Development of MAILI 21 (Lectora inspire 21 interactive learning media) to improve student learning outcomes in elementary schools

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Article Info

ABSTRACT

Learning Pancasila and Citizenship Education which is less varied and innovative causes students to be less enthusiastic and bored quickly. Therefore, it is necessary to combine learning with IT-based media with conventional media to improve student learning outcomes. This study aims to develop interactive learning media Lectora Inspire and determine the feasibility, practicality, effectiveness, and able to improve student learning outcomes in the subject of Pancasila and Citizenship Education material united in diversity in grade III SD. This research uses the Borg and Gall model which is limited to stage eight. Starting with data collection, planning, product design, expert validation of products, product revision, product trials, product usage trials and final product revision. The research subjects consisted of 1 material expert, 1 media expert, 1 class teacher, 9 students for small-scale trials, and 13 students for large-scale trials. Data collection techniques used interviews, validation sheets, response questionnaires, and tests. The material expert validation results reached 90% with the "very feasible" category, the media result validation value reached 85% with the "feasible" category, and the media practicality value reached 90% with the "very practical" category. The media was also declared effective which can be seen from the pretest and posttest results with an average difference of 19 and the T-test results. Thus, the development of Lectora Inspire interactive media is concluded to be very feasible, practical, and effective in improving student learning outcomes.

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Introduction

Education is an effort to attract something in society, providing programmed learning experiences in the form of formal, non-formal, and informal education inside and outside school, which lasts a lifetime and aims to optimize individual abilities for the future. The most important thing in education is the achievement of the learning process, a learning process that can be achieved effectively through interesting learning (Rahmawati et al., 2021; Afendi, 2022). Education is the place where knowledge is acquired. Knowledge becomes the foundation of life and must be designed as well as possible (Afendi et al., 2022). Education is the process of developing a value system and culture, including the formation of personality, skills, and intellectual development of learners (Afendi et al., 2022). Education is the most basic and important human need. Because through education people can learn things they did not know before (Mutiah et al., 2023).

One of the goals of education is to develop students to become members of society who have academic abilities and can apply and expand their knowledge (Nalinda et al., 2022). Therefore, innovative knowledge is needed from teachers so that not only teachers but also students can actively participate in the learning process. In this way, an optimal learning process is achieved. Teachers and educators must consider the methods and media needed in the learning process, including learning objectives, student characteristics, and time requirements (Haliza et al., 2023).

Interactive learning media can be an effective solution to this problem, as it provides an in-depth and engaging learning experience that can improve student understanding and retention (Rahmadhani et al., 2022). Good learning media can increase student learning motivation, clarify and simplify abstract concepts, and increase the absorption of lesson content (Astuti et al., 2021). Media is said to be effective if it can arouse students' interest and motivation to actively follow and listen, listen to learning (Mariezki et al 2021). One of the subjects that require interactive learning media is a subject called Pancasila and Citizenship Education. Pancasila and Citizenship Education is an important subject in the Indonesian education system, as it helps students develop a sense of national identity and civic responsibility (Pramudianti et al., 2023).

Civic education develops citizens with a national outlook and instills in Indonesia's young generation a sense of love for the country and pride in being an Indonesian citizen (Hafifi et al., 2023). In the learning process, teachers not only need to explain something, but also make students understand the Civics material presented so that later it can be applied in everyday life (Maulani et al., 2020). Based on the results of interviews with grade III teachers at SDN Gisikdrono 03, it is known that in the learning material of Pancasila and civic education in the thematic curriculum, students have difficulty in concluding the meaning of unity in diversity in the surrounding environment. In practice, students find it difficult to understand and conclude the meaning of unity in diversity in the surrounding environment in everyday life, especially in dealing with different and diverse situations. And students have difficulty in identifying and appreciating cultural and religious differences in the surrounding environment, so they find it difficult to unite in diversity. The media used by the teacher is good, namely books, but it has not run optimally and there is no student interest so that students do not have activeness in the learning process. This affects student learning outcomes where based on the results of the formative test of grade III students on the material of the meaning of unity in diversity in the surrounding environment, there are 12 students who get scores below the KKM and 10 students above the KKM where the KKM is 75. This is in line with previous research that has the same problem, namely visual media, books, pictures and without using media (Fadiyah et al., 2023; Panjaitan et al., 2023; Handayani et al., 2022).

