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Development of Interactive Comic Media with a Contextual Approach to Social Science Learning for Primary School

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ABSTRACT

This study aims to develop interactive comic media with a contextual approach for Social Science learning in grade 3 of elementary schools in Cluster 1, Tumpang District, using the Borg & Gall development model. This model involves ten stages, from research and data collection to product implementation and dissemination. The validity tests indicate high feasibility levels, with 94% from material experts, 74% from language experts, 90% from media experts, and 98% from teachers. Additionally, learning evaluation results show an average student score of 90, exceeding the minimum passing grade (KKM) of 70. These findings demonstrate that interactive comic media is effective for Social Science learning. Hence, this media serves as an innovative solution to improve the quality of Social Science education in elementary schools.

***Keywords*:**

Development; Interactive Comic Media; Contextually Based.

ABSTRAK

Penelitian ini bertujuan untuk mengembangkan media Komik Interaktif dengan pendekatan kontekstual pada pembelajaran IPS kelas 3 SD Gugus 1 Kecamatan Tumpang menggunakan model pengembangan Borg & Gall. Model ini melibatkan 10 tahapan, mulai dari penelitian dan pengumpulan data hingga pelaksanaan dan sosialisasi produk. Hasil uji validitas media menunjukkan tingkat kelayakan yang tinggi dengan skor validasi ahli materi 94%, ahli bahasa 74%, ahli media 90%, dan validasi dari guru 98%. Selain itu, hasil evaluasi pembelajaran menunjukkan rata-rata nilai siswa sebesar 90, melampaui KKM yang ditentukan sebesar 70. Hal ini menunjukkan

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bahwa media komik interaktif efektif digunakan dalam pembelajaran IPS. Dengan demikian, media ini dapat menjadi solusi inovatif untuk meningkatkan kualitas pembelajaran IPS di sekolah dasar.

***Kata kunci*:**

Pengembangan; Media Komik Interaktif; Berbasis Kontekstual.

1. Introduction

The rapid development of science and technology causes the flow of information to be very fast and unlimited, requiring every human being to continue to develop according to the times (Zulfa & Herawati, 2020). The development of an increasingly advanced era requires us to think critically; this is also a challenge for the world of education (Gao & Zhang, 2021). Education must be able to improve the quality and potential of each individual to produce high-quality human resources capable of developing potential and solving problems in the future. In addition, the development of science and technology increasingly encourages using technology in learning.

The use of technology in learning can help improve the quality of learning activities (Hidayat & Putri, 2020). Learning activities include goals, learning materials, methods, and learning tools or media. These components must be fulfilled in learning because the components are interconnected. Preparation of learning activity components needs to be considered by teachers in teaching and learning activities, especially the use of learning media can help the effectiveness of delivering material (Wang & Zhang, 2020).

The use of learning media is one of the important components of learning (Adi & Santoso, 2020). The use of media in learning can arouse new desires and interests, enhance motivation, stimulation of learning activities, and even have a psychological effect on students (Wahyuni & Hakim, 2021).

(Utami & Sari, 2020) declared,

"*Using media in the learning process can raise new willingness and interest, motivation and learning stimulus, and even bring psychology's influence to children. In learning media selection, it should be considered about student's characteristics*. "

Motivation and learning stimulus even have a psychological influence on children (Kartika & Nugroho, 2021). Therefore, in learning activities, learning media is very important to be prepared for; even the selection of appropriate media can create interaction between students and the media used (Rahman & Latifah, 2021).

The selection of learning media that is to the needs of students can help the effectiveness of the learning process and can help students interact directly with the learning media used so that it can help smooth understanding of messages and material content (Baker & Thompson, 2020). In general, the teacher's ability to use media in learning activities greatly supports the interactive learning process(Putra & Santoso, 2019).

(Fatimah, 2021) declared,

"In reality, there are still many teachers who have not increased their creativity in planning, compiling, and developing instructional media that are innovative and interesting for students.

As a result, many teachers continue using conventional learning media, such as blackboards and whiteboards, or instant learning media, such as wall drawings, posters, and maps. This impacts decreasing teacher creativity and student interest in learning."

