



Feasibility of E-Magazine Media Submaterial Fungi Diversity Inventory Results in the Padang Tikar Protected Forest, Kubu Raya Regency



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ABSTRACT

Learning media aims to improve the quality of teaching and learning and motivate students through engaging presentations. This study aimed to determine the feasibility of e-magazine media from the macroscopic fungi inventory in Padang Tikar Protection Forest, Kubu Raya Regency. The development of e-magazine media was carried out to become an additional information source on the fungi diversity submaterial. This study used a qualitative descriptive method of 2-stage research, including interviews and media making. The media-making stage was then divided into pre-production, production, and post-production. Media feasibility validation was carried out at the post-production stage with a Likert scale assessment and analyzed using Lawshe's formula. The media validation results obtained a CVI value of 1.00. The validation results exceeded the value of 0.99 criteria from 5 validators; it can be concluded that the e-magazine media is valid for use in the fungi diversity submaterial.

Keywords: *E-magazine; learning media; macroscopic fungi.*

INTRODUCTION

Learning is a process of interaction between learners and learning resources so that behavior changes occur (Pane & Dasopang, 2017). Learning is a combination of people, facilities, and procedures influencing each other to achieve specific goals (Pitaloka & Arsanti, 2022). The primary purpose of learning is to improve skills and knowledge to face challenges in life. Teaching methods and learning media are two important elements in a teaching and learning process (Kustandi & Sutjipto, 2019).

Learning media is a tool to increase effectiveness and efficiency in the learning and teaching process (Novelza & Handican, 2023). In addition, learning media also plays a role in attracting students' attention and thoughts, which can increase motivation, build enthusiasm, and foster desire in the learning process (Solehudin et al., 2022). Learning media greatly supports teaching and learning activities at school (Manongga, 2021). Media use impacts the learning process excellently because it can facilitate interaction between students and teachers to make the learning process more effective and efficient (Pradita, 2022).

Based on the results of interviews with Biology teachers at SMAN 1 Batu Ampar, the learning media teachers use on fungi material in class X SMA uses PowerPoint media. Students experience challenges in understanding and differentiating the concept of fungi, especially in classifying the various types. This is due to the lack of examples of fungi, especially those from the local area. Due to the limitations of learning media and students' difficulty in classifying fungi, researchers developed an engaging e-magazine media based on an inventory of macroscopic fungi in the Padang Tikar Protection Forest, Kubu Raya Regency.

E-magazine can present learning materials enriched with attractive images, increasing students' interest in learning (Falahudin, 2014). E-magazine media can increase independent learning for students. In addition, it can overcome the problem of the difficulty of visualizing material to students (Savitri, 2019). According to Fuad, Karim, and Palennari (2020), e-magazine are very effective in increasing students' learning motivation, making it easier for them to understand the material and helping teachers deliver it. This is evidenced by their research,

which shows that the e-magazine media developed obtained a feasibility assessment of 85% with a valid and practical category for use.

E-magazine can be published through social media and the internet through websites (Rohmah et al., 2020). E-magazine are designed with simple language for easy understanding. In addition, the content presented is concise and not too in-depth, making it lighter to read (Arief et al., 2021). According to Fariyah and Umi (2021), e-magazine media is easy to carry and access anywhere and anytime and is more durable than printed magazines, which are easily lost and damaged.

This study aims to determine the feasibility of e-magazine media using the inventory of macroscopic fungi in Padang Tikar Protection Forest, Kubu Raya Regency. It is hoped that the development of this media will provide options for educators in teaching and learning activities in the classroom, especially in the submaterial of fungi diversity

RESEARCH METHOD

This research uses a descriptive method with a qualitative research form. According to Sugiyono (2022), descriptive iPod is a research method that aims to describe the condition of the research object systematically, factually, and accurately. Qualitative research is used to research natural object conditions, where the researcher is the key instrument. This research consists of 2 stages of implementation, namely interviews and media making.

The interview stage is the initial stage before making the media, and it was conducted on July 17, 2024. Biology teachers at SMAN 1 Batu Ampar were interviewed to collect information about the learning media used, the curriculum applied, the challenges faced by teachers, and materials related to fungi diversity.

The media-making stage was carried out from August to October 2024. This research is divided into several stages, namely pre-production, production, and post-production. The pre-production stage consists of identifying learning outcomes, summarizing the material with interesting content, and preparing multimedia and interactive elements. The production stage is the editing stage of the e-magazine media using the Canva application and

the Heyzine website. The post-production stage is the final stage where media corrections are made to suit learning needs and validation of e-magazine media.