The above problems can be overcome by using interactive media which requires improvement and innovation so that learning is more effective, students are more involved, and learning outcomes are stronger. One of the software that can be used in developing interactive media is Lectora Inspire. Lectora Inspire version 18 learning media is very good because it is equipped with several templates, attractive slides, videos/animations, attractive colors, as well as game-style assessments and exercises that can attract students' attention You can be called a complete media package (Ristiani et al., 2021; Irawan, 2020). Lectora Inspire is an application program that can be used to create presentations and learning media. Lectora Inspire interactive learning media can be easily created using a laptop, so it is called a suitable learning media to increase the motivation of elementary school students in learning the material (Norsidi et al., 2024). Lectora Inspire is software that is a tool for developing e-learning content. Lectora Inspire has various types of tools that can make the presentation of learning media more interesting and innovative (Rahmadhati, 2020). Researchers have successfully developed an interactive learning media based on Lectora Inspire. The media was developed together with videos, material on the meaning of unity in diversity in the surrounding environment, images, and quizzes.

The objectives of this study are (1) to develop Lectora Inspire interactive media as an innovative learning media to increase learning interest and understanding of the meaning of unity in diversity in the surrounding environment for grade III students of SD N Gisikdrono 03. (2) to test the feasibility of media and test the effectiveness of interactive learning media "Lectora Inspire" in improving student learning outcomes related to understanding the meaning of unity in diversity in the surrounding environment. Thus, this research will fill the gap in understanding and practicing the meaning of unity in diversity in the surrounding environment and contribute to the development of innovative learning media that are relevant to learning needs in today's digital era, and the author wishes to research on "Development of interactive learning media Lectora Inspire to improve learning outcomes of elementary school students, especially grade 3".

Method

The Research and Development (RnD) method of Lectora Inspire interactive media uses the Borg and Gall development method (Sugiyono, 2019). Research methods used to create new product designs, test the effectiveness of existing products, and develop and manufacture new products. If a new product has been tested, then if the product is used in the work, the implementation of the work will be easier, faster, and the quality and quantity of the results will increase (Sugiyono, 2019). The research and development process of this improved Lectora Inspire interactive learning media in its implementation is limited to stages 1-8.

This research will be carried out in April-May 2024 at SDN Gisikdrono 03 which is located at Jalan Taman Sri Rejeki Timur II, Gisikdrono Village, West Semarang District, Semarang City. The test subjects of this study are grade III students of SDN Gisikdrono 03 which totals 22 students and will take part in small-scale trials and large-scale trials. In the small-scale trial, the sample was taken using a simple random sampling technique so that 9 students were obtained from the total number of third grade of SDN Gisikdrono 03. The sample in the large-scale trial was taken using a systematic random sampling technique so that 13 students were obtained from the total number of third grade students at SDN Gisikdrono 03.

The type of data processed comes from quantitative and qualitative data. Quantitative data processing comes from questionnaires validated by material experts, media experts, and questionnaires of teacher and student responses to media use in small-scale trials. Qualitative data processing comes from inputs, criticisms, and suggestions stated in questionnaires of media experts, material experts, and questionnaires of teacher and student responses on small-scale trials in writing.