Teachers as material conveyors must be creative in choosing the media to be used, one of which is choosing interactive media adjusted to the material to be taught (Malik & Dewi, 2020). Learning activities using interactive media can help students interact and communicate well and help develop their abilities (Wong & Tan, 2021). If the interaction goes well, it will make students grow their knowledge, and the teacher's role is only as a facilitator who directs the material in learning, one of which is in social studies subjects, students often do not understand the material because the material in social studies subjects is too much.

Youn & Kim, (2021) Says most social studies concepts that were taught, most were integrated within other disciplines, with reading being the main area of integration. Social studies learning is integrated into other disciplines, with the main field of integration of reading. " In social studies lessons, many important points that are not just remembered but also need to be understood. Chang & Chen (2020) Imply that social studies learning teaches social science concepts that shape students into good citizens. Social studies learning, discusses a lot about social life in a contextual manner that we usually experience in everyday life.

Contextual approach is very appropriate to be used in social studies (Liao & Pan, 2020). The contextual approach is a learning concept that helps teachers link the material taught with the situation in the daily lives of students by encouraging students to make the connection between the knowledge possessed with its application to the lives of students, as well as with the support of the use of learning media that contains contextual approach in it (Wong & Tan, 2021).

The use of media that suits the needs of students needs to be considered (Patel & Desai, 2021) . Interactive Comic Media with a contextual approach to learning social studies in elementary grade 3 developed by researchers contains social studies material in elementary natural environment and artificial environment in the form of interactive comic videos, videos containing material played by several cartoon characters and supported by pictures of the scenery to clarify the material, in interactive comic media includes a contextual approach that can encourage students to learn naturally and more meaningfully through interactive comic media in the form of videos. In addition, interactive comic media uses a contextual approach that can encourage students to learn naturally and more meaningfully because learning can be done directly through the surrounding environment (Setiawan, 2020). Interactive comic media will make it easier for teachers to deliver material.

In the learning activities carried out by students of grade 3 SD in 1 cluster of the Tumpang sub-district, especially social studies learning has used media. However, interactive media is limited to powerpoint and demonstrations in the form of material. According to (Irwanto, 2020). So far, the obstacles experienced are not so significant, seeing the advancement of technology should there be a development of learning media that is more interactive. Often, teachers need to pay more attention to the importance of media in learning, so learning tends to be boring. However, teachers consider the use of media to be very difficult to operate for beginners (Zhao & Wei, 2021).

Based on the results of the exposure above, the researcher wants to conduct further research on the use of Interactive Comic media. Because with this Interactive Comics media, teachers can be

helped in delivering material, especially social studies material. This research continues previous research from Rini (2020) Entitled "Development of Interactive Comic Media Learning Social Studies Material Natural Environment and Artificial Environment Based on Contextual Teaching and Learning in Class III Elementary School in 1 cluster of Tumpang sub-district," where previous researchers suggested conducting a wider trial.

The results in previous studies, according to (Zubaidah & Irfan (2020) The title Learning Social Studies Material Natural Environment and Artificial Environment based on Contextual Teaching and Learning through Interactive Comic Media explains that interactive comic media has been used well. Also, this interactive comic media can increase students' interest in learning. Meanwhile (Suryani & Pratama (2020) With the title Interactive Multimedia Development for Social Science Subjects Elementary School Class V. explains that, learning media is designed for independent learning for students and makes it easier for students to understand the messages in interactive media.

The difference between the research to be conducted by this researcher and previous research conducted by Anwar & Wahyuni (2020) The title Social Studies Learning Material Natural Environment and Artificial Environment based on ContextualTeaching and Learning only focuses on testing interactive comic media in one school. In this study, researchers did not only focus the trial on one school, but researchers conducted trials in several schools, namely in 1 cluster of the Tumpang sub-district consisting of 4 schools.

This research aims to develop interactive comic media using a contextual approach for social studies learning, evaluate its effectiveness in improving learning outcomes, and conduct extensive trials to determine its applicability across multiple schools. Through this study, it is expected that interactive comic media will support teachers in delivering material effectively and creating an engaging and meaningful learning experience for students.

