Original Article

Development of Learning Media Using Canva in Class XI Science at MAN 2 Bukittinggi

Bunga Nabilah\textsuperscript{1,2}, Supriadi\textsuperscript{2}, Supratman Zakir\textsuperscript{3}, Liza Efriyanti\textsuperscript{4}
\textsuperscript{1,2,3,4} Universitas Islam Negeri (UIN) Sjech M. Djamil Djamal Bukittinggi, Sumatera Barat.
Correspondence Author: bunganabilah17@gmail.com\textsuperscript{3}

Abstract:

Media is a very important element in learning. The use of teaching materials in learning is increasing along with technological developments, such as applications and software that allow teachers to create attractive classrooms and increase student interest in learning. The application chosen to be used to create interesting and simple learning materials is Canva. These applications meet various needs in the fields of graphics, business, advertising, technology, management, and education. In subjects such as biology where there are lots of pictures and explanations about human organs, the use of interesting learning media is very important. Therefore, the purpose of this research is to create biology learning media using Canva for class XI IPA students at MAN 2 Bukittinggi. This study uses the research and development (RnD) method with the Luther-Sutopo development model. The results showed that the average test value for the validity of the biology learning environment developed using Canva for class XI IPA MAN 2 Bukittinggi was 0.82 which indicated that this media was very valid. In addition, this media was found to be very practical with an average practicality test value of 0.90, and efficient with an average efficiency test value of 0.90. Based on the results of testing these educational media products, it can be concluded that the use of Canva can help the learning process and is beneficial for teachers and students.

Keywords: Biology, Canva, Learning Media
Introduction

Today, the world has undergone changes that occur from time to time. Especially in the development of science and technology (IPTEK) which brings major changes in various aspects of human life, including in the world of education. One of them is in curriculum development and so on. There are many things that can be updated in teaching methods by teachers in schools, such as using cutting-edge learning media to deliver lessons to students.

Every creature in this world has many sciences that can be deepened, including biology. Today, biological sciences are a strategic meeting point because they can function as subjects or objects of other natural sciences. In the development of science today, there are two important things needed, namely technological development and leadership vision. Without technological advancement, future scientific progress will face challenges and vice versa, without a guiding vision it will be difficult to find a way into the future. Therefore, learning biology becomes very important, not only presented as material in books, because it can make many learners less interested in learning it. Instead, biology can be presented through learning methods that use new media (Hariyadi, 2015).

The possibility of low student learning outcomes can be caused by the use of inappropriate learning media and less than optimal use of the available learning environment. In this case, teachers must have the expertise to analyze needs, plan, design, find, produce, and use a variety of teaching aids in accordance with Permendiknas No. 16 of 2007, especially technology-based teaching aids and knowledge in biology learning. In addition, teachers are also expected to determine good learning strategies and make other preparations, including written preparation and learning preparation, before starting the learning process. One aspect that needs to be well prepared is learning resources, especially learning media used in the learning process (Wulandari et al., 2019).

Currently, there are various kinds of learning media that have been developed to support the teaching and learning process. Learning media acts as a means to increase learning effectiveness in order to achieve more optimal learning objectives (Ariyanto et al., 2018). Many applications have advantages to help create interesting and diverse media, one of which is Canva (Ayu Agustin & Sesunan, 2019). Canva is a web-based design platform that provides a variety of editing tools to create a variety of graphic designs. Utilizing Canva can improve teachers' skills in designing learning media and make learning easier to deliver. Students can gain a better understanding of the message or learning material if these resources are available in a variety of forms, such as text or video. In addition, because of its attractive appearance, Canva learning media can help students stay focused (Siti Nurhalisa, 2022).