The data collection technique in this study uses: 1) interviews, conducted to third grade teachers of SDN Gisikdrono to find out the problems that exist in the Pancasila and Citizenship education subjects, 2) questionnaires, namely in the form of questionnaires on the needs of students and teachers, validation questionnaires for media and material experts, 3) tests, in the form of pretest and posttest questions that have been tested from the validation test, reliability, and the level of difficulty of the questions. The pretest and posttest are used to measure student learning outcomes and the successful use of the interactive learning media Lectora Inspire that the author has developed. 4) documentation, to obtain school data and student identities in accordance with research needs. The grid of data collection instruments in this study can be seen in Table 1, Table 2, Table 3, and Table 4.

Table 1. Grid of Instruments for Assessment of Mathematicsians

Not.	Aspects	Indicators		Total
1	Aspectsof Material Competence	a.	Materials in accor dance with competencies	5
		b.	Materials facilitate student understanding	2
		c.	Useful materials in improving students' abilities	
2	Aspectofsuitabilityofthe material	a.	Materials in accor dance with learning objectives	5
		b.	The material is clear and concise	2
3	Languageaspects	a.	Clear and communicative language	5
Total				19

Table 2. Grid Of Media Expert Evaluation Instruments

Not.	Aspects	Indicators		Total
1	Aspectsof media clarity and neatness	a.	The neatness of the display of Lectora Inspire learning media	4
2	Aspects of conformity	a.	Compatibility between media and material	6
		b.	Compatibility between images and materials	4
3	Comfort aspect	a.	Easy-to-use media	1
		b.	Media stimulates student activity	1
		c.	The media can be operated well	1
		d.	Media can be used offline	1
Total				18

Table 3. Student Response Instrument Grid

Not.	Aspects	Indicators	Total
1	Material aspects	a. The material presented is clear	3
2	Aspectsof media use	a. Media helps students understand the material	1
		b. Media Appeal	1
		c. Learning activities become fun	1
		d. Media Improves Learning	1
Total			7

Table 4. Teacher Response Instrument Grid

Not.	Aspects	Indicators	Total
1	Material aspects	a. The material presented is in accordance with the indicators and learning objectives	2
		b. The material presented is clear	1
2	Aspects of the effectiveness of media use	a. media presented according to the level of understanding of students	2
		b. Interactive media helps increase students' motivation to learn	1
		c. media can be used easily and attractively	2
Total			8

Table 5. Grid of pretest and posttest questions

Not.	Material	Indicators	Cognitive level	Questionnumber
1	The meaning of unity in diversity in the surrounding environment	Students can determine the attitude of unity in the diversity of the surrounding environment and its benefits	C3	1,4,5,8,9
		Students can correctly conclude the relationship between the attitude of unity in diversity in accordance with the motto of Pancasila correctly	C2	2,7, 10,11,12,13, 14,15
		Student scan mention the benefits of a united attitude in diversity	C1	3,6
Total				15

Before receiving the pre-test and post-test questions, as many as 60 test instrument questions were tested for validity, reliability, and difficulty using Microsoft Excel, and the researcher got 29 questions in the valid category and there were 15 questions used for prestest and posttest questions for small and large-scale trials.

There are five categories on the Likert scale on the validation questionnaire for media experts, material experts, teachers, and students which can be seen in table 6.

Table 6. Categories Of Validation Sheets And Response Questionnaires

Alternative answers	Score
A = Very good	5
B = Good	4
C = Average	3
K = Less	2
E = Not eligible	1

As for obtaining the results of assessment scores on media experts, material experts, and teacher and student responses (Amilia et al., 2021), it can be seen in the following table. After the assessment results are available, the next step is to calculate the average with the aim of obtaining a final score adjusted to the interpretation of the score generated in Table 7.

Table 7. Validator Validity Criteria

Percentage	Criterion	Information
86% - 100%	Very worthy	Norevision
76% - 85%	Proper	Revision
60% - 75%	Quitedecent	Revision
66% - 59%	Lessfeasible	Not eligible
<54%	Not eligible	Not eligible

The criteria for media practicality are determined based on the average percentage of response results (Husaini et al., 2019) shown in table 8.

