

Development of Flipbook-Based Learning Media at SMK Negeri 66 Jakarta on the Topic of Vegetable Cutting Techniques

Rizki Fawzan Zulfi¹, Rina Ferbriana², Soeprijanto³

Master's Program in Technology and Vocational Education, State University of Jakarta ⁽¹⁾⁽²⁾⁽³⁾

DOI: <https://doi.org/10.62872/dkke5h34>

Abstract

This study aims to develop a flipbook-based learning medium to enhance the understanding and skills of vocational high school (SMK) students majoring in Culinary Arts, specifically on the topic of vegetable cutting techniques. This fundamental skill is essential in cooking practice, yet there is a lack of effective and engaging learning media available in schools. The study adopts the DDD-E development model to design, produce, and evaluate the flipbook-based learning medium on vegetable cutting techniques for culinary students. The development process includes expert validation, user testing, and both qualitative and quantitative data analysis to assess the feasibility and effectiveness of the media. The results show that the flipbook learning media developed using the DDD-E model is highly suitable for use in Culinary Basics instruction, with validation scores of 93% from subject matter experts, 97% from media experts, and 91% from language experts. The media was developed using Heyzine and Canva Pro applications, incorporating a combination of text, images, videos, audio, and interactive exercises. It underwent one-to-one, small group, and field testing stages, all of which received very positive responses in terms of appearance, ease of use, and learning effectiveness.

Keywords: Media Development, Flipbook, Vegetable Cutting Techniques

Copyright (c) 2024 Rizki Fawzan Zulfi¹, Rina Febriana², Soeprijanto³

□ Corresponding author : Rizki Fawzan Zulfi

Email Address : r.fawzanzulfi@gmail.com

Received July 04, 2025, Accepted July 30, 2025 Published August 04, 2025

INTRODUCTION

An effective learning process requires engaging and interactive instructional media, especially in vocational education such as Culinary Expertise Concentration in Vocational High Schools (SMK). One of the essential basic materials is vegetable cutting techniques, which are foundational skills students must master before engaging in cooking practice. These techniques not only affect the taste and appearance of the dish but are also closely related to kitchen safety. Basic techniques such as the claw grip are important to prevent injuries while cutting ingredients (Byrd, 2013).

However, the learning process for this material is still dominated by conventional media such as PowerPoint and printed books, which are considered less effective since not all students can grasp cutting techniques through verbal explanations alone (based on observations and interviews with teachers at SMKN 66 Jakarta). According to survey results, flipbook media is considered to have great potential because it can present material in the form of text, images, and engaging visuals that enhance students' learning motivation (T. Salsabela et al., 2022). Therefore, flipbook-based learning media was developed to effectively and safely improve students' understanding and skills in vegetable cutting techniques.



Creative Commons Attribution-ShareAlike 4.0 International License:

<https://creativecommons.org/licenses/by-sa/4.0/>

Methodology

This study adopts an evaluation design using the Context, Input, Process, Product, and Outcome (CIPPO) approach to assess the implementation of the competency certification program at SMK Negeri 40 Jakarta, specifically in the multimedia expertise program. This research design was chosen because it provides a comprehensive overview of the program's effectiveness and its impact on students and the industry. The methods employed include descriptive quantitative and qualitative approaches, allowing the researcher to collect comprehensive and in-depth data. The research population consists of all documents and school members involved in the certification tests, while the sample is taken through purposive sampling from students who have participated in the certification tests, ensuring that the data obtained can represent the existing conditions....

This study employed a Research and Development (R&D) approach, referring to the DDD-E development model (Decide, Design, Develop, Evaluate). This model was selected because it is well-suited for designing and developing digital flipbook learning media, particularly for delivering vegetable cutting techniques to students in the Culinary Expertise Concentration of vocational high schools (SMK).

The instruments used in this study were questionnaires designed for three groups of experts (subject matter, media, and language) as well as for students. These instruments were used to assess the feasibility of the product based on media design, content quality, language clarity, visual appearance, and ease of use. All instruments underwent validation by experts and were developed based on measurable indicator grids.

Data collection was carried out through interviews and questionnaire distribution. Interviews were conducted in the early stages to explore the needs and challenges faced by teachers in teaching vegetable cutting techniques. Questionnaires were distributed to students to gather their responses to the developed media, and to experts to obtain product feasibility evaluations.