2. Methods

2.1. Research Design

This research is a research development of interactive comic media with a contextual approach made to make it easier for students to understand the material, especially social studies material Natural environment and artificial environment, and validate it. The resulting product is a development learning media that will be tested to determine the effectiveness of the product. This research design is adapted from the Education Research and Development (R & D) model adopted from (Dunne & Heffernan, 2022). Conceptually, the research and development (R&D) method from Dunne & Heffernan includes ten stages of activities, namely: (1) research and data collection, (2) planning, (3) product draft development, (4) expert testing and initial field testing, (5) initial product revision, (6) main field testing, (7) product revision of main field test results, (8) operational / wide-scale field testing, (9) product revision of operational / wide-scale field test results, and (10) implementation and dissemination. The following is Figure 1. of research methods according to Dunne & Heffernan:

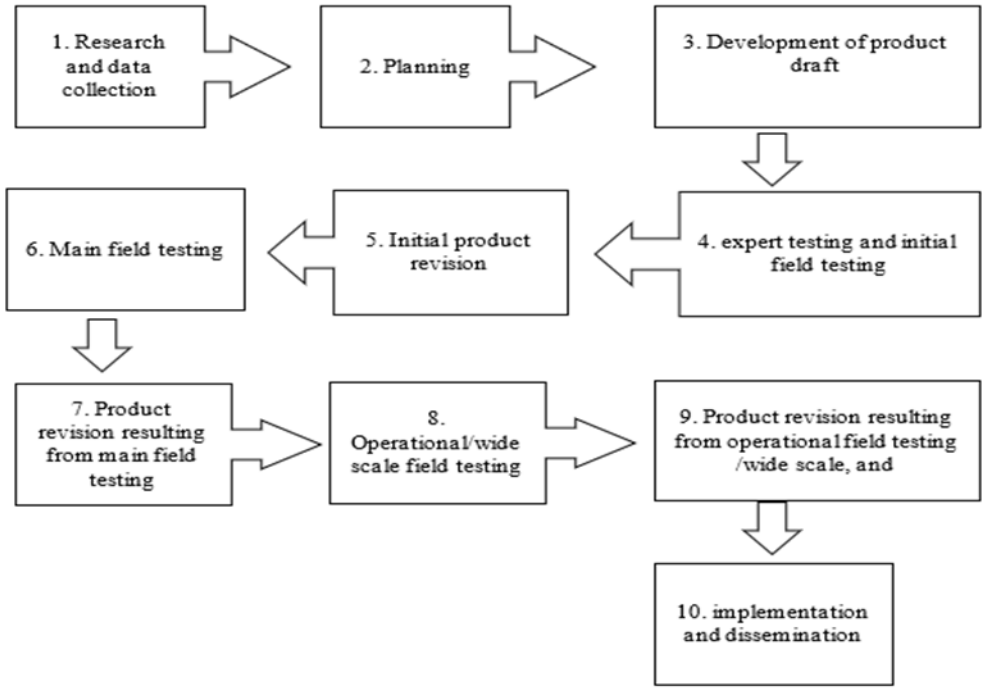

Figure 1. Research Methods

2.2 Population and Sample

The schools selected as research sites in 1 cluster of the Tumpang sub-district included four schools: (1) SDN 1 Tumpang located at Jl. Raya Tumpang No.72, with the number of students in grade 3 being 15; (2) SDN 4 Tumpang located at Jl. Tunggal Ika No 182, with the number of students in grade 3 being ten students; (3) SDN 1 Tulusbesar located at Jl. Tulus Besar No. 41, with the number of students in grade 3 being 12 students; (4) SDN 2 Tumpang located at Jl. Wisnuwardhana No.49, with the number of students in grade 3 is 14 students.

2.3 Data Collection

Data collection in research and development on interactive comic media is done through (1) literature study by collecting information about the characteristics, advantages, and disadvantages of the media, the design stages of interactive comic animation with a contextual approach to learning social studies elementary school grade 3; (2) field study to collect information about the characteristics of interactive comic media obtained from a questionnaire containing questions filled by students and teachers.

