Development of E-Powerpoint Based Interactive Learning Media in Economics Subjects Viewed from its Efficiency at SMA Negeri 1 Palembang

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ABSTRACT

Purpose: The purpose of this research is to develop an interactive economic learning media that can be tested for its efficiency.

Design/methodology/approach: Method The research used in this research is Rnd (Research and Development) research, which uses the Robert March ADDIE (Analysis, Design, Development, Implement, Evaluate) model. The data collection technique consisted of a questionnaire.

Findings: The results showed that the economic interactive learning media was declared efficient according to the combined results of the four validators with an average of 95.8% with a very valid category, and judging from the one to one trial with an average of 98.52% with a very valid category, and the small group trial with an average of 97.05% in the very category.

Practical implications: So the interactive economic learning media at SMA Negeri 1 Palembang is very feasible to be used as a learning medium.

Originality/value: This paper is original

Paper type: a Research Paper

Keywords : Development, Interactive Media, Learning media based on E-Powerpoint

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I. INTRODUCTION

Education is a process of fostering and educating activities as a whole by conducting learning guided by an educator. Education also shapes and creates the potential that exists in students in accordance with the values and norms that exist in the community so that they become quality students.

The development of the world of education in the 4.0 revolution in everyday life where students are required to follow the development of current technological advances in the abilities of students so that they can educate the nation's life and become creative, independent and innovative students. Interactive learning media is a media that is used for the learning process with the existence of learning tools students can be motivated and excited to take part in learning to increase student interest in learning. According to Luthiawati & Syah (2019, p. 2) learning media Interactive is a medium to inform the message of the learning process. The success of teaching and learning is determined by the use of learning process tools developed by educators. Economics is a study that studies individual behavior in fulfilling a chosen life. According to Solihat & Arnasik (2018, p. 2) economy is knowledge about a person's attitude to meet the various needs of his life.

Learning media have been widely used by educators, but not all teachers take advantage of existing facilities, it is not uncommon for teachers to only provide material from textbooks provided by the school, and the teacher explains the material more directly than using Infocus as a media aid in the learning process, especially at the school. is a national-based school that should take advantage of existing facilities. According to Hadi (2017, pp. 96–97) Learning media has a positive side from PC and web innovation being used in study rooms, for example as learning media. However, the truth is that not all educators can involve computer and...
web innovation as a learning mechanism, maybe some educators can take advantage of innovation alone to involve it as a learning medium. This study develops learning media on economic subjects for production economic activities.

To overcome this problem, the researcher wishes to conduct research on "Development of E-Powerpoint-Based Economic Interactive Learning Media at SMA Negeri 1 Palembang".

A. Problem Formulation

Based on the background that has been explained, then the formulation of the problem in this study as follows: 1) How to development interactive economic learning media for class X IPS SMA Negeri 1 Palembang whose efficiency can be tested?

B. Development

The research and development (R&D) method is a strategy used to create certain items and test the adequacy of those items. R&D technique is a test or item that is not only a completely new item to provide a more significant level of feasibility and convenience than the next stage according to Sa’adah (2020, p. 12). According to Batubara (2020) one of the popular and practical research and development concepts used as a guide for research and development of learning media is the ADDIE model concept proposed by Robert Maribe Branch in the book Instructional Design: The ADDIE approach. According to the Analyze, Design, Development, Implement, and Evaluate stages. The ADDIE model proposed by Robert Marbe Brachy in Sugiyono (2015, pp. 38–39) namely in developing Instructional Design (Learning Design) with the ADDIE approach which stands for Analysis, Design, Development Implementation and Evaluation.

C. Interactive Learning Media

Interactive learning media is media in the form of software used as learning information that is abstract by combining image media and sound media. Interactive learning media is one kind of interesting learning media and has a number of advantages in facilitating learning activities according to Batubara (2021, p. 110). Interactive learning media are: form creative tools with the development of PCs in the learning process in the 21st century according to Yanto (2019, p. 76). According to Koesnandar (2019, p. 75) media (MPI) are: teaching and learning tools that use mix between various media elements consisting of text, charts, images, animations, and interactively presented instruments.

