

Development of an E-Book on Traditional Cosmetics and Beverages for SPA Treatments

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Abstract

Keywords

e book, traditional cosmetics and drinks, spa treatments

This study is motivated by the increasing global demand for digital learning media in vocational education, particularly in fields requiring strong practical and visual understanding, such as beauty and spa therapy. Traditional instructional materials are often insufficient to support competency-based learning in courses involving cosmetic formulation and traditional spa treatments. Therefore, this research aims to develop and evaluate an interactive e-book on traditional cosmetics and beverages for spa treatment using the ADDIE model. The study employed a Research and Development (R&D) approach following the ADDIE stages — Analysis, Design, Development, Implementation, and Evaluation. The study involved subject matter experts, media experts, linguists, and 30 vocational students as respondents. Data were collected through questionnaires, interviews, observations, and documentation, and analysed using descriptive quantitative and qualitative methods. The results showed that the developed e-book achieved very high validity and feasibility scores, with expert validation ratings exceeding 95% and an average user response score above 92%. The e-book was considered highly effective in terms of content quality, language clarity, visual design, usability, and accessibility. In conclusion, the interactive e-book on traditional cosmetics and spa treatment is feasible and effective as a learning medium in vocational education. It enhances student engagement, supports independent learning, and bridges theoretical knowledge with practical skills, while integrating local wisdom into digital learning resources.

INTRODUCTION

The need for interactive digital learning media grounded in local wisdom is increasing in vocational education (Tsai et al., 2021). The development of digital technology has driven significant transformations in education, including vocational education, which demands strong hands-on practical skills. One of the main challenges in vocational learning is the limited availability of interactive and contextual teaching media, particularly in the Cosmetics and Traditional Beverages for SPA Treatment course, which requires the visualisation of processes, natural ingredients, and product manufacturing stages (Handayani & Rahmawati, 2020). Learning media that remain in print form make it difficult for students to independently understand the concepts and practices of traditional cosmetic making, especially in the era of online and blended learning (Nugraha et al., 2021).

The cosmetics and traditional beverages produced in this course are derived from various natural ingredients found throughout Indonesia, a country endowed with exceptionally

rich natural resources that continue to be explored and utilized (Ausat et al., 2023; Dutu, 2015; Putra et al., 2023). Indonesia is recognised for its vast biodiversity and is the largest producer of herbal raw materials for cosmetics in the world (Wathoni et al., 2018). Approximately 30,000 plant species have been identified in Indonesia, of which 950 are known to possess biopharmaceutical functions and have the potential to serve as medicines and health foods for humans, animals, and plants alike. Herbal preparations are derived from natural plant components — including leaves, roots, fruits, and flowers — that are valued for their health and beauty properties. This abundance of raw materials for cosmetics and traditional beverages holds significant potential for use in SPA treatments (Angelcheva & Tomova, 2023; Barbulova et al., 2015; Ekiert et al., 2022). The SPA industry in Indonesia has expanded from Sabang to Merauke and currently promotes nine types of traditional SPAs: martub and oukup from South Sumatra, tangas (Betawi), batangreh (Minang), so'oso (Madura), scrub (Java), Bali SPA (Bali), batimung (Banjar, South Kalimantan), tellu sullapa eppa (Bugis), and bakera (Minahasa). This diversity reflects Indonesia's wealth of natural resources and the distinctive cultural characteristics and properties of each region (Sulistiyorini & Joshua, 2023).

The urgency of this research lies in the need to bridge the gap between modern digital education and local cultural knowledge. In a country such as Indonesia, which possesses rich biodiversity and traditional knowledge systems, integrating local cosmetic ingredients and spa traditions into learning media is essential (Kurniawan et al., 2024; Nurrosyidah et al., 2026). Without such integration, valuable cultural heritage risks being underutilised in educational contexts, while students are deprived of opportunities to learn from locally relevant resources (Hendriyani et al., 2024; Wulandari, 2024).

The novelty of this study lies in the development of an e-book that integrates traditional cosmetics and beverages for spa treatment with an interactive digital learning design based on the ADDIE model. Unlike conventional learning materials, this e-book combines scientific knowledge, practical procedures, and local cultural wisdom into a structured, multimedia-based learning resource that supports independent and experiential learning.