In the data collection stage, researchers use tools as development instruments. The data collection technique used a questionnaire to determine the learning process. According to Li & Zhao (2022)A questionnaire is a data collection technique that gives respondents a set of questions or written statements to answer. According to Hijau & Williams (2020), At the development stage, data collection techniques were used in the initial field trial by working on evaluation questions after listening to interactive comic videos to capture student responses. In contrast, the initial field trial used questionnaires and evaluation questions with more students than the initial field trial. In the

expert validation test, the data collection technique uses a questionnaire to see the developed product's characteristics, including design, content suitability, and language readability (Ahmed & Usman, 2021). The broad testing stage uses test collection techniques. This aims to see the impact of the application of interactive comic media learning media using a contextual approach to Grade 3 social studies learning by comparing measurement results before and after using interactive comic media.

2.4 Data Analysis

The data was analyzed by calculating the percentage of item scores on each answer to each question in the questionnaire.

$$\text{Percentage of feasibility/validation (\%)} = \frac{Observed\ Score}{Expected\ Score} \text{ x } 100$$

Qualifications Eligibility levels are based on average percentages.

Table 1. Validation Percentage Scale

Score achievement	Interpretation	Explanation
75.01%-100%	Valid	Unrevised Media
50.01%-75%	Fairly Valid	Revised Media
25.01%-50%	Less Valid	Revised Media
0-25%	Invalid	Media Must Be Revised

Sumber**:** (Akbar, 2016)

Table 2. Eligibility Percentage Scale

Score achievement	Interpretation	Explanation
75.01%-100%	Very good	Unrevised Media
50.01%-75%	Good	Revised Media
25.01%-50%	Enough	Revised Media
0-25%	Deficient	Media Must Be Revised

Source: (Akbar, 2016)

Based on the above criteria, interactive comic media meets the score criteria of 75.01%-100% of all elements contained in the validation assessment questionnaire of media experts, material experts, linguists, teachers, and students. In this assessment, interactive comic media must meet valid criteria. Therefore, the developer must carefully revise the media to meet the valid criteria.

2.5 Ethical Considerations

Ethical approval was obtained before the study began. Informed consent was secured from school administrators, teachers, and parents of the students involved. Confidentiality and anonymity of the participants were maintained throughout the research process.

2.6 Author's Method

The author followed a structured development process, emphasizing collaboration with educational experts and iterative testing. Key methods included:

- Iterative Design: Each development stage was tested and revised to refine the media.
- Stakeholder Engagement: Teacher, student, and expert feedback was integrated to ensure the media's relevance and usability.
- Contextual Integration: The content was tailored to third-grade social studies, focusing on natural and artificial environments to align with curriculum standards.

3. Results and Discussion

According to Xie & Huang (2020) Explains that well-prepared tables and figures must be a significant feature of this section because they convey the major observations to readers. Any information provided in tables and figures should no longer be repeated in the text, but the text should focus on the importance of the study's principal findings. In general, journal papers will contain three figures and tables (Lestari & Prasetyo, 2021). The same data can not be presented as tables and figures. The study results are discussed to address the problem formulated, objectives and research hypotheses. It is highly suggested that the discussion focuses on why and how the research findings can happen and how they can be applied to other relevant problems.

3.1 Interactive Comic Media Trial Results Data

Data on the results of interactive comic media trials were obtained from the results of questionnaires and evaluations on the material of the natural environment and the artificial environment after studying interactive comic media. The interactive comic media trial was carried out in two stages: the initial field trial tested on ten students, and the broad field trial tested on 20 students. The identity of the trial subjects can be seen in full in the appendix. The following are the results of the evaluation of students in the initial field trial conducted in 1 cluster of the Tumpang sub-district.

3.1.1 Results of initial field trials at SDN 1 Tumpang

The following are the results of initial field trials at SDN 1 Tumpang, which were carried out on five students:

Table 3. Evaluation Results of Initial Field Trials at SDN 1 Tumpang

No	Subject	Grade
1	Zola Faros	100
2	Nino Eka Putra	90
3	Shata Jahfal	80
4	Aulia Zahira	100
5	M. Ghifari	100

Subjects from the first evaluation stage have met the specified KKM, namely 70.00. However, slight revisions need to be made in interactive comic media to make it easier for students to understand the material, such as adding a conclusion at the end of interactive comic media. The revision can be seen in Table 3.