According to Shalikah (2017, p. 12) interactive learning media. The use of this learning media expects to help educators in conveying material and furthermore to help understudies in understanding the material being instructed. According to Wahyudi (2014, p. 90) Interactive learning media is a demonstration delivery framework that presents video material recorded with PC control to a large audience (students) who hear and see video and sound.

Interactive learning media can produce student learning motivation, and direct communication between students and their current situation. This can generate student gains in progressing independently according to their capacity to further develop learning outcomes. According to Zulhelmi et al. (2017, p. 73) Interactive learning media provide an open door for students to master as indicated by their separate levels, learn faster and do not cause fatigue because they are equipped with pictures and movements as well as different practice questions according to Putri & Sibue (2014, p. 152). According to Rusdewanti & Gafur (2014, p. 159) interactive learning media as learning assets other than reading materials affect the experience and educational outcomes well.

Based on the ideas that have been described, namely the conclusion, Interactive learning media is a combination of various media components consisting of messages, designs, pictures, activities, recordings, and sounds that are introduced intuitively by adding great moving activities that will attract students’ longing to learn and understand conceptual learning ideas.

D. Learning media based on e-powerpoint

E-powerpoint-based learning media, namely media used as a means of delivering information to students by displaying image slides and presentations so that students find it interesting in viewing the subject matter. According to Rasyid et al. (2019, p. 78) e-powerpoint learning media or commonly known as the media used in presentation by teachers and students. This media is specially made for multimedia events with attractiveness and of course easy to reach. Likewise, power points are used in the learning process to convey effectively with presentation systems. Presentation in learning has several purposes that will determine how we do and design.

According to Wati (2016, p. 103) One of the learning media that is often used is power point. This medium is a tool that is regularly used to understand something that is summarized and bundled in Powerpoint slides. Thus, readers can more effectively understand the clarification of powerpoint media by educators. According to Nurhidayati et al. (2019, p. 182) This powerpoint media is interesting to use as a performance instrument is a
variety of capacities for handling text, variations, and images, as well as movements that can be handled without others as indicated by the client's creativity. According to Prasetyo & Astuti (2021, p. 1200) powerpoint-based learning media can be said to be very feasible in terms of appearance and content aspects. The e-powerpoint learning media is only limited to providing an explanation by explaining the material in writing on the board, then explaining it orally according to Utami et al. (2021, p. 27).

a. Relevant previous studies

1. Siti Marfuah, Zulkardi, and Nyimas Aisyah (2016) Sriwijaya State University entitled Development of Learning Media Using Powerpoint Accompanied by Visual Basic For Application of Distance Materials in Class X Classroom Building. The results of the research made by the Learning Media can affect learning outcomes, with a student score of 2.67 or more as much as 83% or 30 students. Positive attitude with the percentage of student attitudes more than 61% which is included in the category of positive student attitudes towards learning media using powerpoint accompanied by visual basic for application. (Marfuah et al., 2016)

2. Darmawaty Tarigan, _ Sahat Siagian (2015) Medan State University entitled Development of interactive learning media in economics learning i. The results show; (1) media expert test questionnaire in general very good ability (88.12%), (2) material expert test questionnaire (83.5%), (3) design expert test questionnaire in very good ability (86.07%), (4) individual allowance in very good ability (88.57%), small group allowance in general very good ability (96.27%), general field allowance in very good ability (98.46%) and students who are shown to use power point learning media is 75.2%. (Tarigan & Siagian, 2015)

3. Ro'ufah Inayati (2021) State University of Malang entitled Development of Game-Based 'Economic Monopoly' Media for Economics Subject Class X Sman 1 Singosari. the results and discussion, obtained validation by material experts by 88.6% and economics teachers by 95.6%, media experts 97%, users 88.8%, and combined validation 92.85%. (Amalina & Inayati, 2021)

II. METHODOLOGY

This research was conducted at SMA Negeri 1 Palembang which is located on Jln. Srijaya Negara No.10 Bukit Palembang, South Sumatra as a place to develop interactive learning media. Meanwhile, the subjects of this research are students of class X IPS 2 with chapter 3 production material. Research conducted by researchers is developing interactive learning media, namely the ADDIE model proposed by Robert Marbachy (2009) in (Sugiyono, 2015, pp. 38–39), namely in developing Instructional Design (Learning Design) with the ADDIE approach which stands for from Analysis, Design, Development Implementation and Evaluation.