Table 8. Media Practicality Criteria

Category	Percentage
Very practical	81% - 100%
Practical	61% - 80%
Quitepractical	41% - 60%
Lesspractical	21% - 40%
Impractical	0% - 20%

The initial data analysis used the normality test and the final data analysis used the paired sample t-test and the N-gain test on the pre-test and post-test results to show the effectiveness of the product in improving student learning outcomes by using the SPSS version 26.0 application.

Results and Discussions

This study reviews three main aspects, namely 1) the process of developing interactive media, 2) the validity of the results of the development of interactive learning media, and 3) the effectiveness of learning media. Research and Development (RnD) method of Lectora Inspire interactive media using the Borg and Gall development method (Sugiyono, 2019.). Research methods used to create new product designs, test the effectiveness of existing products, and develop and manufacture new products. The research and development process of this improved Lectora Inspire interactive learning media in its implementation is limited to stages 1-8. The first stage is data collection, starting with observation to find learning problems in Pancasila and Citizenship education subjects obtained through interviews with third grade teachers of SDN Gisikdrono 03. Based on the results of the interview, it was found that there were problems with the material of the meaning of unity in diversity in the surrounding environment where students in the implementation of it, students found it difficult to understand and conclude the meaning of unity in diversity in the surrounding environment in daily life, especially in facing different and diverse situations. And students have difficulty identifying and appreciating cultural and religious differences that exist in the surrounding environment, so it is difficult for them to unite in diversity. The results of the formative test of grade III students on the material of the meaning of unity in diversity in the surrounding environment there were 12 students who got a score below the KKM, 10 students above the KKM where the KKM was 75. The provision of supporting facilities such as projectors in each classroom, but teachers have not used them effectively. The media used by teachers is in the form of images from the internet and books so that students are less active in learning activities. Teachers expect interesting interactive media so that students can actively participate in learning activities and improve student learning outcomes.

The second stage is planning starting from determining the competencies, indicators, and materials to be developed in the product. Furthermore, prepare a questionnaire of research subjects, starting from media experts, material experts, teacher responses and student responses, as well as making pretest and posttest questions. Researchers also prepare learning tools or learning implementation plans as a guide for product trials in classroom learning activities.

The third stage is product design, the resulting product is in the form of Lectora Inspire interactive learning media which is developed using Lectora Inspire software which can be downloaded first on the official website. This product was developed according to the results of the questionnaire on the needs of teachers and students. The initial stage of designing LectoraInspire's interactive learning media is divided into 3, consisting of an introduction, discussion and closing. The opening part consists of 1) the title of the media and a button with a picture of the house as the initial display 2) the menu of the media content contains the title of the material, video, objectives, material, evaluation of conclusions and the profile of the creator 3) the purpose of learning. The content consists of 1) an introduction to learning in the form of a video united in diversity 2) the subject matter of the material 3) material (diversity in Indonesia, diversity in Semarang, the meaning of unity

in diversity accompanied by photos). The closing part consists of 1) a quiz about the material that has been studied, 2) a conclusion from the material, 3) a profile of the product maker.

The fourth stage is expert validation of LectoraInspire's interactive learning media product on the meaning of unity in diversity learning materials in the surrounding environment that have been developed and then product validation assessments are carried out by material experts and media experts. The results of the validation by experts were then analyzed and the results showed that the Lectora Inspire interactive learning media was worthy of being tested on a small scale, but there were still revisions. Results of validation of media and material feasibility in Table 9.