Methods

Focusing on this research, researchers adopted the research and development method or RnD using the Luther-Sutopo version of the development model. RnD is a research method that aims to produce certain products and test the effectiveness of the research methods used to create these products (Sites et al., 2022). The implementation of software in this study uses Luther Sutopo's version of the multimedia Development Life Cycle method which consists of 6 stages as shown below:
Figure 1. Stages of development of Multimedia Luther Sutopo

1. Product Validity Test

Validity tests are used to assess the extent to which a questionnaire has validity or validity. The validity of a survey can be confirmed if the questions in the questionnaire are able to reveal the aspects measured by the questionnaire (Sanaky, 2021). Aiken developed Aiken's V formula as a way to calculate the coefficient of validity of content based on the assessment of an expert panel consisting of n people. A panel of experts provides an assessment of an item to assess the extent to which it reflects the measured construct. The formula proposed by Aiken is:

$$S = \frac{\sum S}{[n(C-1)]}$$

Where:
- S = r – lo
- Lo = Lowest validity assessment rate
- C = Highest Validity Assessment Numbers
- R = Figures provided by the appraiser (Hendryadi, 2017).

2. Product Practicality Test

From a practical point of view, Nieveen's research illustrates a way to measure the level of usefulness, which can be seen from the explanation of whether the material is considered easily accessible and used by teachers and students according to the views of teachers and other experts. (M. Haviz, 2013). Referring to the quotes of several practitioners in discussing learning media that can be applied theoretically to the relevant field and the level of implementation is considered "good", the measurement of the practicality of learning media is considered appropriate. The results of this product practicality analysis are assessed by the kappa moment, as shown below (Afrianti & Musril, 2021):

$$k = \frac{p - pe}{1 - pe}$$

Information:
- k = Moment kappa as a level of product practicality.
- p = The proportion of analysis is calculated by dividing the number of tester values by the maximum number.
- pe = The proportion realized, the number of maximum scores is subtracted from the total amount given by the examiner and then divided by the number of maximum scores.
3. Product Effectiveness Test

In the development process, an effective perspective has a very important role in assessing the extent to which a theory or model can be applied in a given situation. Nieveen emphasized the importance of evaluating the effectiveness of students in learning the program and also the desire of students to continue implementing the program. The performance test was carried out using Richard R. Hake’s statistical formula (G.Score) as follows:

\[ G = \frac{S_f - S_i}{100 - S_i} \]

Description of the formula:
- G: G-Scores
- Sf: Final score
- Si: Initial score

Results

Focusing on biology learning in class XI Science Semester 2 at MAN 2 Bukittinggi, this research produces learning media products. This product is presented in the form of several slides that are used by students and teachers during the learning process. Using the Canva platform and other assistive software, these learning media are designed to achieve learning objectives. The main menu page provides access to learning media created using Canva. Among these menus are perception, instructions for use, motivation, ice breaking, quizzes, video learning materials, and learning materials about the excretory system.

Figure 2. Main Menu Page Display

The picture above is the display of the menu page, to enter the desired page you can click the menu available on the page.

Figure 3. Display Instructions for Use

The user guide menu page is a page that shows the function of buttons that can direct the course of learning media well.
Figure 4. Apperception Menu Display

The apperception menu page contains apperception menus such as the video apperception menu and guess the picture. We can click on these menus according to the needs of the teaching and learning process.

Figure 5. Motivational Menu Display

The motivational menu page contains apperception menus such as a yelling video menu to raise students' enthusiasm for learning.

Figure 6. Ice Breaking Video Display

This page is an ice-breaking video page display where this video is taken from another application, namely YouTube. In Canva there is an application feature to connect Canva with other applications, one of which is YouTube.

Figure 7. Learning Objectives Display

This page is a display of the learning objectives page where this view shows the learning objectives on the material that has been prepared.
This page is a quiz page view. The quiz made is through a Google form that is connected directly using the application feature in Canva.

This page is a display of the learning objectives page where the display shows learning videos on the material that has been prepared about the excretory system.

This page is the appearance of the intro page before starting to enter the content of the learning material.

This page is a page view of the material menu. On this page, there are 3 menus that are the topic of discussion of excretory system material, namely the skin, liver, kidneys, and lungs.