The validation of the e-magazine consists of instrument validation and e-magazine media validation. The e-magazine media validation sheet consisted of 5 criteria: content conformity with learning outcomes, content completeness, format, media quality, and practicality, modified from Khairi, Yeni, and Titin (2022). The e-magazine media validation data was analyzed using Content Validity Ratio (CVR) analysis according to Lawshe (1975) with the following formula:

$$CVR = \frac{Ne - \frac{N}{2}}{\frac{N}{2}}$$

Description:

- CVR = Content Validity Ratio
- Ne = Some panelists/validators who agree on the validity of the learning media (considered to agree if the value of each criterion reaches 3.00 - 4.00. If < 3.00, then it is considered not to agree on the validity of the learning media).
- N = Total number of panelists/validators

After calculating the CVR value for each criterion, the Content Validity Index (CVI) value or the overall average value is calculated.

$$CVI = \frac{CVR}{\text{Jumlah kriteria}}$$

Suppose that, in the final calculation, the CVR and CVI scores meet the minimum value of 0.99. In that case, it can be concluded that the e-magazine is declared valid and feasible to be used as a learning media for fungi diversity submaterials.

RESULTS AND DISCUSSION

The macroscopic mushroom inventory research results in Padang Tikar Protection Forest, Kubu Raya Regency, are implemented into learning media as an e-magazine on mushroom diversity sub-materials. The e-

magazine is A4 size (21.59 cm x 27.94 cm) with portrait orientation with 34 pages. The e-magazine features mushroom diversity in Padang Tikar Protection Forest, Kubu Raya Regency, equipped with photos, descriptions, scientist profiles, interesting facts, and crossword puzzles.



Figure 1. Media display of e-magazine

After the media is made, the validity test is carried out to determine the feasibility of the media. This validation consists of 5 criteria, namely the suitability of content with learning outcomes, completeness of content, format, media quality, and practicality of modifications from Khairi, Yeni, and Titin (2022). Table 2 below shows the criteria.

Table 1. Data on the results of the validation analysis of e-magazine submaterials of fungi diversity class X SMA

Kriteria	Validator					CVR	Ket
	1	2	3	4	5		
The suitability of the material in the e-magazine, including the learning outcomes (CP), learning objectives (TP), and achievement indicators.	4	3	4	4	4	0,99	Valid
The completeness of the e-magazine media presented.	4	4	4	4	4	0,99	Valid
Appropriate presentation of images, colors, and text.	3	4	4	4	4	0,99	Valid
Use of appropriate language.	3	3	4	4	4	0,99	Valid
The practicality of e-magazine media.	3	4	4	4	4	0,99	Valid
CVI						0,99	Valid

The results of this research, namely the inventory of macroscopic fungi in the Padang Tikar Protection Forest, Kubu Raya Regency, are implemented in the form of e-magazine media. This e-magazine media will add insight to students and foster high curiosity about the diversity of macroscopic fungi in the surrounding environment. The teaching materials teachers use in schools show examples of macroscopic fungi in the Indonesian region, but they are limited. Therefore, the e-magazine media was created to be used as additional material for teachers and a companion to the teaching materials used by teachers.

Media validation is carried out to see whether or not it is feasible as a learning media. This validation was carried out by 5 validators, namely 2 lecturers of Biology Education, FKIP UNTAN, 2 Biology teachers at SMA Negeri, 1 Batu Ampar, and 1 Biology teacher at SMA Negeri, 2 Kubu. The reason for choosing a partner school in the Kubu Raya district is that teachers can introduce students to the diversity of local mushrooms by learning about e-magazine media on mushroom material. Based on the validation results, the e-magazine learning media is valid and suitable for use. All criteria were declared valid because they obtained a CVR value of 0.99. The following is an explanation of the validation criteria for e-magazine media.

The first criterion is the suitability of the material content in the e-magazine with learning outcomes, learning objectives, and achievement indicators. The validation results on this criterion showed that 4 validators gave a score of 4 (very good) and 1 validator gave a score of 3 (good) with a CVR value of 0.99, so it was declared valid or feasible. The material presented can support the suitability of student learning, and it contains descriptions, images, and classifications of the macroscopic fungi found. The suitability of the media with the material can help students obtain knowledge, skills, and attitudes that help achieve learning objectives (Aisyah et al., 2022). The material presented in a media must be coherent and clear and reinforced with images and animations in accordance with the material's content (Dwiyi et al., 2020).

The second criterion is the completeness of the e-magazine media presented. The validation results from 5 validators gave a score of 4

(perfect) with a CVR value of 0.99, so it was declared valid. The completeness of the e-magazine media presented, namely the front and back covers, editorial composition, editorial greetings, table of contents, mushroom diversity material, scientist profiles, fun facts, crossword puzzles, and acknowledgments, support the media to be good teaching media. Media presentation can be in the form of additional knowledge and interesting facts so that the content of the media is not monotonous and more diverse and enriches students' knowledge (Nadzif et al., 2022).

The third criterion is presenting appropriate images, colors, and writings. The validation results on this criterion were that 4 validators gave a score of 4 (very good), and 1 validator gave a score of 3 (good) with a CVR value of 0.99, including in the valid category and can be used. This indicates that the image display is of good quality and is not blurry or broken, with a combination of colors between the background and text, and harmonious and balanced images are written with an attractive type and size and are easy to read. The interrelated and unified relationship between components such as background, images, and writing will function simultaneously in learning media (Aisyah et al., 2022). In addition, Laksmi and Suniasih (2021), state that a medium's writing style, size, spacing, and colors must be attractive and consistent.

