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PRACTICALITY OF DEVELOPING INTERACTIVE MULTIMEDIA BASED ON *MACROMEDIA FLASH* 8 ON LEARNING INTEGRATED THEMATIC ELEMENTARY SCHOOL

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Abstract
The implementation of learning objectives cannot be separated from certain aspects, one of which is the aspect of learning media, including interactive multimedia, which is very suitable for learning in the current technological era. However, the implementation in the field related to the use of interactive multimedia in learning has not been optimal, including the lack of optimal use of interactive multimedia based on computer applications, even though the facilities and infrastructure are adequate. This research aims to develop interactive multimedia based on Macromedia Flash 8 for integrated thematic learning in practical elementary schools. This type of research is R&D using the 4-D model consisting of four stages: define, design, develop, and disseminate. The subjects of this study were the fifth-grade students at SDN 32 Bungo Pasang, SDN 45 Bungo Pasang, and SDN 51 Bungo Pasang, Koto Tangah District, Padang City, totaling 62 students. The research data collection instrument was through practicality sheets, namely the educator's response questionnaire and the student's response questionnaire. The results showed that the practicality level of interactive multimedia was obtained with the teacher's response value of 95.56% in the "very practical" category and the student's response was 91.36% in the "very practical" category. Thus, the development of interactive multimedia based on Macromedia Flash 8 in elementary school integrated thematic learning is practically used in classroom learning.
Keywords: *Practicality; Interactive Multimedia; Macromedia Flash 8; Elementary School*

Abstrak
Terlaksananya tujuan pembelajaran tidak lepas dari aspek-aspek tertentu salah satunya ialah aspek media pembelajaran diantaranya multimedia interaktif yang sangat cocok diterapkan pada pembelajaran di era teknologi saat ini. Namun, pelaksanaan dilapangan terkait penggunaan multimedia interaktif dalam pembelajaran belum optimal diantaranya masih kurangnya pemanfaatan multimedia interaktif berbasis aplikasi komputer secara optimal padahal sarana dan prasarana memadai. Tujuan penelitian ini adalah mengembangkan multimedia interaktif berbasis *macromedia flash* 8 pada pembelajaran tematik terpadu sekolah dasar yang praktis. Jenis penelitian ini adalah R&D dengan menggunakan model 4-D terdiri atas empat tahap yaitu, *define, design, develop,* dan *disseminate.* Subjek Penelitian ini adalah peserta didik kelas V SDN 32 Bungo Pasang, SDN 45 Bungo Pasang dan SDN 51 Bungo Pasang Kecamatan Koto Tangah Kota Padang berjumlah 62 orang peserta didik. Instrumen pengumpulan data penelitian ini adalah melalui lembar praktikalitas yaitu angket respon pendidik dan angket respon peserta didik. Hasil penelitian menunjukkan bahwa, diperoleh hasil tingkat kepraktisan multimedia interaktif dengan nilai respon pendidik yaitu 95,56% pada kategori "sangat praktis" dan respon peserta didik yaitu 91,36% pada kategori "sangat praktis". Dengan demikian, pengembangan multimedia interaktif berbasis *macromedia flash* 8 pada pembelajaran tematik terpadu sekolah dasar praktis digunakan dalam pembelajaran di kelas.
Kata Kunci: Praktikalitas; Multimedia interaktif; *Macromedia flash* 8; sekolah dasar

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Introduction

Learning is carried out to achieve predetermined goals. Learning objectives can be achieved if learning is carried out effectively by educators. The quality or quality of learning will be significantly influenced by the quality of educators and how learning practices are implemented. (Maghfiroh, 2022). One way to implement this can be through learning taught through the elementary school curriculum. The curriculum often changes due to science, technology, and needs (Desrinelti, D., & Miaz, 2022). The current curriculum includes the 2013 curriculum. In this 2013 Curriculum, elementary school learning is based on an integrated thematic system (MP Minalti., Erita, 2021) in the sense that all subjects are put into one theme. Integrated thematic learning is a learning activity that uses themes as a unifier for several related subjects (Rahmi & Fitria, 2020).