A. The data collection techniques for this research are:

a. Questionnaire

According to (Arifin Zainal, 2016, p. 166)the questionnaire includes a tool for collecting and recording data or information, opinions, and understanding in casual relationships which are carried out in writing.

The instrument in this study was a questionnaire given to media experts, material experts, product experts to determine the effectiveness of the media created, while to determine the efficiency of the product using the product given to class X students of SMA Negeri 1 Palembang.

Table 1. Media Expert Questionnaire Grid

<table>
<thead>
<tr>
<th>Validator</th>
<th>Assessment Aspect</th>
<th>No.item</th>
<th>Amount</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Media Display Quality</td>
<td>1-4</td>
<td>4</td>
<td></td>
</tr>
<tr>
<td>2. Language Usage</td>
<td>5</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>Media Expert</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3. Media Usage</td>
<td>6-8</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>Number of Questionnaire Instruments</td>
<td></td>
<td>8</td>
<td></td>
</tr>
</tbody>
</table>
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Table 2. Design Expert Questionnaire Grid

<table>
<thead>
<tr>
<th>Validator</th>
<th>Assessment Aspect</th>
<th>No. item</th>
<th>Amount</th>
</tr>
</thead>
<tbody>
<tr>
<td>Design Expert</td>
<td>The attractiveness of the media preview</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>Media design order</td>
<td>2</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>The selection of the type and size of the font supports the media to be more attractive.</td>
<td>3</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>The suitability of the video with the material</td>
<td>4</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>Ease of reading text</td>
<td>5</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>Color selection</td>
<td>6</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>The suitability of stories, pictures, and materials.</td>
<td>7</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>Operational</td>
<td>8</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>Number of Questionnaire Instruments</td>
<td>8</td>
<td></td>
</tr>
</tbody>
</table>

Table 3. Media Expert Questionnaire Grid

<table>
<thead>
<tr>
<th>Validator</th>
<th>Assessment Aspect</th>
<th>No. item</th>
<th>Amount</th>
</tr>
</thead>
<tbody>
<tr>
<td>Material Expert</td>
<td>Quality of learning media materials</td>
<td>1-5</td>
<td>5</td>
</tr>
<tr>
<td></td>
<td>Appearance of material in learning media</td>
<td>6-8</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>3. Presentation of characters</td>
<td>9-10</td>
<td>2</td>
</tr>
<tr>
<td></td>
<td>Number of Questionnaire Instruments</td>
<td>10</td>
<td></td>
</tr>
</tbody>
</table>

Table 4. Student field test questionnaires

<table>
<thead>
<tr>
<th>Validator</th>
<th>Assessment Aspect</th>
<th>No. item</th>
<th>Amount</th>
</tr>
</thead>
<tbody>
<tr>
<td>Field test questionnaire</td>
<td>1. Display Aspect</td>
<td>1-8</td>
<td>8</td>
</tr>
<tr>
<td></td>
<td>2. Operational Aspect</td>
<td>9-14</td>
<td>6</td>
</tr>
</tbody>
</table>
B. Product trial assessment

Data that has been collected for the product development process obtained from a team of media experts, experts Design and material experts will then be analyzed to see valid results from validators who can use the formula

\[
V_{\text{media expert}} = \frac{T_{Se}}{T_{Sh}} \times 100\%
\]

\[
V_{\text{design expert}} = \frac{T_{Se}}{T_{Sh}} \times 100\%
\]

\[
V_{\text{expert material}} = \frac{T_{Se}}{T_{Sh}} \times 100\%
\]

\[T_{Sh} = \text{Total expected maximum score}\]

\[T_{Se} = \text{Total empirical score (Validation result from Validator)}\]

