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Development of E-Module Material on Recognizing the Environment With Dance

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Abstract: Dance learning in elementary schools is no less essential in learning activities. However, teachers still need to clarify many things regarding the purpose of learning dance in schools, where teachers still think that learning dance must teach students to become dancers. Therefore, this study aims to develop e-modules on recognizing the environment with dance for grade IV elementary school students. This type of research is development research with the ADDIE development model. The data collection techniques used in the study were observation, interviews, documentation, questionnaires, and tests. The data analysis techniques used are normality test, t-test, and N-Gain test. The results of the feasibility assessment of e-modules to recognize the environment with dance from material experts obtained a score of 92.26%. In comparison, the evaluation of media experts obtained a value of 89.02%. In addition, responses from users on product trials obtained a percentage of 98.18% from students and 100% from class teachers. The effectiveness of e-modules to recognize the environment with dance is evidenced in the t-test which obtained a significance value of 0.001 less than the significance level of 0.05, which means that there is a significant effect of using e-modules to recognize the environment with dance. In the N-Gain test, the result is 82.80, which can be concluded that the e-module of recognizing the environment with dance that has been developed is declared feasible and effective in learning dance.

Keywords: Dance Education; E-modules; Movement in the environment

Introduction

The field of education is constantly evolving, driven by the need to adapt teaching methods to the changing times. This is evident in the frequent updates to the curriculum, as educators strive to meet the ever-changing needs of students and teachers (Hariyanti et al., 2023). Curriculum development aims to keep up with dynamic educational demands, ensuring that both students and educators are equipped with the necessary skills and knowledge for effective teaching and learning (Mu'arif et al., 2021). In response to these demands, Indonesia has introduced the Merdeka Curriculum, a more flexible and student-centered approach compared to its predecessor (Jannati et al., 2023).

The Merdeka Curriculum is designed to help students develop their talents and acquire essential technology skills. It moves away from the one-way, monotonous teaching style of previous curricula, allowing for a more interactive and engaging learning process (Albar, 2022). This shift is particularly important given the rapid development of technology and its increasing influence on education (Novia Santi et al., 2022). The integration of technology in teaching, such as electronic-based learning, has become a vital component of modern education, utilizing advances in science,

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communication, and informatics to create more innovative learning experiences (Haryadi et al., 2021).

Despite these advancements, challenges remain in some schools, such as SDN Boyolali, where the learning process is still teacher-centered, and students lack access to engaging resources. Although the new curriculum encourages a variety of art forms, including fine arts and music, dance education is often neglected due to misconceptions about the need for specialized expertise (Nadeak et al., 2023). This has resulted in missed opportunities for students to explore and develop skills in dance, which is crucial for their creativity and cultural understanding (Wulandari, 2017). Teachers' hesitation to teach dance, even at a basic level, limits students' exposure to this important art form.

To address this issue, developing an electronic module (e-module) could serve as a practical solution. E-modules, which combine video, audio, and interactive elements, have been shown to significantly improve the learning experience (Anak Agung Meka Maharcika et al., 2020). They are proven to be highly practical and effective in enhancing both teachers' and students' understanding of complex subjects (Kuncahyono, 2018). This research aims to create an e-module on environmental awareness through dance for grade IV students, with the goal of assisting teachers in delivering dance education and improving students' learning outcomes.

Method

This research uses a development methodology employing the ADDIE model, consisting of five stages: analysis, design, development, implementation, and evaluation. In the analysis stage, curriculum analysis, learner characteristics, and media needs were identified. The design stage involved determining the learning topics for the e-module, creating its structure, and gathering input to improve the module. In the development stage, the e-module on environmental awareness through dance for grade IV students was created, followed by expert validation to assess the quality and validity of the module. The validation results were analyzed to ensure the module's effectiveness and quality.

Table 1. Decision-Making Conversion

Achievement Level	Qualification
80 - 100	Very good
60 – 79.99	Good
40 – 59.99	Simply
20 – 39.99	Less
0 – 19.99	Very less

The implementation stage included pretests and posttests to determine student learning improvements after using the e-module. These tests were essential to measure the e-module's effectiveness in teaching dance. In the evaluation stage, teachers and students were given questionnaires to assess their responses to the e-module, and these responses were analyzed to gauge its overall effectiveness in supporting the teaching process. The data analysis used a descriptive approach. Qualitative data from questionnaires were converted to quantitative scores using a Likert scale and analyzed with a normality test (Shapiro-Wilk) to check if the data followed a normal distribution. Following that, a t-test was conducted to measure the effectiveness of the e-module, while the N-Gain test was used to evaluate the average improvement in student learning outcomes from the pretest to the posttest. The N-Gain test was chosen because it offers a precise measurement of improvement by comparing initial learning results with post-module performance.