The primary purpose of this research is to develop and evaluate the feasibility of an interactive e-book as a learning medium for the traditional cosmetics and spa treatment course. This includes assessing its validity, practicality, and effectiveness based on expert validation and student responses, in order to establish its suitability as a vocational learning tool.

The contribution of this study is expected to enrich the field of vocational education by providing an innovative instructional model that integrates digital learning with local cultural content. It also contributes to the development of educational technology by demonstrating how a structured instructional design model such as ADDIE can be applied to produce culturally relevant and interactive learning media.

The objectives of this research are to design, develop, validate, and test an e-book-based learning medium for the traditional cosmetics and spa treatment course. The expected benefits of this study include improved student learning outcomes, increased learning motivation, and enhanced practical skills in vocational beauty education. Additionally, it provides a scalable model for developing similar digital learning media in other vocational disciplines that seek to integrate technology with local wisdom.

METHOD

This research uses a research and development approach (*Research and Development*) with the ADDIE model which includes *the Analysis, Design, Development, Implementation, and Evaluation* stages. This model was chosen because it is systematic and appropriate to produce valid, practical, and effective learning media. The activity was carried out at the Makeup and Beauty Study Program, Faculty of Vocational Studies, State University of Yogyakarta, in March-July 2025 by involving lecturers and students of the Cosmetics and Traditional Drinks course. The research subjects consisted of two subject matter experts, one media expert, one linguist, and 30 students as users.

The development of e-books is carried out through five stages of the ADDIE model, as follows:

Analysis:

Identification of student and lecturer needs is carried out through surveys and interviews. It was found that there is no digital teaching media that contains cosmetic materials and traditional drinks for complete and interactive SPA treatments. The results of the analysis are the basis for determining the content, display, and design needs of the e-book.

Design:

The design of the e-book is carried out by compiling a content framework and a visual script. The content covers the history of traditional plants, the types and benefits of natural ingredients, as well as the formulation of traditional cosmetics and drinks for SPA treatments. The e-book is designed with a PDF format of <50 MB, modern visual style, communicative language, and user-oriented layout.

Development:

This stage includes text content creation, editing, visual design, and expert validation. Validation was carried out by material experts, media experts, and linguists to assess content, appearance, and language aspects using a Likert scale of 1–4. The validation results showed an average of Aiken's $V > 0.80$ with a feasibility rate of >95% in all aspects

Implementation:

E-books were tested on a limited basis for students to measure user responsiveness and responsiveness to the appearance, content, and ease of access. Students are asked to study the e-book during lectures and provide responses through a user evaluation questionnaire.

Evaluation:

The evaluation was carried out in a formative and summative manner to assess the final quality of the e-book based on the input of validators and users. The results of the analysis show that the product has a high level of validity and practicality, and is considered very suitable for use as a digital learning medium in vocational education in the field of beauty.

Data was collected through questionnaires, observations, interviews, and documentation. The questionnaire is used to measure expert and user assessments of aspects of content, language, and media appearance. Observations and interviews were conducted to strengthen the results of the needs and implementation tests. Documentation includes photos of activities and evidence of media use in the classroom.

Data analysis was carried out descriptively, quantitatively, and qualitatively. The eligibility score is calculated using the percentage of the eligibility score (Likert 4 points) with the formula:

$$KP = \frac{X}{XI} \times 100\%$$

Description :

KP = Eligibility

X = Total score obtained

X1 = The total number of ideal scores in a single item

Furthermore, the results are converted based on the product eligibility score criteria into several qualifications presented in the following table:

Table 1. Eligibility Interperformance Criteria

Percentage	Value scale	Qualifications	Remarks
75 % - 100%	4	Highly feasible	No revision required
50% - 74,99%	3	Worthy	No revision required
25% - 49,99%	2	Less worthy	Unusable
0% -24,99%	1	Very unworthy	Failed/unusable

RESULTS AND DISCUSSION

Analysis Stage

Students and lecturers need more interactive supporting learning resources to make them easier to understand and practice. Thus, the developed *E-Book* of Cosmetics and Traditional Drinks for SPA Treatment is able to integrate sound impressions, texts, images, animations, movies, music, and interactive quizzes as an evaluation so that the information conveyed is richer compared to books or main learning resources.