Furthermore, the product test value obtained from the validator, the calculation of the combined validity of the analysis results in the formula :

\[
V_{\text{combined}} = V_{\text{media expert}} + V_{\text{design expert}} + V_{\text{expert material}} \times \frac{3}{3}\%
\]

(Sa’dun, 2013, p. 156)

Table 5. Product validity criteria

<table>
<thead>
<tr>
<th>No</th>
<th>Validity Criteria</th>
<th>Validity Level</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>81.00% - 100.00%</td>
<td>Very Valid</td>
</tr>
<tr>
<td>2</td>
<td>61.00% - 80.00%</td>
<td>Quite Valid</td>
</tr>
<tr>
<td>3</td>
<td>41.01% - 60.00%</td>
<td>Less Valid</td>
</tr>
<tr>
<td>4</td>
<td>21.00% - 40.00%</td>
<td>Invalid</td>
</tr>
<tr>
<td>5</td>
<td>00.00% - 20.00%</td>
<td>Very Invalid</td>
</tr>
</tbody>
</table>

Source: (Sa’dun, 2013, p. 82)

III. RESULTS AND DISCUSSION

Development of interactive economic learning media at SMA Negeri 1 Palembang is located at SMA Negeri 1 Palembang which is located on Jl. Srijaya district. Bukit II, Palembang City, South Sumatra, Postal code 30267, Tel (0711) 541957. The material studied in this study discusses Production. This study aims to determine interactive economic learning media that can be tested for their effectiveness, economic interactive learning media that can be tested for efficiency, and interactive learning media that can be tested on student learning outcomes.

The data taken in this study were observations, questionnaires, and tests. This study uses a sample of class X IPS 2 with a total of 29 people as a research class using 4 students for a one-to-one small group trial with 10 students to see its efficiency by using interactive economic learning media based on e-powerpoint at SMA Negeri 1 Palembang
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Table 6. Media Expert Validation Results

<table>
<thead>
<tr>
<th>No.</th>
<th>Validator Name</th>
<th>Validation Results</th>
<th>Criteria</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>Asnurul Isroqi, ST., M. Kom</td>
<td>96.8%</td>
<td>Very Valid</td>
</tr>
</tbody>
</table>

Average result 96.8% Very Valid

Following are the results of the validation of each validator, the researcher performs the following calculations:

\[ V_{\text{asnnurul}} = \frac{T_{\text{se}}}{T_{\text{sh}}} \times 100\% = \frac{31}{8} \times 4 \times 100\% = \frac{31}{32} \times 100\% = 96.8\% \]

Table 7. Design Expert Validation Results

<table>
<thead>
<tr>
<th>No.</th>
<th>Validator Name</th>
<th>Validation Results</th>
<th>Criteria</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>Aan Suriadi, M.Pd</td>
<td>96.8%</td>
<td>Very Valid</td>
</tr>
</tbody>
</table>

Average result 96.8% Very Valid

Following are the results of the validation of each validator, the researcher performs the following calculations:

\[ V_{\text{aan}} = \frac{T_{\text{se}}}{T_{\text{sh}}} \times 100\% = \frac{31}{8} \times 4 \times 100\% = \frac{31}{32} \times 100\% = 96.8\% \]

Table 8. Material Expert Validation Results

<table>
<thead>
<tr>
<th>No.</th>
<th>Validator Name</th>
<th>Validation Results</th>
<th>Criteria</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>Nova Pratiwi, M.Pd</td>
<td>92.5%</td>
<td>Very Valid</td>
</tr>
</tbody>
</table>

| 2.  | Faisal Riza, S.Pd.,M.Pd | 95%                | Very Valid    |

Average result 94% Very Valid

Following are the results of the validation of each validator, the researcher performs the following calculations:

\[ V_{\text{nova}} = \frac{T_{\text{se}}}{T_{\text{sh}}} \times 100\% = \frac{37}{10} \times 4 \times 100\% = \frac{37}{40} \times 100\% = 92.5\% \]

\[ V_{\text{faisal}} = \frac{T_{\text{se}}}{T_{\text{sh}}} \times 100\% = \frac{38}{10} \times 4 \times 100\% = \frac{38}{40} \times 100\% = 95\% \]

