P-ISSN: 2776-7329, E-ISSN: 2776-7310
Proceedings
5th Vocational Education International Conference
Semarang, 13 July 2023

Development of Non-Rice Food Processing Training Pocketbook

Cucu Cahyana* and Rina Febriana

Seni Kulineri & Pengelolaan Jasa Makanan, Fakultas Teknik, Universitas Negeri Jakarta
**Corresponding author. Email: devicucu0905@gmail.com*

ABSTRACT

The objective of this study was to develop a Pocket Book for Non-Rice Food Processing Training. In this study, the research and development model were used through ADDIE. Data analysis techniques in this study used descriptive qualitative analysis to assess the content validity, practicality, and effectiveness of the model. The validity of the instrument uses expert tests, namely, to determine content validity and construct model validation (contract validity). The feasibility assessment by the material expert obtained a validation percentage score of 80% which was included in the eligible category. The feasibility assessment by media experts obtained a validation percentage score of 89% which was included in the very eligible category. Individual test responses with the Pocket Book on the feasibility aspects of content, language, presentation, and graphics showed a validation percent score of 87% with a very feasible category. Limited group trials are included in the eligible category and a percent score of 78% is 4.07 for field trials which are included in the eligible category. Based on the results, it is concluded that this pocketbook product is suitable for use by housewives.

Keywords: *Development of Pocket Books, Non-Rice Food Processing.*

1. INTRODUCTION

Indonesia has a very rich diversity of food ingredients, including food sources of carbohydrates such as various tubers, cereals and fruits. The type of food that is used as the staple food of the Indonesian people is rice which is included in the cereal category. Rice has become entrenched in the food consumption patterns of the people and has fostered a better perception or image of food from a social standpoint. Other sources of carbohydrates such as corn and various tubers consumed by some groups of people have begun to shift.

Rice is still the most consumed source of carbohydrate food by households in Indonesia and has the largest share of expenditure compared to other commodities such as wheat and tubers [1]. The high pattern of rice consumption by the Indonesian population is one of the reasons for the low quality of national food consumption, which is not yet diverse and does not yet have balanced nutrition based on the indication of the Expected Dietary Pattern (PPH) score. The energy contribution from the consumption of the grains group in 2022 reaches an Energy Adequacy Rate (AKE) of 56.6% with rice consumption reaching 256.2 grams/cap/day [2].

Diversity in types of food and nutritional balance in food consumption patterns is needed by the body to live a healthy, active and productive life. Based on the food consumption patterns of the Indonesian people which are still not in line with these expectations, it is important to implement diversification of food consumption in order to create a generation of more qualified and competitive human resources.

Diversification of food consumption patterns is in line with the mandate in Presidential Regulation No. 22 of 2009 concerning the Policy for Accelerating Diversification of Food Consumption Based on Local Resources and in Law Number 18 of 2012 concerning Food as contained in Chapter VI Food Consumption and Nutrition Article 60 which states that The Government and Regional Governments are obliged to realize diversification of food consumption to meet the nutritional needs of the community and support a healthy, active and productive life. This diversification is carried out by increasing public awareness and cultivating food consumption patterns that are diverse, nutritionally balanced and safe and in accordance with local potential and wisdom.

Based on this, it is necessary to make efforts to increase public awareness and ability to enrich the variety of daily food consumption, especially the consumption of non-rice staple foods by utilizing the development of appropriate technology so that people can adapt more quickly. One way that can be done is to develop media that can increase knowledge and skills in processing non-rice food, namely pocket books.

A pocket book is a medium that contains material relevant to the theme of the discussion, which combines writing or words with interesting and practical (visual) images. The creation of a pocket book related to non-rice food processing is expected to be a solution to increase the knowledge and skills of the community, especially housewives in supporting the government's food consumption pattern diversification program.

2. LITERATURE REVIEWS

2.1. Food Consumption Patterns

Food consumption pattern is a picture of the type, portion and size of food consumed by each individual or group of people. Food consumption patterns can also be used as an illustration of how much nutritional adequacy has been fulfilled. Indonesian people tend to consume one type of food more dominantly than other foodstuffs. The pattern of consumption of staple food sources of carbohydrates in Indonesia is still dominated by the grains group, especially rice. The energy contribution from the consumption of grains in 2022 will reach an energy sufficiency rate of 2,100 kcal/cap/day [3]. The lack of diversification, especially in the consumption of food sources of carbohydrates, causes problems in the form of not fulfilling the body's need for balanced nutrition.