There are many benefits of implementing integrated thematic learning in elementary schools, such as students being able to see meaningful relationships due to learning materials playing an essential role as a means and can improve students' thinking skills (Nahak et al., 2019). In addition, integrated thematic learning can provide students with direct experiences (Suswandari, 2021). Direct experience in the integrated thematic learning process is that students are presented with something real before understanding something abstract. Integrated thematic learning is learning that links several subjects to a theme that can give students a meaningful experience (Abdiyah & Subiyantoro, 2021). Currently, the implementation of integrated thematic learning is still enforced in schools because learning objectives can be achieved due to learning according to the age level of students.

The implementation of learning objectives cannot be separated from certain aspects, one of which is learning media (Pangestika & Yansaputra, 2021). Using teaching media in the teaching and learning process can generate motivation and stimulate teaching and learning activities, and even psychologically affect students (Sutarna & Ripai, 2020). Engaging learning media will foster students' motivation to learn, according to the level or level of learning of students (Febrita, Y., & Ripai, 2020).

Using media learners can be motivated and actively involved physically and psychologically. It also maximizes all of the learners' senses in learning and makes learning more meaningful (Miaz et al., 2018). This statement shows that the media functions as an intermediary tool for delivering learning material so students can receive it more easily. This learning media has developed from time to time so that it gives rise to interactive multimedia. Multimedia is generally a combination of three elements, namely sound, images, text, or various media, to convey information (Marjuni, A., & Harun, 2019). Interactive multimedia is very suitable to be applied in the current technological era. Because in research has been done that people can remember 20% of what is seen, people can remember 30% of what is heard, people can remember 50% of what is heard and seen, and people can remember 80% of what is seen, heard, and done (Putri, 2022). By using interactive multimedia, it can present information that is simultaneously seen, heard, and done, so multimedia is very effective to be a complete tool in the learning process so that learning objectives can be achieved optimally.

There are many benefits obtained when using multimedia in teaching and learning. Process, namely increased learner interaction and motivation in learning, making it easier to deliver material where it is more efficient and effective (Nurmawati et al., 2022) for abstract concepts that cannot be brought directly into the classroom (Geni et al., 2020). For abstract concepts that cannot be brought directly to the classroom (Geni et al., 2020), interactive multimedia will significantly assist educators in explaining a concept.

Interactive multimedia plays an essential role in the world of education along with the development of technology that demands educators (Ibda et al., 2023) and students to be able to use computers or other devices (Dewi et al., 2021). The advantages of interactive learning multimedia include emphasizing and clarifying material through compelling images and animations (Ngazizah et al., 2021) (Sartono et al., 2022), training skills with various trying activities, and motivating students to improve student learning outcomes. Interactive multimedia is one type of media that can activate students because it has two-way communication (Pangestika & Yansap, 2022).

However, the implementation in the field related to the use of interactive multimedia in learning is not optimal. Data support this, both data obtained through observations in schools, filling out online questionnaires, literature studies, and from accredited journals, even though the benefits of interactive multimedia are perfect for learning. Based on an online questionnaire distributed through groups and school links in area 1 cluster 1 sub-district koto tangah padang city and filled out by 23 respondents of elementary school educators. After being analyzed, it can be concluded that 100% of educators fill an increase in learning motivation. Student learning outcomes by using interactive multimedia when educators use interactive multimedia in classroom learning, and 96% of educators feel happy with using interactive multimedia in classroom learning. Furthermore, an online questionnaire from students was distributed in area 1 cluster 1 sub-district koto tangah padang city and filled in by 106 students. It is suggested that 96% of students feel happy if the educator in the class uses animation in learning, and 83% of students feel excited to learn (motivated) if the educator explains learning with a computer/laptop / LCD projector.