Design Stage

The content framework in the *e-book* that will be developed contains Traditional Cosmetics and Drinks for SPA Treatment materials includes: Introduction, Indonesian Natural Wealth, Popular Natural Ingredients for Traditional Cosmetics and Beverages, Benefits and Content of Active Ingredients, and recipes and ways to make traditional cosmetics and drinks for SPA treatment. The material presented is neatly arranged with an attractive layout by displaying original photos and sketches as supporting material so that readers can easily understand the material presented. At the content framework stage, a design of the steps to make traditional cosmetics and drinks for SPA treatments, both traditional and modern, was obtained which will be used as the content of *the e-book*.



Figure 1. E-book design

Develop

The results of the development stages of *the E-Book* of Cosmetics and Traditional Drinks for Body Care go through several series to produce a quality product, with a series of *e-book development processes*, namely Writing and Editing and creating digital formats. Furthermore, the validation of this product was carried out by media experts and material experts in Table 2.

Table 2. Recapitulation of Expert Validation Results

Yes	Validator	Percentage (%)	Categories
1	Media Member	95,3	Highly Worth It
2	Material Expert	95,1	Highly Worth It
Average		95,2	Highly Worth It

Based on the validation results, the development of *the E-Book* of Cosmetics and Traditional Drinks for SPA Treatment received very decent assessments from media experts (95.3%) and material experts (95.1%). The results of the trial on users (Cosmetology and Beauty students) showed an average feasibility percentage of 95.2%, covering aspects of material quality, language, media, usefulness, and accessibility. This indicates that the e-book is effective and suitable for use as an interactive learning medium in supporting related courses.

Implementation

By conducting a trial by involving students to find out the response of respondents and the attractiveness of E-Book learning media. The following are the results of the recapitulation of the user test in each aspect.

Table 3. Recapitulation of User Test Results

Yes	Assessment Aspects	Percentage (%)	Categories
1	Quality of Material	92,58	Highly Worth It
2	Grammar	91,17	Highly Worth It
3	Media Quality	92,17	Highly Worth It
4	Usefulness of Use	93,33	Highly Worth It
5	Accessibility	91,83	Highly Worth It
Average		92,2	Highly Worth It

Evaluation

Based on the results of respondents' responses, suggestions were obtained for E-Book learning media, namely E-Books can be applied using smartphones so that they can be enlarged and reduced in size easily and hope that this E-Book media will be available in the Cosmetology and Beauty study program. With the use of the e-book Traditional Cosmetics and Drinks for SPA Treatment as a learning support source in the Cosmetics and Traditional Drinks for SPA Treatment course, it can be evaluated that the E-Book learning media is very suitable for use in the learning process

CONCLUSION

This study concludes that the development of an interactive e-book on traditional cosmetics and beverages for spa treatment using the ADDIE model is feasible, valid, and highly effective as a learning medium in vocational education. The product successfully integrates digital learning components with local wisdom, presenting materials in a structured, interactive, and visually engaging format. Based on expert validation and user testing, the e-book achieved very high feasibility scores, indicating strong suitability in terms of content accuracy, media design, language clarity, and practical usability. These findings confirm that the developed e-book can significantly support student understanding, improve learning motivation, and enhance practical competence in cosmetic and spa treatment courses.

For future research, it is recommended that the development of similar e-learning media be expanded to other vocational subjects by incorporating more advanced interactive features — such as augmented reality (AR), virtual simulation, or artificial intelligence (AI)-based adaptive learning systems — to further enhance student engagement and experiential learning. Additionally, future studies should conduct large-scale experimental testing to measure long-term learning outcomes, comparative effectiveness relative to other digital media, and cross-institutional validation. Further integration of regional cultural diversity into digital learning materials is also encouraged, in order to strengthen contextual learning and preserve local knowledge within modern vocational education systems.

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