3.1.2 Results of Initial Field Trials at SDN 2 Tumpang

The following are the results of initial field trials at SDN 2 Tumpang, which were carried out on five students:

Table 4. Evaluation Results of Initial Field Trials at SDN 2 Tumpang

No	Subject	Grade
1	Maulana Saif	100
2	Fahmi Idris	100
3	Ayunda Tasya	80
4	Aura Citra Puspita	100
5	Meisya Amalia	100

Subjects from the first evaluation stage have met the specified KKM, namely 70.00 and there have been no revisions.

3.1.3 Results of Initial Field Trials at SDN 4 Tumpang

The following are the results of initial field trials at SDN 4 Tumpang, which were carried out on five students:

Table 5. Evaluation Results of Initial Field Trials at SDN 4 Tumpang

No	Subject	Grade
1	Yuanita Dwi Ariani	100
2	Monicha Humaira	100
3	Sekar Arum Kinasih	80
4	Dyka Fairuz	100
5	Anggun Anggarani	90

Subjects from the first evaluation stage have met the specified KKM, namely 70.00 and there have been no revisions.

3.1.4 Results of Initial Field Trials at SDN 1 Tulusbesar

The following are the results of initial field trials at SDN 1 Tulusbesar conducted on five students:

Table 6. Evaluation results of initial field trials at SDN 1 Tulusbesar

No	Subject	Grade
1	Muhamad Wahyu	100
2	Najwa Aziyatun	100
3	Aqilla Riama	80
4	Rama Abdillah	100
5	Arwen Putra Nurrohman	100

Subjects from the first evaluation stage have met the specified KKM, namely 70.00 and there have been no revisions. This initial field trial was carried out with the aim of intensive observation and recording of important things done by students, which will later be used to improve the product. After carrying out initial field trials on interactive comic media in 1 Tumpang sub-district cluster consisting of 4 schools, valid results were obtained, and a slight revision was needed, then continued with large field trials with a larger number of students than the initial field trials. The following are the results of extensive field trials tested in 1 Tumpang sub-district cluster.

3.1.5 Results of Extensive Field Trials at SDN 1 Tumpang

Following are the results of a large field trial at SDN 1 Tumpang, which was carried out on 15 students:

Table 7. Evaluation Results of Large Field Trials at SDN 1 Tumpang

No	Subject	Grade
1	Zola Faros	100
2	Nino Eka Putra	100
3	Shata Jahfal	80
4	Aulia Zahira	100
5	M. Ghifari	100
6	Luthfidiatul	100
7	Cevin Putra	100
8	Raditya Galih	100
9	Farrel	100
10	Deryl Michael Arrol	100
11	Afsheen	100
12	Viki Ahmad Fatoni	100
13	M. Fahrizal	100
14	Satya Haka Remang	90
15	Raihan Iqbal	90
Average		**91,4**

The evaluation results of the extensive field trial subjects show that each student's score has met the specified KKM, namely, 70.00. Students did not experience significant difficulties in completing the evaluation question exercises after listening to the explanation on the interactive comic media, so there were no revisions on the interactive comic media after extensive field trials.

3.1.6 Results of Extensive Field Trials at SDN 2 Tumpang

Following are the results of a large field trial at SDN 2 Tumpang, which was carried out on 14 students:

Table 8. Evaluation Results of Large Field Trials at SDN 2 Tumpang

No	Subject	Grade
1	Maulana Saif	100
2	Fahmi Idris	100
3	Ayunda Tasya	80
4	Aura citra puspita	100
5	Meisya amalia	100
6	Saif	90
7	M. afansyah	100
8	Revan Dimas	100
9	M. Rizky	100
10	Revan alfi	80
11	Andhika prasetyo	100
12	Daffa izul islami	100
13	M. fahrezi baltha	100
14	Ahmad Yusuf	90
Average		**95,7**

The evaluation of the broad field trial subject showed that each student's value had met the specified Minimum Completeness Criteria of 70.00. Working on evaluation exercises after listening to explanations on interactive comic media, students did not experience significant difficulties, so in interactive comic media, after a wide field trial there were no revisions.