The above data is also supported by the results of observations conducted from 3 to 10 September 2022 at three schools in class V SD N 32 Bungo Pasang, SDN 45 Bungo Pasang, SDN 51 Bungo Pasang. From the results of interviews with four educators and eight students, several facts related to learning in class V were identified. The first fact was that educators still do not use interactive multimedia based on computer applications optimally in the learning process, even though the facilities and infrastructure are complete. The second fact is that there is still a lack of utilization of IT-based technology in the integrated thematic learning process in elementary schools. The third fact is that when educators use interactive multimedia in animation, students tend to be more excited and motivated to learn. This is supported by research findings (Nurtanto et al., 2021) that educators who do not use learning tools during the learning process seem to get lost or lose their way.

Thus, it is essential to develop interactive multimedia to assist and facilitate educators in learning so that it is effectively used in the learning process in the classroom. Furthermore, based on previous relevant research on interactive multimedia, including research from Rahmad Wahyugi (2021) and research from Yossa Arisanti (2021). This research conducted a product practicality test of a product that has been valid and with the product's novelty is the existence of games that follow the material in each lesson so that students can hone their skills more interestingly and fun. The difference between previous studies with this research is that educational games are more inputted in each lesson so that students can stimulate interactive and independent power to complete commands. Based on the research data above, it can be concluded that interactive multimedia is practically applied to learning in elementary schools.

Therefore, it is necessary to conduct a study entitled "Practicality of Interactive Multimedia Development Based on Macromedia flash 8 in Integrated Thematic Learning in Elementary Schools". Based on the background explanation above, the problem formulation is how is the practicality of Macromedia flash 8-based Interactive Multimedia Development in

Elementary School Integrated Thematic Learning? This research aims to develop interactive multimedia based on Macromedia flash 8 on integrated thematic learning in elementary schools that is practical.

Research Methods

This type of research is R&D or development research using the 4-D development model consisting of four stages: define, design, develop, and disseminate. One of the advantages of 4D is that it is more appropriate to use as a basis for developing learning devices rather than for developing learning systems. The 4D model is one of the systematic learning design models (Astuti et al., 2022). This research was conducted in November 2022 at SDN 32 Bungo Pasang. The subjects of this study were grade V elementary school students totaling 62 students. The research was conducted offline while adhering to health protocols.

The steps taken in this study are first, the define stage, namely by analyzing needs, students, and the curriculum. Second, the design stage is developing products according to development needs. Third, the development stage is to produce practical, interactive multimedia products by testing valid interactive multimedia products and then filling out a practicality questionnaire for educators and students. Fourth, the dissemination stage is the distribution of interactive multimedia products. Data collection techniques with interviews, observations, and questionnaires. Interviews were conducted with educators and students directly with interview questions. Observation is done to see the conditions in the field with observation sheets, and questionnaire data is done to collect questionnaire data on the practicality test of educators and students on interactive multimedia that has been tested. Data analysis in the study used descriptive quantitative. Interactive multimedia used in the practicality test has been tested for validity by five experts: three material/content experts, one media/graphic expert, and one linguist. Then, the product's practicality is obtained through the results of the practicality sheet by filling out the educator response questionnaire and student response.

Results and Discussion

This research uses research and development methods known as R&D (Research and Development). The development model in this study uses the 4-D model with the stages of define, design, develop, and disseminate. The define stage includes needs analysis, curriculum analysis, and learner analysis. At the define stage, researchers conducted preliminary studies at three elementary schools that researchers made as research sites, namely SDN 32 Bungo Pasang, SDN 45 Bungo Pasang, and SDN 51 Bungo Pasang, Koto Tangah District, Padang City. The design stage (design) aims to produce interactive multimedia products based on Macromedia Flash 8 in integrated thematic learning for grade V elementary school students on Theme 4, "Healthy is Important" subtheme 1, My Blood Circulation. The Design stage is by making a Multimedia Program Outline, Making a Flowchart, making Storyboard, collecting materials, programming and finishing. The following can be seen in table 1. Multimedia Program Outline.

