsep sains dan minat siswa terhadap pembelajaran dengan memanfaatkan potensi local yang ada disekitar peserta didik. Dengan demikian, penelitian ini diharapkan dapat memberikan kontribusi terhadap pengembangan inovasi pembelajaran berbasis potensi lokal dan meningkatkan kesadaran siswa akan pentingnya pemanfaatan sumber daya alam secara berkelanjutan.

Keywords: inovasi pembelajaran; abon jantung pisang; IPAS; potensi local; sekolah dasar

ABSTRACT

Learning innovation plays an important role in improving students' understanding of science concepts. This research introduces an innovative product, Abon Jantung Pisang (AJANG), which is integrated in the learning of Natural Science (IPAS) by 5th grade students of State Elementary School 1 Jugo. AJANG serves as an alternative utilization of local potential as well as interactive learning media. The method used is a project-based approach, where students are directly involved in the process of making shredded banana hearts. Through this activity, students learn aspects of science, including the benefits of plants, food processing and entrepreneurial values. The results of the application of AJANG in the curriculum showed an increase in the understanding of science concepts and students' interest in learning by utilizing local potential that exists arounds students. Thus, this research is expected to contribute to the development of local potential-based learning innovations and increase students' awareness of the importance of sustainable utilization of natural resources.

Keywords: learning innovation; shredded banana heart; IPAS; local potential; elementary school

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INTRODUCTION

In an increasingly complex era of globalization, the demand for innovative and creative human resources is increasing. Education as the foundation for the formation of human resources has a very important role in equipping students with the various competencies needed. One effort to improve the quality of education is through learning innovation, which not only includes the use of technology, but also the use of local potential as an authentic learning source. Indonesia is an agricultural country when viewed from its location and climate. The banana plant, which originates from Southeast Asia, has been known to the Indonesian people since ancient times. Banana plant (*Paradise Moses)* has various types that grow well in the lowlands, hills and forests (Lubis, 2021). Of course, banana plants are spread in various regions and are very easy to reproduce. Banana trees are tropical plants that are relatively easy to maintain but produce a variety of products ranging from fruit, leaves, banana flowers/banana hearts, banana tubers, to banana stem fiber (Dwilita & Sari, 2021).

One local potential that is often overlooked is banana blossoms, which have high nutritional content and can be processed into attractive food products. According to (Saptaningtyas & Nurwidayati, 2020) Bananas are plants that grow in tropical areas spread across 32 provinces in Indonesia. Banana trees can be used from banana fruit to processed flowers (heart), flesh, skin, leaves, stems and banana tubers. According to (Indah Puspitasari, 2023) Banana flowers are easy to find, beneficial for the body because they are rich in nutrients such as carbohydrates, protein, fat, minerals, vitamins and fiber. Apart from that, processed banana blossoms have many benefits, including being longer lasting even without preservatives, good energy absorption, good for heart health, and maintaining focus and concentration (Kirana et al., 2023). By processing banana blossoms into shredded products, we not only create a delicious taste, but also provide an alternative source of protein for the community. This is in line with the opinion (Angraeni et al., 2020) which states that banana floss is expected to encourage food diversification because it is considered highly nutritious and very cheap. In the context of learning Natural and Social Sciences (IPAS), banana blossoms can be used as an interesting learning medium, helping students understand scientific concepts such as food processing processes, material properties, and chemical changes.

Science learning aims to develop critical thinking skills, science process skills, and scientific attitudes in students. However, science learning is often considered boring and difficult to understand. To overcome this challenge, innovation is needed that makes students actively involved in the learning process. Through a project-based approach, students are invited to be directly involved in making Shredded Banana Hearts (AJANG). This is also supported by relevant research according to (Pipit Muliyah, 2020) that shredded meat is one of the popular processed food products in Indonesia which has a distinctive taste and a long shelf life. Banana flowers can be processed into shredded products, one of which is because of their high nutritional content, banana flowers can be converted into floss. If this activity is implemented in learning, it will not only teach science concepts, but also develop entrepreneurial skills and values, as well as foster a sense of love for local products.