The N-Gain test categorizes learning improvements into high, medium, or low, as indicated by the table below. This test effectively illustrates the e-module's impact, providing insight into how much it contributed to students' understanding.

Table 2. N-Gain criteria

N-Gain Value	Criteria
N-Gain ≥ 0.70	High
$0.30 < N\text{-}Gain < 0.70$	Medium
$N\text{-}Gain \leq 0.30$	Low

(Ramdhani et al., 2020)

Furthermore, the effectiveness of the e-module is interpreted by the percentage of learning gains, as shown in the following table:

Table 3. N-Gain Interpretation category (%)

Percentage %	Interpretation
< 40	Ineffective
40 - 55	Less effective
56-75	Enough effective
>76	effective

(Ramdhani et al., 2020)

Lastly, regarding the data analysis similarity, it refers to the process where both pretest and posttest data undergo the same normality and statistical tests (Shapiro-Wilk and t-test). This ensures consistency in measuring the e-module's impact across different stages, offering reliable comparisons and conclusions from the data gathered throughout the research. The N-Gain test is used uniformly for both data sets, ensuring comparability and providing insights into how much learning improvement occurred. This consistent analytical approach allows for a precise evaluation of the

e-module's effectiveness. Here is a visual representation of the research flow:

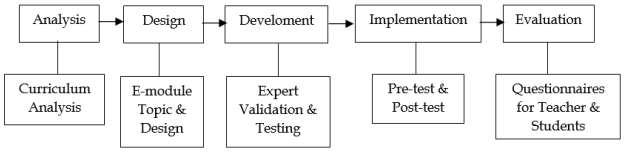

Figure 1. Visual Representation of the Research

Figure 2. Cover

Figure 4. Learning Objectives

Figure 6. Interactive animated video

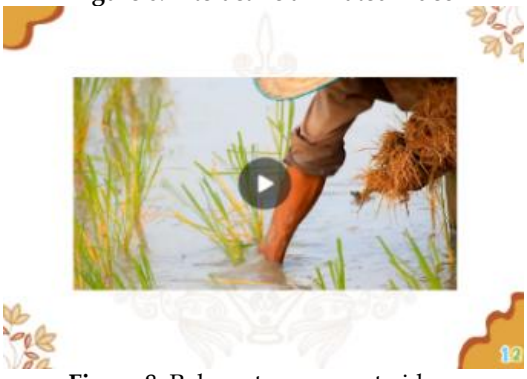

Figure 8. Relevant movement videos

Result and Discussion

Development Results

The results of developing the e-module on environmental awareness through dance can be seen in the Figure.

Figure 3. Guide to using the book

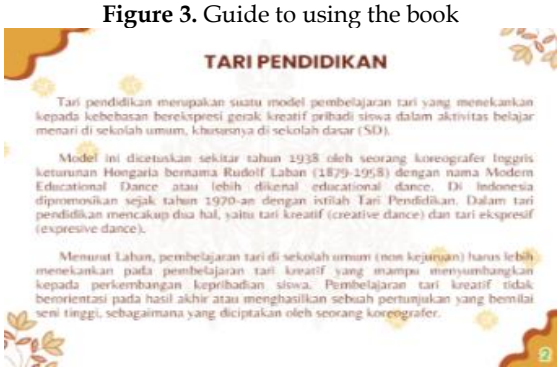

Figure 5. Introductory material for teachers

Figure 7. Learning prompts

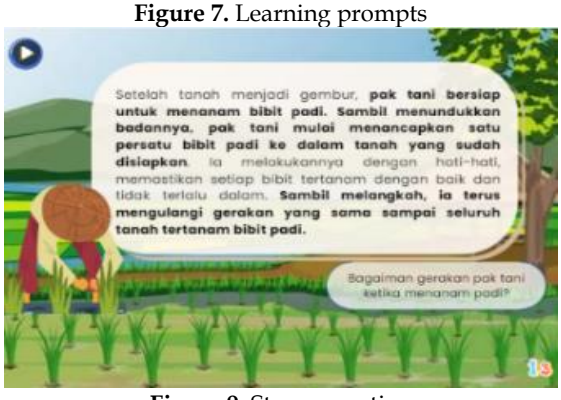

Figure 9. Story narration

1. E-module Design: The media design is made as attractive as possible to engage students in the learning process. The background selected is the immediate environment familiar to students, specifically "rice fields." The background design aligns with the narrative content. The storyline begins with farmers' activities, such as walking to the rice fields, culminating in the day the farmers harvest the rice. This e-module also includes a guide for using the book, a table of contents, and introductory material for teachers about dance education and its functions. It explains that dance education in elementary schools is not aimed at producing skilled dancers but at achieving specific learning objectives.