1. Validity Test Results

The validity test that has been done using Aiken's V formula gets the results arranged in the table as follows:
Table 1. Validity Test Results

<table>
<thead>
<tr>
<th>No</th>
<th>Validator</th>
<th>Aspects</th>
<th>Value Validity</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Dr. Supratman Zakir, M.Pd., M.Kom</td>
<td>Construction</td>
<td>0.75</td>
</tr>
<tr>
<td>2</td>
<td>Firdaus Annas, S.Pd., M.Kom</td>
<td>Content</td>
<td>1</td>
</tr>
<tr>
<td>3</td>
<td>Surya Nengsih, S.Pd</td>
<td>Language</td>
<td>0.70</td>
</tr>
<tr>
<td>Sum</td>
<td></td>
<td></td>
<td>2.45</td>
</tr>
<tr>
<td>Avg</td>
<td></td>
<td></td>
<td>0.82</td>
</tr>
</tbody>
</table>

The researchers' validity testing table shows several experts that the product is perfectly valid with an average value of 0.82. The attached validity questionnaire indicates that the product is valid.

1. Practicality Test Results

The results of the practicality test using the moment kappa \((k)\) formula that had been carried out on one teacher and five students as a practitioner obtained the score, namely:

\[
\text{of Values} = \frac{\text{Nilai Kesehuruhan Penguj}i}{\text{Jumlah Semua Penguj}i} \\
\quad = \frac{0.78 + 0.86 + 0.96 + 0.98 + 0.96 + 0.86}{6} \\
\quad = 0.90
\]

According to the practicality tester above, the kappa moment formula gets a value of 0.90. Thus, the learning media used by researchers in class XI Science at MAN 2 Bukittinggi is very high.

2. Effectiveness Test Results

The effectiveness test that has been carried out using the Gain-Score formula gets the results arranged in the table as follows:

Table 2. Effectiveness Test Results

<table>
<thead>
<tr>
<th>No</th>
<th>Name</th>
<th>Effectiveness Value</th>
<th>G value</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Before</td>
<td>After</td>
<td></td>
</tr>
<tr>
<td>1</td>
<td>Wardah Fepriyani S.Pd</td>
<td>63,3</td>
<td>100</td>
</tr>
<tr>
<td>2</td>
<td>Muhammad Ridho</td>
<td>33,3</td>
<td>90</td>
</tr>
<tr>
<td>3</td>
<td>Alfa Hamas Ingkiriwang</td>
<td>46,6</td>
<td>93,3</td>
</tr>
<tr>
<td>4</td>
<td>Yola Prisiska</td>
<td>33,3</td>
<td>96,6</td>
</tr>
<tr>
<td>5</td>
<td>Azkia Nabila Putri</td>
<td>43,3</td>
<td>96,6</td>
</tr>
<tr>
<td>6</td>
<td>Adinda Miftahul Utari</td>
<td>36,6</td>
<td>93,3</td>
</tr>
<tr>
<td>7</td>
<td>Pretty Humaira</td>
<td>36,6</td>
<td>96,6</td>
</tr>
<tr>
<td>8</td>
<td>Akif Al-Asad</td>
<td>63,3</td>
<td>100</td>
</tr>
<tr>
<td>9</td>
<td>Deri Else Fitri</td>
<td>50</td>
<td>93,3</td>
</tr>
<tr>
<td>10</td>
<td>Neisya Netria</td>
<td>40</td>
<td>93,3</td>
</tr>
<tr>
<td>11</td>
<td>Fatih Ar-Rasyid</td>
<td>63,3</td>
<td>100</td>
</tr>
</tbody>
</table>
The effectiveness test of Biology learning media with Canva was made based on effectiveness sheets filled out by one teacher and fifteen students. The final effectiveness score is 0.90 which puts it in the highly effective category.

**Conclusion**

This research is based on previous discussions about the development of biology learning media using Canva at MAN 2 Bukittinggi, this learning media has advantages that can be developed and utilized to increase student learning motivation, especially in biology subjects. This can help support a more contributive learning process for students, as well as increase their motivation and understanding of biology subjects. The development of learning media is also considered to be able to overcome the shortcomings of the learning media used before. The application of Canva in making learning media is considered effective, practical, and easy to use by teachers to present learning problems, especially in biology subjects. In addition, Canva is also easily accessible to students, allowing them to learn independently using learning media that have been compiled by teachers.

**References**