Household food consumption patterns are influenced by household income factors, number of family members, age of the housewife, and mother's education [4]. Therefore, it is necessary to have media that is able to assist housewives in increasing their knowledge and skills in processing various food ingredients, especially food sources of non-rice carbohydrates so that the level of diversity in household food consumption patterns can increase.

2.2. Non-Rice Food Ingredients

Food sources of carbohydrates are important food ingredients to meet the energy needs of the human body. Indonesia knows a variety of food sources of carbohydrates such as rice, corn, tubers, sago, and bananas. However, the highest consumption of food sources of carbohydrates is dominated by rice. Food sources of other carbohydrates still have low consumption rates.

Types of tubers that are widely consumed by Indonesian people include cassava, sweet potatoes, and potatoes whose consumption trends have fluctuated and tended to decline over the past five years [5]. Food ingredients such as corn, potatoes, sweet potatoes, and taro are usually used as side dishes or as a complement to dishes.

Various types of tubers can be processed into interesting dishes and used as a source of carbohydrates with delicious flavours. Increasing the consumption of non-rice food ingredients is expected to be able to help overcome problems that arise as a result of less varied daily food consumption patterns, such as problems with balanced nutrition and rice imports.

2.3. Pocket Book

A pocket book is defined in the Big Indonesian Dictionary as a small book that can be put in a pocket and is easy to carry anywhere. Pocket books are included in reference or alternative books that teachers can use in delivering learning material. Pocket books have characteristics that can stimulate and increase student motivation. Students are more enthusiastic about following the teacher's explanation and prefer to use learning media that are practical and not boring [6].

According to Government Regulation Number 32 of 2013 and referring to the textbook assessment instrument from the National Education Standards Agency (BNSP), good textbooks have four aspects assessed, namely content feasibility, language, presentation, and graphics [8]. The Pocket Book has graphical feasibility seen from its small size making it easy to study anywhere and anytime. In addition, Pocket Books can be used as independent learning media or classical learning to support students according to their abilities. Therefore, learning becomes interesting, and the learning environment is conducive according to motivational indicators [7].

3. METHODS

This research classified as research and development (R&D). The research and development model used is ADDIE which stands for Analysis, Design, Development or Production, Implementation or Delivery, and Evaluation. The location for the implementation of the development of education and training learning models on non-rice food processing is carried out in the Pastry and Bakery laboratory for the Culinary Study Program, Faculty of Engineering, Jakarta State University. The results of this study are intended for use by housewives in general and especially housewives in Rawamangun Village, Pulo Gadung District, East Jakarta.

The data collection technique used was using two types of questionnaires. The first questionnaire is an

expert validation questionnaire filled in by the validator team, namely material experts and media experts. The second questionnaire is a trial questionnaire that is filled out by respondents to measure the feasibility of pocket books for participants using a measurement scale in the form of a Likert. The Likert scale is used to measure attitudes, opinions, and perceptions of a person or group of people about social phenomena [8].

Data analysis techniques in this study used descriptive qualitative analysis to assess the content validity, practicality, and effectiveness of the media. Instrument validation (content validity) and media construct validity to measure the accuracy of the learning materials used to develop the model. Construct validity is used to measure the consistency between media components.

Product testing is carried out to obtain data that can be used as a basis for determining the level of validity, practicality, and product effectiveness. Product validity tests were carried out by experts who are food processing lecturers and educational technology lecturers. Practicality and effectiveness trials were carried out by students as initial trial participants.

4. RESULTS

4.1. Analysis Stage

The analysis phase begins with observing 20 housewives regarding the preparation of daily menus and initial knowledge about food security and food diversification. Based on preliminary knowledge mapping, it was found that 20% of housewives had good scores with a range of 70-80 regarding non-rice food processing, while the rest were still below 70. The results of interviews with housewives stated that housewives assumed rice was food. staple food of Indonesian society which cannot be replaced with other sources of carbohydrates, low knowledge and skills in processing tubers into a variety of dishes, as well as high ignorance of housewives about food security and food diversification programs.

Based on the needs analysis and material analysis, it was concluded that learning media were needed that could increase the knowledge and skills of housewives. One of the right media to be able to fulfill the goal of optimizing learning is the Pocket Book. The supporting learning resource developed is in the form of a pocket book with the theme "Food Security (non-rice food processing program)".