2. Interactive Video: This interactive video features animations set against a rice field background and includes real video examples of movements within each animation. The purpose of presenting these interactive videos is to encourage students to observe various activities in the rice field environment, even if they are in the classroom. Through these interactive videos, students are prompted to be more active in learning, allowing them to observe and imitate the movements shown in the videos rather than passively listening or reading the material.

3. Content: The e-module on environmental awareness through dance contains several narrative stories depicting various movements of farmers, animals, plants, and inanimate objects in the rice fields. The provided narratives include around 14 movements for students to mimic based on their imagination. Presenting the e-module on environmental awareness through dance aims to give students an understanding of the various movements in the rice field environment. These movements are designed to allow students to express themselves and understand their environment in a fun and interactive manner.

This research resulted in the development of an e-module designed to introduce the environment through dance. This e-module can be accessed via mobile phones or laptops/computers and features engaging animations with easily understandable story narrations to explain various movements in the surrounding environment. The use of this media helps students comprehend different movements in their environment and boosts their learning motivation. The e-module development process followed the ADDIE model, which consists of five stages: Analysis, Design, Development, Implementation, and Evaluation.

During the Analysis stage, needs identification and situational analysis were conducted to determine the content to be presented in the e-module. This initial stage is crucial as it ensures that the material developed aligns with students' needs and context. In the Design stage, the e-module blueprint was created, which included content structure, visual design, and interactive features. This structured approach supports a focused and coherent educational experience for students.

The Development stage involved creating the e-module according to the designed blueprint, including animation, story narration, and interactive videos. The engaging features incorporated in the e-module, such as animations and interactivity, are essential for enhancing student engagement and motivation. The Implementation stage involved testing the e-module in Grade IV at SDN Boyolali, Gajah Subdistrict, Demak Regency, allowing for practical feedback and adjustments based on real classroom experiences. Finally, the Evaluation stage included assessing the feasibility of the e-module by subject matter experts, media experts, teachers, and students, and analyzing its effectiveness in improving student learning outcomes.

Media Validation Results

The feasibility of this e-module was assessed based on evaluations by subject matter experts, media experts, and feedback from teachers and students. Validation by expert validators ensures that the developed media meets the needs and development levels of the students (Husein, 2020). The feasibility assessment criteria from subject matter experts were adopted and modified from (Juraidin & Hudiah, 2019), while the media expert assessment criteria were adopted and modified from (Wangi, 2021).

1. Subject Matter Expert Validation

Validation by the subject matter expert, Dr. Deasylina da Ary, S.Pd., M.Sn., covered seven aspects of content quality and three aspects of technical quality. The content quality aspects included material presentation, completeness of material, alignment of material with learning outcomes, and more. The high feasibility percentage of content quality at 92.85% and technical quality at 100% suggests that the e-module is well-structured and effective in facilitating students' understanding of environmental awareness through dance. This alignment with learning outcomes is essential for ensuring that the educational goals are met, as validated through expert assessments.

Table 4. Results of Material Expert Assessment

Assessment Aspect	Score Earned	Maximum Score	Feasibility (%)	Validity Level
Content Quality	26	28	92.85	Valid
Technical Quality	11	12	91.66	Valid
	Average Percentage		92.26	Valid

2. Media Expert Validation

Feasibility assessment by media expert Dr. Deni Setiawan S.Sn., M.Hum., focused on functionality, technical quality, design, and appearance of the learning media. The e-module's functionality, with a feasibility percentage of 81.25%, shows its ability to attract students' attention and engage them in the learning process. This engagement is vital for enhancing students' motivation and retention of the material. The average feasibility percentage of 89.02% indicates that the e-module is valid and highly feasible for use, further supporting its potential in educational settings.

Table 5. Results of Media Expert Assessment

Assessment Aspect	Score Earned	Maximum Score	Feasibility (%)	Validity Level
Learning Media Functions	13	16	81.25	Valid
Technical Quality	23	24	95.83	Valid
Design and Display	18	20	90	Valid
	Average Percentage		89.02	Valid

Media Practicality Results

The practicality of the e-module was measured through feedback from students and teachers. Students were given a questionnaire about the e-module's practicality, resulting in a percentage of 98.18%, which indicates high feasibility. This feedback highlights how well the e-module aids students in understanding movements in their environment and increases their motivation to learn.

Teacher feedback also yielded a perfect score of 100%, emphasizing the e-module's effectiveness in material delivery and its potential to broaden teachers' perspectives on dance education. This indicates that the e-module is not just beneficial for students but also supports teachers in enhancing their instructional methods.