The collected data were analyzed using both qualitative and quantitative descriptive techniques. The media feasibility assessments by validators were analyzed using a Likert scale and converted into percentage values based on Arikunto's feasibility categories. Additionally, an effectiveness test was conducted using the N-Gain test to measure the improvement in students' knowledge before and after using the media. The N-Gain results were analyzed using the classifications by Meltzer (2002) and Hake (as cited in Agustini et al., 2024), with effectiveness criteria categorized as high, medium, and low.

Results and Discussion

This study produced a digital learning medium in the form of an interactive flipbook that covers vegetable cutting techniques in the Basic Culinary subject. The media was developed using the DDD-E model (Decide, Design, Develop, Evaluate) and underwent validation and testing stages to assess its feasibility and effectiveness in supporting the learning process. The validation was carried out by three experts: a subject matter expert, a media expert, and a language expert. The validation results indicated that the media is highly feasible for use. The subject matter expert gave a score of 71 out of a maximum of 76, resulting in a feasibility percentage of 93%. This assessment shows that the content in the flipbook aligns with the learning objectives, covers relevant material, and effectively supports the teaching and learning process.

Furthermore, the media expert awarded a score of 94 out of 96, with a feasibility percentage of 97%, indicating that the visual design, navigation, and multimedia elements in the flipbook were effectively and attractively designed. Meanwhile, the language expert gave a score of 33 out of 36, or 91%, indicating that the language used in the learning media is clear, communicative, and adheres to proper linguistic conventions.

The media usage trial was conducted in three stages: one-to-one testing, small group testing, and field testing. In the one-to-one stage, three students with varying ability levels stated that the flipbook was flexible and supported independent learning. Several improvement suggestions, such as the addition of cutting techniques and background music, were accommodated during the revision phase.

The small group trial, involving nine students, showed that the flipbook was easy to use, and the material presented was clear and supported by effective instructional videos. No technical or content-related issues were found that required further revision.

Finally, the field testing was conducted with 36 students who had not been involved in the previous trials. The results showed that the flipbook media greatly supported the classroom learning

process without the need for printed textbooks, and students responded positively to its visual appearance and interactivity.

Overall, the research results indicate that the flipbook-based learning media is highly feasible for use in teaching vegetable cutting techniques. This media can enhance students' learning interest, facilitate independent understanding of the material, and provide an interactive learning experience that aligns with the needs of vocational school students in the digital era.

Conclusion

This study aimed to develop a digital flipbook-based learning media for the topic of vegetable cutting techniques using the DDD-E model. The research findings indicate that the developed media is highly feasible for use, based on validation results from the subject matter expert (93%), media expert (97%), and language expert (91%). Trials conducted with students also showed a very high level of feasibility, with an average score of 92.3% from individual, small group, and field testing. Therefore, this flipbook media is effective as an interactive and flexible learning tool to support the understanding of both theory and practice in vegetable cutting techniques.

