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Development of Microsoft-Based E-learning Media for Elementary School Students

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Abstract. This study aims to develop Microsoft-based e-learning media used for distance learning. This research was conducted to add learning media in elementary schools. Media by combining Microsoft-based learning and evaluation. The study was learn by google meet application. The research has steps: (1) Reviewing e-learning research journals; (2) Designing learning designs; (3) Designing Microsoft-based learning media; (4) Expert validation of lecturers and teachers; (5) take data on student responses to learning media. Based on the analysis results of the Expert, it was obtained that the average V Aiken calculation was 0.72, which had the criteria of Sufficiently Valid. The percentage agreement is 97% which has very good criteria. Based on the results of the teacher's assessment analysis, the average V aiken calculation is 1.28 which has very valid criteria. The percentage agreement is 97% which has very good criteria. The recapitulation shows that this Microsoft-based e-learning media product can be implemented at Fifth Grader of Elementary School learning.

Key words: *E-learning, Microsoft, Media, Online*

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INTRODUCTION

The spread of the COVID-19 virus in the world has closed all human activities, including educational activities. Maatuk et al. (2021), stated that to reduce the spread of COVID-19 is to change the world's education system into e-learning using existing platforms. According to Gialamas et al. (2013), information and communication technology (ICT) has spread rapidly throughout the world. Digital media also affects the way of life and knowledge that makes the internet and computers a tool for learning. The COVID-19 pandemic is forcing all educational institutions to move quickly to move to distance learning and online. In addition to the COVID-19 pandemic, the growth of technology and the internet is increasing from time to time, so the needs in the field of education also require the use of technology and the internet in the learning process. According to Means et al. as quoted by Yekefallah et al. (2021), the access potential of students is increasing dramatically with the world wide web and the internet.

In line with the opinion of Febliza & Oktariani (2020), if learning using online learning media is increasingly applied to students, the experience in e-learning learning will also increase. Almaiah, Al-Khasawneh & Althunibat (2020), stated that e-learning is a learning medium that needs to be explored. Therefore, it is necessary to develop e-learning learning media so that it can be implemented easily. The use of technology in learning can support an effective and fun learning process. This situation also urges education observers to innovate and apply alternative learning and assessment strategies. COVID-19 also has the potential to be an access to introduce digital learning (Dhawan, 2020). The role of teachers, students, and the use of learning resources, learning management, evaluation systems and learning monitoring can be done through e-learning. Platforms that have been around so far, such as Microsoft and Google workspace, have become large platforms that teachers and students can use during distance learning. According to Petrie as quoted by Pokhrel & Chhetri (2021), the use of platforms so far such as Microsoft Teams, Google Classroom, Canvas and Blackboard can be used to create educational materials, assignments, and learning development. Based on this opinion, various platforms can be used as strategies for distance learning.

E-learning is related to students' digital literacy skills. According to Ferarri (2012), the need for technology and information in the social environment requires digital literacy as a competency needed today. According to Buckingham as quoted by Calvani et al. (2010), it was revealed that media literacy, ICT literacy, digital literacy have emerged in recent decades with new technologies to develop students' critical understanding of digital information

which is the impact of using ICT. Digital literacy is important to deal with digital disruption wisely. The ease of accessing the internet makes digital literacy an important thing.

METHODS

The research development procedure used adapts the research steps by adopting the 4D method. Model 4 consists of 4 steps, namely define, design, develop, and disseminate, but in this study it is only limited to the develop step. Dissemination was not carried out due to considerations of time and implementation limitations. The research steps include: (1) The stage of seeing potential and problems, (2) The stage of collecting information and literature study, (3) The stage of designing and compiling the product, (4) The stage of product validation, (5) The stage of revising the product, (6) The stage of testing the product, (7) The stage of revising the product that has been tested, (8) The stage of testing the use of the product that has been revised. This research is focused on the development of Microsoft-based e-learning learning media which are tested for feasibility by expert judgment and teacher practitioners.

There are 5 aspects that are assessed by experts and teachers, namely content, language/communication, presentation, display format, and media effects on learning strategies. Feasibility data analysis used a questionnaire given to expert judgment and teachers with scoring guidelines for each statement as follows.

Scoring Guidelines (Sugiyono, 2018:142).

Qualitative	Score
Very Good	*4*
Good	*3*
Not Enough	*2*
Very Less	*1*

Percent Agreement is obtained from the calculation of the score with the total score in the form of a percentage then categorized according to the feasibility table as follows.

Feasibility Criteria (Mulyani *et al.*, 2021)

No	Percentage (%)	Category
1	81-100	Very Good
2	61-80	Good
3	41-60	Enough
4	21-40	Very Less
5	< 21	Bad

Calculation of validity and reliability was carried out with Ms. Excel where testing the validity of the content of the learning media was tested with Aiken Validity. Content Validity Content validity is a validity that is estimated through testing the feasibility or relevance of the test content through rational analysis by a competent panel or through expert judgment (Azwar, 2012). Aiken (1985) formulated the Aiken's V formula to calculate the content-validity coefficient based on the results of the assessment of the expert panel of n people on an item in terms of the extent to which the item represents the construct being measured. The formula proposed by Aiken is as follows.

$$V = \frac{\sum S}{n\,(c-1)}$$

Information :

V : Rater agreement index (expert judgment)

S : the score determined by the rater minus the lowest score in the category

n : many raters (expert judgment)

c : many categories that the rater can choose (expert judgment)

The level of eligibility according to Adawiyah, Sukarwan & Mujamil (2019), is determined based on the following table.

Validity Score Criteria

Interval	Criteria
0 - 0,20	Very Invalid
0,21 - 0,40	Invalid
0,41 - 0,60	Less Valid
0,61 - 0,80	Quite Valid
0,81 - 1,00	Very Valid

RESULTS AND DISCUSSION

Based on the results of the analysis of the assessment of the Expert Lecturer, the average V Aiken calculation was 0.72 which had the criteria of Sufficiently Valid. The percentage agreement is 97% which has very good criteria. The recapitulation shows that this Microsoft-based e-learning media product can be implemented in learning in Fifth Grader of Elementary School. Based on the results of the teacher's assessment analysis above, the average V aiken calculation is 1.28 which has very valid criteria. The percentage agreement is 97% which has very good criteria.

The recapitulation of the results of the feasibility analysis of Expert Lecturers and Teachers shows that this Microsoft-based e-learning learning media product can be implemented in learning in Fifth Grader of Elementary School. It is proven from the average percentage of content aspect assessment of 93%

(Very Good) and V Aiken of 0.98 (Very Valid). Language Rating is 93% (Very Good) and V Aiken is 0.99 (Very Valid). The presentation aspect also has a good rating of 93% (Very Good) and V Aiken of 0.98 (Very Valid). The overall display format aspect received an assessment of 93% (Very Good) and V Aiken 1.02 (Very Valid). Furthermore, the last aspect is the aspect of the effect of media on learning strategies, which is 96% (Very Good) and V Aiken is 1.04 (Very Valid). The assessment cannot be separated from suggestions, namely to display fonts that attract the attention of students and bright colors to increase interest and attention to find out more about the contents in it.

CONCLUSION

Microsoft-based e-learning media developed based on research results in testing 5 aspects, namely aspects of content, language/communication, presentation, overall display format, and media effects on learning strategies have very good results so they should be implemented in elementary school learning . The author concludes that the learning media can be implemented in Elementary School.

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