Table 9. Results Of Product Feasibility Tests By Media Experts And Material Experts

| Respondents	Percentage	Criterion
Media members	85%	Proper
Material expert	90%	Very worthy

Table 9 shows the results of validation by media and material experts. The results of the validation by media experts, namely Abtadi Tris Hamdani, S.Pd., M.Pd. as a lecturer at PGSD Unnes, obtained a percentage value of 85% with the criteria of "Feasible" where in the aspect of neatness, the suitability and usefulness of the media were considered suitable for testing. Media experts provide qualitative data in the form of suggestions and comments, including that the media background must meet the overall appearance, added the profile of the product creator and for the font size to be more attention. The following is a display of media that has been developed and revised (figure 2). The results of the validation of the material expert, namely Galih Mahardika Cristian Putra, S.Pd., M.Pd. as a lecturer at PGSD Unnes, obtained a percentage of 90% with the criteria of "very feasible" where in the aspects of suitability, material feasibility, and usefulness of the material were considered suitable for testing.

Home

Learning media menu
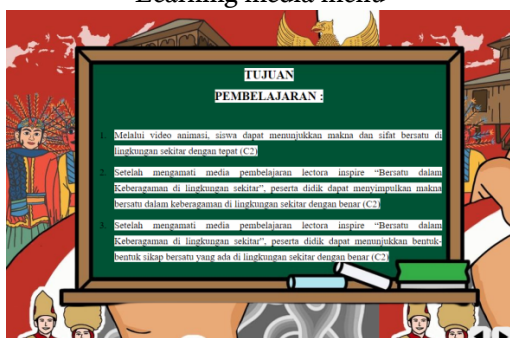
Learningobjectives menu

Menu conclusionofthe material

The sixth step is that the product trial will be tested on a small scale with the subject of 9 third grade students of SDN Gisikdrono 03. Sampling was carried out using a simple random sampling technique. This trial aims to determine the effectiveness of the product in improving student learning outcomes on the material of the meaning of unity in diversity in the surrounding environment which can be known by providing pretest and posttest questions. The results will be processed using a difference test between two paired samples (Paired sample t-test). In the Paired test, the t-test sample obtained the results of the sig value. (3- tailed) by 0.000 (0.000 < 0.05), then H0 is rejected and Ha is accepted, so it can be concluded that there is a significant difference between the pretest and posttest results which means that there is an influence of the use of Lectora Inspire interactive learning media on student learning outcomes in Table 10. Learning outcomes in small-scale trials.

Table 10. Learning Outcomes In Small-Scale Trials

Action	Average	Highestscore	Lowestscore	Difference
Pretest	62	75	40	29
Posttest	91	100	80	

Table 10 shows an average increase in student learning outcomes of 29. This shows that there are differences in conditions before and after using Lectora Inspire interactive learning media. The researcher gave a questionnaire of students' responses to the product and the results showed a positive response. The results of the student response obtained a percentage of 95% with the criterion of "very practical". It can be concluded that LectoraInspire's interactive learning media is effective to be used in learning the meaning of unity in diversity in the surrounding environment so that it can be continued in large-scale trials.

The eighth stage is a product trial, which is a large-scale trial with 13 third-grade students of SDN Gisikdrono. Large-scale trials get the same treatment as small-scale trial learning. It began with the provision of pretest questions and ended with the provision of posttest questions and questionnaires for teachers and students.

Table 11. Instrument Test Results

Typesoftests	Result
Difference in averagepretestandposttest	19
Pairedsample t-test	Sig. (3-tailed) of 0.002
TeacherResponse	90%
Studentresponse	95%

Table 11 shows some of the results of the instrument trial where there is a difference in the average pretest and posttest results of 19 where in large-scale trials there are also differences before and after using the media. The results of the Paired T-test sample showed a significant difference in the results of the pretest and posttest on the material of the meaning of unity in diversity in the surrounding environment, namely the value of sig. (3- tailed) by 0.002 (0.002 < 0.05). The results of teachers' responses to LectoraInspire's interactive learning media received a positive response with a percentage of 90% with the criteria of "very practical". And the responses of students who obtained a percentage of 95% with the criteria of "very practical". From the results of the trial, it was concluded that the Lectora Inspire interactive learning media got positive results and the media was effective and practical to use in the learning material of the meaning of unity in diversity in the surrounding environment and could improve learning outcomes and understanding of the material by students.