Media Effectiveness Results

The effectiveness of the e-module was assessed by analyzing student learning outcomes before and after its implementation. The product trial revealed significant improvement in learning outcomes, as evidenced by the pretest and posttest scores.

Table 6. Recapitulation of Learning Outcomes in the Product Trial

	Lowest Score	Highest Score	Average	Number of Learners Completed
Pretest	25	80	56.51	5
Posttest	70	100	84.44	27

The increase in average scores from 56.51 to 84.44 demonstrates the e-module's effectiveness in enhancing student learning outcomes. This substantial improvement underscores the e-module's role in facilitating a deeper understanding of environmental awareness through dance.

1. Normality Test

The normality test indicated that both pretest and posttest data followed a normal distribution, which is essential for the validity of the subsequent statistical analyses.

Table 7. Normality Test Results

	Statistic	Statistic	df	Sig.
Pretest	.154	.941	27	.130
Posttest	.140	.955	27	.290

2. Paired Sample T-test

The Paired Sample T-test showed a significance value of < 0.001, indicating a statistically significant effect of the e-module on learning outcomes. This finding supports the hypothesis that the e-module positively impacts students' understanding and motivation regarding environmental awareness through dance.

Table 8. Paired Sample T-test Result

	T	Df	Sig.
Pretest-Posttest	-51.871	26	<.001

3. N-Gain Test

The N-Gain test results indicated a high improvement in student learning outcomes, further validating the e-module's effectiveness. The average N-Gain of 82.80 confirms that the e-module significantly enhances students' understanding of dance concepts and movements.

Table 9. Recapitulation of N-Gain Test Results of Pretest and Posttest of Product Trials

	Average	N-Gain	Criteria	Interpretation
Pretest	56.51	82.80	High	Effective
Posttest	84.44			

The e-module on environmental awareness through dance is, therefore, effective in enhancing students' learning outcomes in dance education. Based on the research findings, the e-module developed for environmental awareness through dance for Grade IV students at SDN Boyolali is both feasible and effective as a teaching medium. The integration of interactive elements, along with validation from experts and positive feedback from students and teachers, supports its implementation in dance education. The findings suggest that such technological integration can significantly enhance student motivation, understanding, and overall learning experiences, making it a valuable educational tool in schools.

The development of the e-module for environmental awareness through dance has had positive and significant impacts on students in various aspects. First, it has improved students' understanding and information retention. The interactive features of the e-module, such as animations, videos, and storytelling, engage multiple senses, making the learning process more enjoyable and effective. This interactive approach not only increases students' comprehension of the material but also enhances their ability to retain information.

Second, the e-module has increased learning motivation. By addressing students' psychological needs, such as autonomy, competence, and relevance, the e-module keeps them engaged and motivated throughout the learning process. The design of the module provides meaningful experiences, encouraging students to stay active in their learning journey.

Third, the e-module supports the development of motor skills and creativity. Through dance activities, students improve both fine and gross motor skills by mimicking movements displayed in the videos. Additionally, the module stimulates students' imagination, allowing them to express their creativity through dance, which nurtures their creative development.

Fourth, the e-module offers relevant and contextual learning by connecting the material to real-life situations. This relevance helps students see the importance of the content in their daily lives, making the learning experience more meaningful and motivating.

Lastly, the e-module fosters the development of social and emotional skills. By engaging in dance, students learn to collaborate with their peers, build empathy, and manage their emotions more effectively. The module also boosts their confidence in expressing themselves through movement, contributing to their overall social and emotional growth.

Conclusion

The results of the research on the development of e-modules to recognize the environment with dance show results that have a positive impact. The development of this e-module can open teachers' views on dance education, provide learning media that can help teachers in implementing dance learning at school, and, of course, attract students. With this media, students can also train their imagination and motor skills, which will certainly be very beneficial for their future lives. The E-module of getting to know the environment with dance also supports teachers and learners in better understanding the use of technology in learning. Thus, e-modules recognize that the environment with dance can be a solution in providing learning media that is interesting and interactive, supports students' understanding, and makes students more enthusiastic about participating in learning. Learners become more focused and pay attention to the material being taught. Increased knowledge will improve students' learning outcomes. E-modules recognize that the environment with dance can facilitate the teacher's delivery of the material. Furthermore, this e-module of recognizing the environment with dance can be further developed for other subjects and materials.

Author Contributions

Safitri Angga Dewi, wrote the introduction, methods, results, discussion and conclusions. Deasylina da Ary provide guidance.

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Conflicts of Interest

There is no conflict of interest in this writing.

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