This research aims to explore the integration of AJANG in science and science learning in grade 5 of SD Negeri 1 Jugo, as well as measuring its impact on student understanding. By providing innovative and relevant learning experiences, it is hoped that students can better understand scientific concepts and increase their awareness of the local potential that exists in their environment. According to (Arifudin et al., 2020) Innovations carried out by banana flower floss products must be supported by marketing strategies. Thus,

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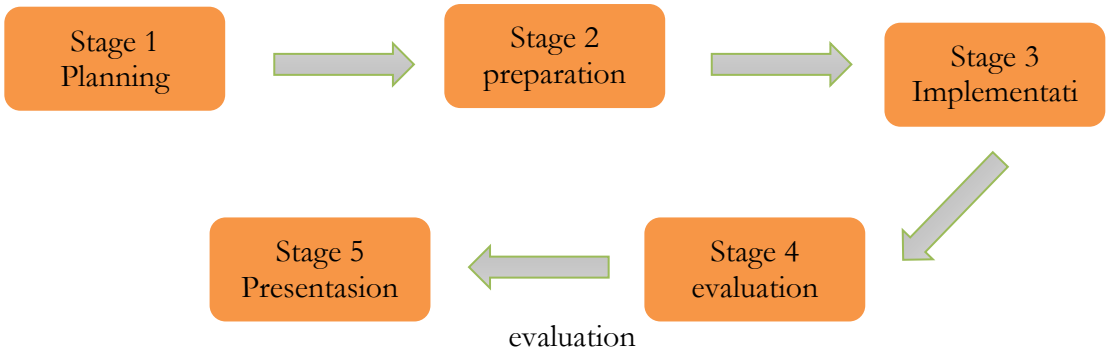
it is hoped that this research can make a positive contribution to the development of the quality of education and entrepreneurship learning.

METHOD

In this research, the Project-Based Learning (PjBL) method was used to develop the innovative product Shredded Banana Heart (AJANG) as a science learning medium by grade 5 students at SD Negeri 1 Jugo. PjBL was chosen because it allows students to be actively involved in the learning process, develop critical thinking skills, and connect theory with practice.

This activity has 5 stages in implementing the project starting from the planning stage to the presentation stage. The following are the stages of implementing the AJANG project



evaluation

Figure 1. Project Implementation Stages

Stage 1 Planning

The process of making banana blossom floss begins with the planning stage. At this stage, the main objective is determined, namely to create banana flower floss as a learning medium for Natural and Social Sciences (IPAS) and a source of nutritious food. Next, the necessary materials and tools are collected. After that, it is prepared including the steps for making it, dividing tasks into groups, and an implementation schedule.

Level 2 Preparation

The preparation phase begins with students organized in small groups to increase collaboration. Next, an introduction to the material is carried out by providing information about the benefits of banana blossoms and the importance of nutrition in food. After the introduction, tasks are distributed to each group member, such as processing ingredients, preparing spices, and cooking, so that each student gets an active role in the making process.

Level 3 Implementation

Implementation begins with preparation of materials. Students peel and cut banana blossoms, then soak them in salt water to reduce the bitter taste. After that, the banana blossoms are boiled until soft, and the chicken meat is cooked and shredded. Next, students process spices by grinding shallots, garlic, coriander, galangal, turmeric and chili. The finely ground spices are then sauteed in hot oil, adding lemongrass, bay leaves and lime leaves to add aroma. Once the spices are ready, students mix the banana flower pieces and shredded chicken with stir-fry spices, coconut milk, salt, sugar and mushroom stock. This mixture is then cooked over low heat until the water reduces and the shredded meat begins to dry. During this process, students are supervised to keep stirring the mixture to prevent it from

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burning. Once the shredded meat is cooked, students let it cool before packing it in an airtight container for storage.

Stage 4 Evaluation and Reflection

After the manufacturing process, the evaluation stage is carried out to observe and record the final results of the banana blossom floss product. Students assess the taste, texture and presentation of the shredded meat. Then, group discussions were held to reflect on the creation process, challenges faced, and lessons learned during the activity. Feedback from students about their learning experiences and understanding of science concepts was also collected.