4.2. Design Stage

This design stage is carried out to determine specific competencies, methods, teaching materials, and learning strategies. The material and questions displayed are the summary results of several reference books relevant to the theme, then arranged in the form of a pocket book.

4.3. Development Stage

The development stage in the ADDIE model contains product design realization activities. At this stage, the pocket book that has been designed is then printed and a product feasibility test is carried out. The assessment instrument in the form of a product feasibility questionnaire was made based on the 2006 Textbook Assessment Instrument issued by the National Education Standards Agency (BNSP) which was then immediately tried out.

Validation was carried out by material expert lecturers and media expert lecturers. Material validation was carried out regarding the feasibility aspects of the content, language, and presentation of the pocket book which was developed by filling out a scale 1-4 questionnaire. The results of the material expert validation test stated that the validation percentage value, namely 80%, was in the range of $62.5\% \leq V < 81.25\%$, which means that the media being developed got a decent category value. Media validation was carried out related to aspects of language feasibility, presentation and graphics of the pocket book which was developed by filling out a scale 1-4 questionnaire. The results of the media expert validation test show that this product is in a feasible category with a validation percentage value of 89% which lies in the range of $81.25\% \leq V \leq 100\%$.

Based on the comments and suggestions provided by the expert validator, several revisions and improvements were made regarding the feasibility of the content, language, presentation, and graphics. The revised pocket book is then used for the next stage

4.4. Implementation Stage

At this stage validation was carried out in the form of a pocket book trial conducted on two groups, the first was a small group trial, and the second was a field trial with a larger number of respondents. The trial was carried out small group trials namely individual trials (one to one test) were conducted on 2 people who each had high and low cognitive and psychomotor aspects using a 1-4 scale questionnaire. The results of validation by individual trial participants (one to one test) stated that the pocket book was considered very feasible. The validation percentage value obtained is 87% which lies in the range of $81.25\% \leqslant V \leqslant 100\%$, namely Very Feasible.

The next trial was a small group test or limited group trial which was conducted on 8 respondents who were selected based on cognitive and psychomotor aspects, namely 3 participants with high abilities, 2 participants with moderate abilities, and 3 participants with low abilities using a 1-4 scale questionnaire. The validation

results by participants in the limited trial (small group test) showed that the Pocket Book was considered very feasible, while based on the linguistic feasibility aspect it was considered feasible to be tested with a validation percentage value of 78% which was in the range of 62.5% ≤ V < 81.25%, namely Worthy.

Based on the results of the validation and trial, the researcher did not carry out the second phase of revision because the final conclusion from the validation results stated that the pocketbook was suitable for use, the comments of the trial participants were related to the subjective views of the participants, and the errors were not too material so that learning could continue.

4.5. Evaluation Stage

The evaluation stage is carried out based on the results of the validity test, practicality test, and effectiveness test. Based on the results of the validity test, the pocket book was considered valid by media expert lecturers with a percentage of 89% who entered the very valid criteria and were considered valid by material expert lecturers with a percentage of 80% who entered the very valid criteria so they did not require revision.

The results of the practicality test carried out through individual trials (one to one test) also obtained a percentage of 87% which was included in the very practical criteria with no need for revision because the value was in the range of 80-100%. The effectiveness test was carried out using a limited trial (small group test) to obtain a percentage of 78% which is included in the effective category with no revision because it is in the range of 66-79% [9].

Based on the data analysis on the results of the validity, practicality and effectiveness trials described above, it can be concluded that the pocketbook product developed by the author is valid, practical and effective so that it can be used for housewives in food security with non-rice food processing materials based on tubers.

5. DISCUSSION

The development of a non-rice food processing pocket book as a medium for increasing knowledge for housewives was made with reference to the module design "Pesticides Vegetables" made by Siti Reksasuwirya in 2014. The design of the pocket book was made by researchers using Microsoft Office.

Pocket books are an effective medium for increasing knowledge, this is evidenced by research on nutrition pocket books which effectively increase the knowledge of UNIMED Atletik Club (UAC) athletes. Pocketbooks related to vegetable and fruit consumption have also proven effective in increasing students' knowledge and practice of fruit and vegetable consumption [10]. The pocket book that has been developed can help increase the knowledge and skills of housewives in processing tuber-based non-rice food.

Pocketbooks equipped with pictures and colors can attract students' interest so as to improve student learning outcomes. This is in line with research results which state that in order to obtain maximum learning outcomes, pictures must be closely related to the subject matter [11]. In other words, that pictures that are directly related to the subject matter will make participants obtain maximum learning outcomes.