The fourth criterion is the use of appropriate language. The language point of view in the media presented is that the language used is brief, concise, and clear; the language used is by EYD rules; the writing of species names follows the binomial name system. Based on the results of this media validation, it has a CVR value of 0.99 with 3 validators giving a score of 4 (very good) and 2 validators scoring 3 (good) so that it is declared valid with suggestions for improvement in punctuation and writing errors. According to Laksmi and Suniasih (2021), media containing communicative material and explicit language can make it easier for students to understand the material.

The fifth criterion is the practicality of e-magazine media. The media can be used with a laptop or cellphone and is easy to operate. The CVR value is 0.99, with 4 validators scoring 4 (very good) and 3 validators scoring 3 (good), so

it falls into the valid category for practicality. E-magazine that are easy and quick to access make it easy for readers to get the latest information anywhere without requiring significant storage space, such as printed books (Tarihoran et al., 2022). In addition, the ease of using the media can make students more often reopen the material presented outside of class hours (Setiyaningsih et al., 2019).

Based on the e-magazine media validation test results, the total average validation value is 0.99. This shows that the e-magazine is valid for use as a learning media. This aligns with Sania, Yeni, and Yuniarti (2024), who state that e-magazine are very effective as a learning media because they can improve students' activities and learning outcomes. However, further testing of the effectiveness of e-magazine as a learning media is needed to determine students' understanding of mushroom material. The media improvements from the validator's suggestions are as follows:



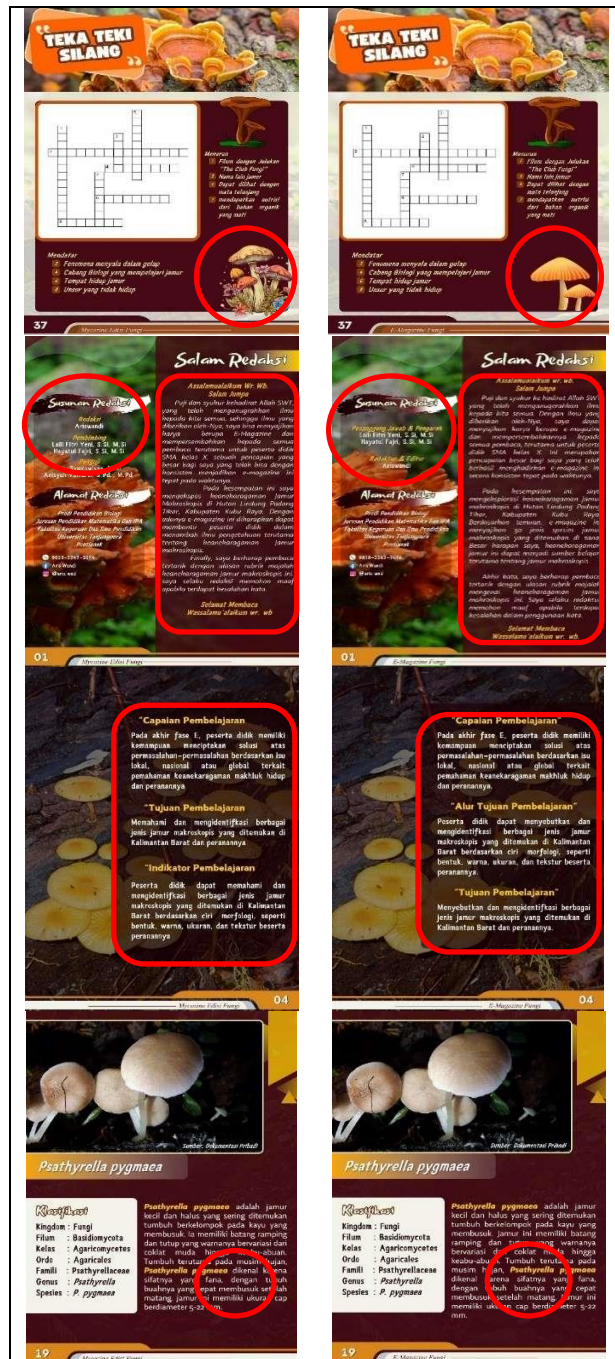


Figure 2. Improvement of e-magazine media

The advantages of e-magazine media include content on the local potential of macroscopic fungi diversity in Padang Tikar Protection Forest, Kubu Raya Regency. The appearance of the e-magazine media is attractive, with a harmonious and balanced combination of colors, text, and images. The images or photos used are the results of the surrounding natural wealth, with concise

descriptions. Practicality that is easy to use can be used through laptops or cell phones to provide new learning experiences to students. The disadvantages of e-magazine media are that it is limited to one edition and uses the internet network to access it online.

CONCLUSION

The feasibility of e-magazine media from the inventory of macroscopic fungi in Padang Tikar Protected Forest, Kubu Raya Regency, on the subject of fungal diversity obtained a validation value of 1.00 exceeding the minimum value of 0.99 from 5 validators so that the e-magazine can be categorized as valid for use as learning media. The resulting e-magazine can increase students' understanding of mushroom diversity by introducing their local mushrooms. Further research is suggested to evaluate the effectiveness of the e-magazine in the learning process.

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