Stage 5 Presentation

At the end of the activity, each group presented shredded banana blossom products to the class. They explain the manufacturing process, the benefits of the product, and what they have learned. A question and answer session was held to deepen students' understanding of processing processes and related science concepts. Once finished, the banana flower floss can be promoted and sold

Material Estimation

Making Banana Heart Shredded "Ajang" requires the following tools, ingredients and seasonings:

Tool:

1. Basin, knife
2. Stove, frying pan, mortar/cooper
3. Cake scales

Material:

1. Banana heart (2 Banana heart)
2. Chicken 500 grams
3. Cooking oil

Spice:

1. 15 red onion cloves
2. 10 cloves of garlic
3. Salt, sugar and mushroom stock to taste
4. 5 stalks of lemongrass
5. 1 glass of thick coconut milk
6. Ginger, galangal, turmeric
7. Chili to taste
8. Bay leaf
9. Lime leaves

How to make banana flower shreds

First prepare all the ingredients and wash all the ingredients, cut the banana blossoms into squares then put them in boiling water and add a little cooking oil and salt, wait until soft then remove from heat. Grind spices such as candlenuts, coriander, shallots, garlic, chilies and turmeric. Saute the ground spices in a frying pan that has been given a little cooking oil then add lemongrass, crushed galangal, bay leaves and lime leaves for aromatics, when the spices are cooked, add the shredded chicken then the banana blossoms that have been squeezed out of the water, mix well with spices then add coconut milk, salt, sugar and mushroom stock. Keep stirring until the chicken and banana blossoms are brown and dry

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and use low heat so they don't burn. Once dry, let it air dry and then sand it to get a slightly smoother texture. Put it in the prepared container with the prepared weight then stick the sticker on the container.

RESULTS

The results of this research reveal the positive impact of making Shredded Banana Hearts (AJANG) by grade 5 students at SD Negeri 1 Jugo as a learning medium for Natural and Social Sciences (IPAS) on students' understanding and involvement. The impact seen in students' innovative implementation also results in product innovation, attractive packaging and creativity in making stickers (Wahrudin, 2020). The understanding gained, among others, first, increased understanding of the IPAS concept was clearly visible after the activity was carried out. This shows that they have succeeded in understanding concepts related to food processing, material properties, and chemical changes in more depth. Second, student involvement during the activity was very high. Students actively participate in every stage, from preparation of materials to presentation of the final product. Enthusiasm and collaboration between group members was evident, with students helping each other and dividing tasks effectively, creating a dynamic learning atmosphere.

Furthermore, this activity also succeeded in developing students' practical and entrepreneurial skills. They learn how to process food, manage time, and communicate well in groups. The process of making products gives them insight into entrepreneurship that can be applied in everyday life. Feedback from students shows that they enjoy these activities and feel more interested in science lessons. The creation of AJANG made them appreciate local potential, especially banana blossoms, after directly experiencing a relevant and applicable learning process. In terms of final product quality, the banana flower shreds produced have a delicious taste and good texture. Taste evaluation, carried out by teachers and students, showed that the resulting product was declared good to very good. This product also meets nutritional standards with high protein content.

Overall, the results of this research indicate that making Banana Heart Shreds by grade 5 students at SD Negeri 1 Jugo as a science learning medium is not only effective in increasing understanding of science concepts, but also in developing students' social and practical skills. This activity succeeded in creating an interesting and meaningful learning experience, as well as increasing students' awareness of the local potential in their environment. According to Wibowo, in 2023 the principle of active learning is student involvement in the learning process by paying attention to interactions with learning content. This is in line with the principle of learning that is implemented directly and connected to local potential around students as a means of supporting and producing extraordinary innovations to teach processing, utilization of natural resources and project-based products.

CONCLUSION

Innovative activities carried out by fifth grade students at SD Negeri 1 Jugo can be concluded that banana blossoms have great potential to be processed into innovative food products, namely shredded meat. Shredded banana blossoms are used as an alternative source of vegetable protein that is easy to obtain and also has a long shelf life with this processing. Apart from that, this activity also contributes innovative ideas in processing neglected materials into products that have sales value as one of the uses of materials found around.

ACKNOWLEDGEMENT

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We would like to express our deepest gratitude to all parties who have contributed to this writing and research. First, we would like to thank the teachers and lecturers who have provided guidance and support during the research process. Without the direction and knowledge that has been provided, this research will not run well. We also thank all the 5th grade students at SD Negeri 1 Jugo who actively participated in the activity of making Shredded Banana Hearts. Your enthusiasm and passion have made the learning process a fun and meaningful experience. The support and trust given means a lot to us.

Finally, we would like to thank all parties who have helped in procuring the materials and tools needed for this research. Your contribution is very valuable in realizing this project. Hopefully the results of this research can provide benefits for all and increase awareness of the local potential that exists around us.

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