Table 1. Multimedia Program Outline

No	Aspek	Uraian
1	Education Unit	Sekolah Dasar
2	Class	V (Lima)
3	Topic.	Pembelajaran Tematik Terpadu Tema 4

		(Sehat Itu Penting) Subtema 1 "Peredaran Darahku"
4	Multimedia	Animasi Multimedia Interaktif berbasis macromedia flash 8
5	Validator	**Material Expert/Content** 1. Dr. Yanti Fitria, S.Pd., M.Pd. 2. Dr. Adrias, M.Pd. 3. Akhmad Badrul Lubis, M.Pd. **Media/ Graphics Expert** 4. Drs. Zelhendri Zen, M.Pd., Ph.D **Linguist** 5. Dr. Abdurrahman,M.Pd

Interactive multimedia research products based on Macromedia Flash 8 result from previous development, validated by five experts, including three material/content experts, one design / graphic expert, and one linguist. The displays interactive multimedia products based on Macromedia Flash 8 that have been validated and continued to the practicality test stage.

Table 2. Storyboard or display of Macromedia Flash 8-based Interactive Multimedia Products

	Interactive Multimedia Start Menu Display
	Main Menu Display Subtheme 1 Learning 1 to learning 6
	Learning Menu Display

	Display of Interactive Multimedia learning material
	Interactive display of Practice Questions or Competency Tests
	Puzzle Game View

After the interactive multimedia has completed the design stage, the next stage is the development stage or the development stage by conducting a validity test by experts. Products declared suitable for testing can be tested for practicality by educators and students. Good products were tested in three schools: SDN 32 Bungo Pasang, SDN 45 Bungo Pasang, and SDN 51 Bungo Pasang. After being tested, the researchers spread the practicality questionnaire to educators and students. The trial was conducted in the classroom using facilities and infrastructure that are pretty supportive.

At the practicality test stage by educators and students, it was found that interactive multimedia based on Macromedia Flash 8 integrated thematic learning for presentation aspects, aspects of the process of using interactive multimedia, and aspects of evaluation and assessment. The results of the practicality test (educator response) of interactive multimedia can be seen in Figure 1 below.

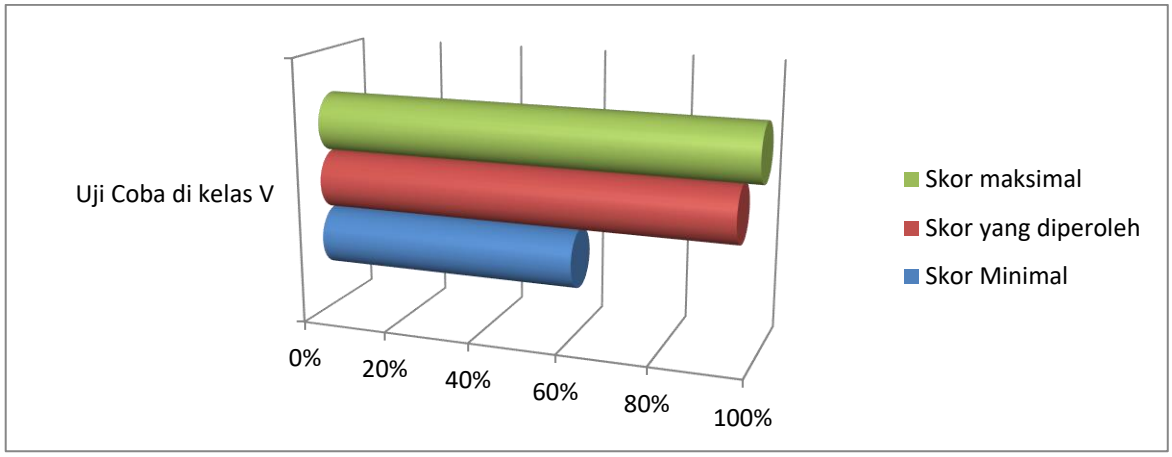

Figure 1. Educator response results

Based on Figure 1 above, the educator's response to interactive multimedia scored 95.56% in the "very practical" category. This educator's response shows that educators are given the ease of achieving learning objectives, both in terms of practicality of presentation and practicality of use, when using interactive multimedia in integrated thematic learning in elementary schools.