Then the combined validation calculation is carried out by calculating the average of the two validator results as follows.

\[ V_{\text{combined}} = \frac{V_{\text{media}} + V_{\text{design}}}{2} = 94\% \]

combined by calculating the average of the three validator experts as follows.

\[ V_{\text{combined}} = \frac{\frac{V_{\text{media}} + V_{\text{design}} + V_{\text{material}}}{3}}{3} \times 100\% = \frac{96.8\% + 96.8\% + 94\%}{3} = 95.8\% \]

Based on the combined validation results from media experts, design experts and material experts, it can be concluded that the e-powerpoint-based interactive economic learning media that was developed obtained an average result of 95.8% which was declared very valid.
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Table 9. recapitulation of one-to-one student questionnaires on economic interactive learning media

e-powerpoint based

<table>
<thead>
<tr>
<th>No.</th>
<th>Student's name</th>
<th>Total Value</th>
<th>Total Total Value (%)</th>
<th>Category</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Aulia Cintania Putri</td>
<td>67</td>
<td>98.52</td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>Kirana Arifa Putri</td>
<td>67</td>
<td>98.52</td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>Pack Muhammad F</td>
<td>67</td>
<td>98.52</td>
<td>Very Valid</td>
</tr>
<tr>
<td>4</td>
<td>Siti Faiza Fakhira</td>
<td>67</td>
<td>98.52</td>
<td></td>
</tr>
</tbody>
</table>

Amount 268 39.41

Percentage (%) 98.52 Very Valid

Based on the results of a one to one questionnaire and comments from 4 students of class X IPS 2, it can be concluded that the interactive economic learning media based on e-Powerpoint obtained an average result of 98.52% which was declared very valid by showing that the one to one stage produced a product that quality and tested for validity.

Table 10. Small Group Questionnaire Results of E-Powerpoint-Based Economic Interactive Learning Media.

<table>
<thead>
<tr>
<th>No.</th>
<th>Student's name</th>
<th>Total Value</th>
<th>Total Total Value (%)</th>
<th>Category</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Alya Kalila</td>
<td>66</td>
<td>97.05</td>
<td>Very Valid</td>
</tr>
<tr>
<td>2</td>
<td>Fadhila Khairunnisa</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>Chalisa Fatimah Adika</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4</td>
<td>Masaya Jihan Salmalia</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>5</td>
<td>Ms. Rahma Latfiah</td>
<td></td>
<td>97.05</td>
<td>Very Valid</td>
</tr>
<tr>
<td>6</td>
<td>M. Rifat Rahmatullah M</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>7</td>
<td>Nikita Callista Salsabilla</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>8</td>
<td>M. Nathan Abel Perdana</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>9</td>
<td>M. Raffi Ratala</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
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Based on the results of the questionnaire, it is known that the interactive economic learning media based on e-Powerpoint with 10 students as respondents were in the very valid category with an average percentage of 97.05% indicating that the small group stage was tested to be very valid and practical.

The results of development research that have been tested for their efficiency are as follows.
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The conclusions from the results of this study are: The development of interactive economic learning media based on e-powerpoint at SMA Negeri 1 Palembang is declared efficient according to the combined results of media expert validators, design validators and material validators with an average of 98.52% very valid and feasible to use. and in the one to one trial with 4 students the average result was 98.52% with very valid criteria and the small group trial with 10 students the average result was 97.05% very valid criteria.

ACKNOWLEDGMENTS

Thank you to SMA Negeri 1 Palembang and those who have given permission and direction and guidance during this research.

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Putri, IP, & Sibue, AM (2014). Development of Interactive Learning Media in Physics Subjects. *Implementation Science*, 39 (1), 1–15. http://dx.doi.org/10.1016/j.biochi.2015.03.025%0Ahttp://dx.doi.org/10.1038/nature10402%0Ahttp://dx.doi.org/10.1038/nature21059%0Ahttp://dx.doi.org/10.31629/jg.v1i1.5


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