Pocket book media can improve and motivate student learning. This is proven by an increase in student learning outcomes and an increase in student interest in learning pocketbook media in class. The use of images in learning media has proven to be helpful in conveying material so that students are able to understand the material better [12].

The use of pictures of various non-rice food ingredients such as ganyong, uwi, gadung, gembili arrowroot, and their derivative products in the form of flour and processed products from non-rice food ingredients can increase understanding regarding the material presented. This is because pocketbook readers can have an overview of raw materials and processed products made from non-rice food ingredients. It is hoped that housewives will find it easier to remember what they have learned through the pictures attached to the pocket book

6. CONCLUSSION

The Non-Rice Food Processing Pocket Book based on the ADDIE development model has produced learning media that are suitable for use based on the feasibility aspects of content, language, presentation, and graphics. Based on the product validity, practicality and effectiveness trials, it can be concluded that this pocket book product is suitable for use by housewives. The non-rice food processing pocket book can increase the knowledge of housewives in accordance with the theories that have been described, because it contains pictures and an attractive appearance. In addition, pictures that are directly related to the subject matter will make housewives obtain more optimal results. Also, the housewife will find it easier to remember what she has learned through pictures.

AUTHORS' CONTRIBUTIONS

This research contributes in the form of a pocket book that can be used as a guide in training related to the development of non-rice food products.

ACKNOWLEDGMENTS

This research was funded by the BLU Fund POK, Faculty of Engineering, Jakarta State University Based on the Decree of the Commitment Making Officer of the Faculty of Engineering Jakarta State University No.365/UN39/HK02/2022, Date: 18 April 2022 and the Assignment Agreement Letter of the Dean of the Faculty of Engineering Number: 032/UN39.5.FT/PP/IV/2022, Date: 25 April 2022.

REFERENCES

[1] Wijayanti P. D., Harianto., & Suryana, A. 2019. Permintaan Pangan Sumber Karbohidrat di Indonesia. ANalisis Kebijakan Pertanian, Vol.17 (1), 13-26.

[2] Dinas Ketahanan Pangan Kabupaten Probolinggo. 2022. *Pola Pangan Harapan Konsumsi Tahun 2022*. Probolinggo: Dinas Ketahanan Pangan Kabupaten Probolinggo.

[3] Badan Pangan Nasional. 2022. Situasi Konsumsi Pangan Nasional Tahun 2022. Jakarta: Badan Pangan Nasional.

[4] Alfiati, S. 2018. Analisis Faktor-Faktor yang mempengaruhi Pola Konsumsi Pangan Rumah Tangga. Journal of Economic, Business, and Accounting (COSTING), Vol.2 (1), 76-83.

[5] Adha, A. S. A., & Suseno, S. H. 2020. Pola Konsumsi Pangan Pokok dan Kontribusinya Terhadap Tingkat kecukupan Energi Masyarakat Desa Sukadamai. Jurnal Pusat Inovasi Masyarakat, Vol.2 (6), 988-995.

[6] Aini, S. S. Q., & Sukirno. 2013. Pocketbook as Media of Learning to Improve Students Learning Motivation. Jurnal Pendidikan Akuntansi, Vol.11 (2), 68-75.

[7] Hamzah, B. U. 2012. Model Pembelajaran menciptakan Proses Belajar Mengajar yang Kreatif dan Efektif. Jakarta: PT. Bumi Aksara.

[8] Sugiyono. 2012. *Metode Penelitian Pendidikan (Pendekatan Kuantitatif, Kualitatif, dan R&D)*. Bandung: Alfabeta.

[9] Arikunto, S., 2009. *Prosedur Penelitian Suatu Pendekatan Praktik. Edisi Revisi 6*. Jakarta : Rineka Cipta.(5)

[10] Afandi, A., & Siregar, N. S. 2022. Efektivitas Buku Saku Gizi Terhadap Peningkatan Pengetahuan Atlet UNIMED Atletik Club (UAC). Jurnal Kesehatan dan Olahraga, Vol.4 (2).

[11] Sudjana, N. 2010. *Dasar-Dasar Proses Belajar*. Bandung: Sinar Baru.

[12] Safitri, A., & Kabiba. 2020. Penggunaan Media Gambar Dalam Meningkatkan Minat Belajar Siswa Kelas IV di SD Negeri 3 Ranomeeto. Didaktis: Jurnal Pendidikan dan Ilmu Pengetahuan, Vol.20 (1), 24-36.