Furthermore, the results of the practicality test (learner response) on interactive multimedia can be seen in Figure 2 below.

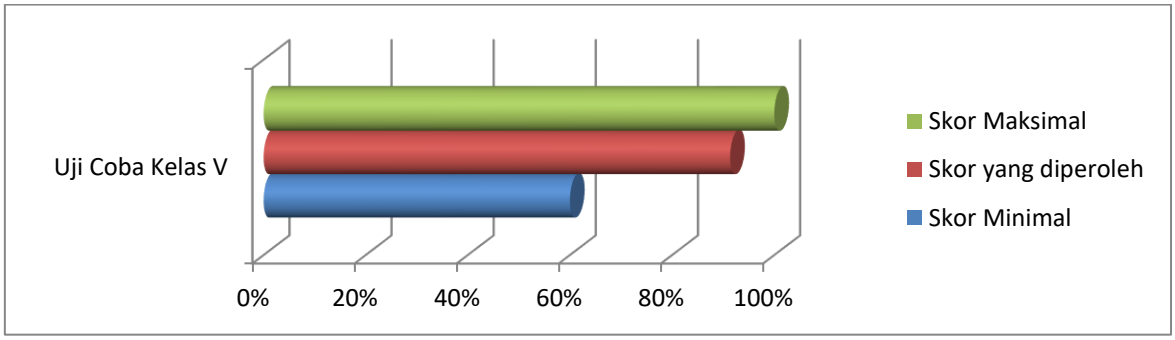

Figure 2. Student response results

Based on Figure 2 above, students' responses obtained a score of 91.36 % with the category "very practical" on the presentation criteria, the process of using interactive multimedia, and evaluation and assessment. Thus, the interactive multimedia developed is very practical for learning grade V elementary school and can be used as a solution in learning students easily understand that. This conclusion is in line with (Syaflin, 2022) that Macromedia Flash-based Interactive multimedia can increase students' interest and motivation in learning. Furthermore, according (Situmorang, 2020), interactive multimedia can increase students' interest in learning. Macromedia flash 8 can also help students deliver learning materials and make it easier for them to understand the subject matter (Dwiana et al., 2021). The last stage is that disseminated (product dissemination). Products tested and declared practical could be disseminated through the Class V Teacher Working Group. This product can be distributed collectively by providing interactive multimedia files to educators so they can be used in classroom learning.

However, this research is still not perfect because there are still advantages and disadvantages of the products developed. The weaknesses of interactive multimedia, namely:

(1) interactive multimedia based on Macromedia flash 8 is only limited to materials on theme 4, "Healthy is Important" subtheme 1; (2) interactive multimedia products based on Macromedia flash 8 are only for grade V elementary school students; (3) limitations on time, energy, and costs so that this research and development needs further development.

Conclusion

Based on the explanation above, it is concluded that the development of interactive multimedia based on Macromedia Flash 8 in integrated thematic learning for elementary school students is practically used in learning so that learning objectives are achieved effectively and efficiently. The results of the practicality of interactive multimedia with an educator response value of 95.56% in the "very practical" category and students' response are 91.36% in the "very practical" category. Thus, the development of interactive multimedia based on Macromedia Flash 8 in integrated thematic learning in elementary schools is practically used by educators. The development of this interactive multimedia can be implied by being utilized by educators and grade V elementary school students as a learning resource, helping and making it easier to understand learning materials and as a reference in further research.

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