References

- Agustini, R., Widiastuti, R., & Hidayat, T. (2024). Uji Efektivitas Media Interaktif Menggunakan N-Gain dan Klasifikasi Hake. *Jurnal Pendidikan Sains*, 18(1), 34–42.
- Aloraini, S. (2012). The Impact of Using Multimedia on Students' Academic Achievement in the College of Education at King Saud University. *Journal of King Saud University - Languages and Translation*, 24(2), 75–82. <https://doi.org/10.1016/j.jksult.2012.05.002>
- Aripin, I. (2018). *Concept and application of mobile learning in biology education*. Volume 3, Number 1, April 2018, pp. 01–09.
- Arsyad, A. (2011). *Instructional Media*. Jakarta: PT Raja Grafindo Persada.
- Arsyad, A. (2011). *Instructional Media*. Jakarta: Rajawali Pers.
- Astuti, E. R. P., & Baysha, M. H. (2018). *Authentic learning in the print media production course*. *Mandala Education Scientific Journal*, 4(1), 231–237.
- Avilla, A., Sulandari, L., Purwidiani, N., & Pangesthi, L. T. (2025). Analysis of Vegetable Handling in the Buffet Dish Preparation Process at Hotel Mercure Surabaya Grand Mirama. *Dewantara: Journal of Social and Humanities Education*, 4(1), 153–176.
- Barham, P., Edwards, J. S., & Schafheitle, J. M. (2001). *The Science of Cooking* (pp. vii–244). Heidelberg: Springer.
- Barrett, D. M., Beaulieu, J. C., & Shewfelt, R. (2010). Color, flavor, texture, and nutritional quality of fresh-cut fruits and vegetables: desirable levels, instrumental and sensory measurement, and the effects of processing. *Critical Reviews in Food Science and Nutrition*, 50(5), 369–389.
- Branch, R. M. (2009). *Instructional Design: The ADDIE Approach*. Springer. <https://doi.org/10.1007/978-0-387-09506-6>
- Budiningsih, A. (2017). *Food Processing and Presentation*. Yudhistira.
- Byrd, K. (2013). *Fundamentals of culinary arts*. Pearson Education.
- Djamarah, S. B., & Zain, A. (2010). *Teaching and Learning Strategies*. Jakarta: Rineka Cipta.
- Hamid, A., & Alberida, H. (2021). *The importance of developing interactive e-modules based on flipbooks in senior high schools*. *Edukatif: Journal of Educational Sciences*, 3(3), 911–918.
- Heinich, R., Molenda, M., & Russell, J. D. (1993). *Instructional Media and the New Technologies of Instruction*. New York: Macmillan.
- Heinich, R., Molenda, M., Russell, J. D., & Smaldino, S. E. (2002). *Instructional Media and Technologies for Learning* (7th ed.). Columbus, OH: Merrill/Prentice Hall.
- Ivers, K. S., & Barron, A. E. (2006). *Multimedia projects in education: Designing, producing, and assessing*. Libraries Unlimited.
- James, J. B., Ngarmsak, T., & Rolle, R. S. (2010). *Processing of Fresh-Cut Tropical Fruits and Vegetables: A Technical Guide*.
- Kartika, L. (2020). *Development of flipbook-based multimedia information service media for high school students*. *Journal of Islamic Guidance and Counseling Education*, 1(1), 27–40.
- Komara, E. (2014). *Interactive Learning and Teaching*. Bandung: PT Refika Aditama.
- Kurniasari, A. (2021). *Development of Flipbook Learning Media Using the Discovery Learning Model*

DOI: <https://doi.org/10.62872/dkkc5h34>

- on *Trigonometry Material at SMA Negeri 1 Pangkalan Kerinci* (Doctoral dissertation, Universitas Islam Riau).
- Lee, M. J. W., & McLoughlin, C. (2007). Teaching and learning in the Web 2.0 era: Empowering students through learner-generated content. *International Journal of Instructional Technology and Distance Learning*, 4(10), 21–34.
- Lingga, L. (2010). *Smart Choices in Vegetables: The Pros and Cons of 54 Types of Vegetables*. Agromedia.
- Masdarini, L., & Devi, M. (2011). Students' understanding, attitudes, and hygiene-sanitation performance in food processing and presentation in vocational schools of culinary expertise. *Technology and Vocational Education*, 34(2), 165–178.
- Meltzer, D. E. (2002). The relationship between mathematics preparation and conceptual learning gains in physics: A possible "hidden variable" in diagnostic pretest scores. *American Journal of Physics*, 70(12), 1259–1268.
- Ningrum, A. P. (2014). *Application of Learning Outcomes "Making Vegetable Cuts" in Continental Food Processing Practice at SMK Negeri 3 Cimahi* (Doctoral dissertation, Indonesia University of Education).
- Sadiman, A. S., et al. (2012). *Educational Media: Definition, Development, and Utilization*. Jakarta: Rajawali Press.
- Salsabela, T., dkk. (2022). Pengaruh Media Flipbook terhadap Motivasi Belajar Siswa Sekolah Menengah Kejuruan. *Jurnal Teknologi Pendidikan*, 10(2), 112–121.
- Smaldino, S. E., Lowther, D. L., & Russell, J. D. (2012). *Instructional technology and media for learning* (10th ed.). Pearson Education.
- Sugiyono, E. I. (2014). *Development of interactive multimedia-based listening teaching materials in an independent learning model for junior high schools*. *Seloka: Journal of Indonesian Language and Literature Education*, 3(2).
- Sukardi. (2008). *Metodologi penelitian pendidikan: Kompetensi dan praktiknya*. Bumi Aksara.
- Suyitno, I. (2012). *Development of character education and national culture with local wisdom insight*. *Journal of Character Education*, 3(1).
- Tegeh, I. M., Jampel, I. N., & Pudjawan, K. (2014). Model pengembangan bahan ajar berbasis masalah. *Jurnal Ilmiah Pendidikan dan Pembelajaran*, 1(1), 1–10.
- Wolfson, J. A., Bleich, S. N., Smith, K. C., & Frattaroli, S. (2016). What does cooking mean to you?: Perceptions of cooking and factors related to cooking behavior. *Appetite*, 97, 146–154.