The results of data analysis in this study showed that the interactive learning media Lectora Inspire on the material of the meaning of unity in diversity in the surrounding environment in grade III received positive

results from media experts, material experts, teachers and students so that it was called feasible to be used in learning activities. There are several things that affect the success of the research, namely: first, this research successfully combines technology with education to create interesting and interactive learning activities. The use of Lectora Inspire as an interactive media development software shows a holistic and progressive approach to the use of technology in education. This finding is in line with previous research which focused on interactive learning media innovation so that learning activities run innovatively, fun, and easily accepted by students (Rahmadhati, 2020; Astuti et al., 2019; Ramadhanti, 2020; Dahlia et al., 2022). Interactive media itself is a media based on information and communication technology. The media in question is in the form of multimedia that combines elements of video, sound, text, graphics, and photos in an integrated manner according to needs (Karno et al., 2023; Nalinda et al., 2023).

In terms of the content of LectoraInspire's interactive learning media, the results of the questionnaire and instruments showed that of the eight indicators that had been evaluated, six of them received very good qualifications and two indicators achieved good qualifications. This is due to the suitability of the material with the learning objectives in the Pancasila and Citizenship education subjects. Interactive learning media supports the learning process, clarifies the meaning of the message conveyed and allows educational goals to be achieved effectively and efficiently (Afifah et al., 2022).

In terms of the content of LectoraInspire's interactive learning media, the results of the questionnaire and instruments show that of the eight indicators that have been evaluated, all of them have achieved very good qualifications. This is due to the suitability of the material with the learning objectives in the Pancasila and Citizenship education subjects. In addition, interactive media makes the learning process more interesting because it combines images, illustrations, stories, sounds, and texts and can be controlled freely. The application of interactive multimedia to improve students' auditory learning achievement by making the activities fun, interesting, and meaningful (Damara et al., 2021). The content of the media focuses on diversity in Indonesia, diversity in Semarang and the meaning of unity in diversity. The content of the media developed is more complex and complete than previous studies. Where previous research on media only contained material and was not focused on complex media development. (Fadiyah et al., 2023) the results of Fadiyah et al's research are only limited to using media for learning activities using the Problem Based Learning (PBL) method.

In this study, LectoraInspire's interactive learning media showed success in improving the learning outcomes of grade III students in the subject matter of Pancasila and Citizenship education with an average posttest difference of 29% in small-scale trials and 19% in large-scale trials. This is also strengthened by previous research that lectora inspire interactive learning media on student rights and obligations material with the PBL method has been proven to improve student learning outcomes (Fadiyah et al, 2023) and is effective in improving learning outcomes in mathematics subjects (Lina &Sadmijo, 2019) and effective in improving learning outcomes in elementary schools (Rahmadhani et al, 2022). The results of this study will make a great contribution to the development of learning for grade III students about the meaning of unity in diversity in their environment. Most importantly, recognizing the effectiveness of LectoraInspire's interactive learning media in improving student learning outcomes. Positive feedback from media experts, material experts, teachers and students proves that this medium is suitable for learning. This highlights the importance of integrating technology into education to create a fun and interactive learning environment. However, this study has limitations such as limited scope of experiments and focus on only one group. Therefore, further research is recommended to conduct large-scale experiments with different group levels and different learning contexts. In addition, further research can examine specific aspects of LectoraInspire's interactive learning media that have a significant impact on student learning outcomes. Therefore, further research hopefully can provide a deeper understanding of the potential and effectiveness of interactive learning media to improve learning about the meaning of unity and unity in diversity in the surrounding environment.

Conclusions

Based on the results of the research, the development of interactive learning media "Lectora Inspire" with the material meaning of unity in diversity in the surrounding environment for grade III elementary school students has a high possibility to be used in learning to be effective. Its quality and attractive appearance can help students understand the meaning of the material easily and pleasantly, improve student learning outcomes and achieve learning objectives as a whole.

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