3.1.7 Results of The SDN 4 Tumpang Wide Field Trial

The following are the results of a wide field trial at SDN 4 Tumpang, which was conducted on ten students:

Table 9. Evaluation Results of Large Field Trials at SDN 4 Tumpang

No	Subject	Grade
1	Yuanita Dwi Ariani	100
2	Monicha Humaira	100
3	Sekar Arum Kinasih	100
4	Dyka Fairuz	100
5	Anggun Anggarani	100
6	Quin Bilqis Ramadhani	90
7	Elda Ayu	100
8	Kristina Bella Anggraini	100
9	Haza Nova Putri	100
10	Dani Putra Zulkarnaen	80
11	Farhan	100
12	Fajar	80
13	Husna	100
14	Hilmi Aufa	90
Average		**95,7**

The evaluation results of the extensive field trial subjects show that each student's score has met the specified Minimum Completeness Criteria, namely 70.00. Students did not experience significant difficulties in completing the evaluation question exercises after listening to the explanation on the interactive comic media, so there were no revisions on the interactive comic media after extensive field trials.

3.1.8 Results of Extensive Field Trials at SDN 1 Tulusbesar

Following are the results of extensive field trials at SDN 1 Tulusbesar, which were carried out on 12 students:

Table 10. Evaluation Results of Large Field Trials at SDN 1 Tulusbesar

No	Subject	Grade
1	Muhamad Wahyu	100
2	Najwa Aziyatun	100
3	Aqilla Riama	100
4	Rama Abdillah	100
5	Arwen Putra Nurrohman	100
6	Fino Hafidz Pangestu	100
7	Najwa Nur Laiala	100
8	Bara Risky	90
9	Jibril Ikbal I	100
10	Rafi Basunjaya	100
11	Ahmad Sahputra	90
12	Renza Putri	100
Average		**98,3**

The evaluation of the broad field trial subject showed that each student's value had met the specified Minimum Completeness Criteria of 70.00. Working on evaluation exercises after listening to explanations on interactive comic media, students did not experience significant difficulties, so in interactive comic media, after a broad field trial there were no revisions.

Data analysis in the study consisted of 2 kinds: data analysis of expert validation results and data analysis of interactive comic media trial results of initial and broad field trials. According to Hakim, & Sulistiyani (2020) Explained that Data analysis of the validation results consists of analyzing the validation sheet. In contrast, data analysis of the results of the initial field trial and the broad field consists of working on evaluation questions and student questionnaires.

3.1.9 Data Analysis of Validation Results

By using data analysis techniques, the results of the calculation of validator assessment criteria are obtained as follows:

Table 11. Validator Assessment Criteria

No	Validator	Average score	Percentage (%)	Validity level
1	Material expert	4,7	94%	Valid
2	Linguist	3,7	74%	Fairly valid
3	Media expert	4,5	90%	Valid
4	SDN 1 Tumpang teacher	4,9	98%	Valid
5	SDN 2 Tumpang teacher	4,9	98%	Valid
6	SDN 4 Tumpang teacher	4,9	98%	Valid
7	SDN 1 Tulusbesar teacher	4,9	98%	Valid
Total		**4,6**	**93%**	**Valid**

Based on the table above, it can be seen that the results of the assessment of experts and teachers of interactive comic media obtained an average score of 4.6 with a validity percentage of 93%. According to these criteria, the interactive comic media developed is valid without revision. So, it can be concluded that interactive comic media is valid and practical and can be used as learning media.

3.1.10 Data Analysis of Interactive Comic Media Trial Results

Using data analysis techniques, the results of students working on evaluation questions and questionnaires. It is known that the value of students as test subjects in the initial field trials and the wider field meets the learning completeness standards, namely obtaining test scores above 70.00 and the level of validity when filling out the questionnaire meets the "valid" criteria, this shows that students can easily understand the material on interactive comic media.

3.2 Product Revision

Overall, the interactive comic media researchers have developed can be said to be good. Still, for the perfection of interactive comic media, researchers have made several improvements based on expert and test subjects' comments and suggestions. Improvements made by researchers based on comments and suggestions from test subjects are shown in the table below:

Figure 2. Revisions to Interactive Comic Media After Validation and Studen Trials

The revisions made to the interactive comic media have improved its clarity and effectiveness in explaining environmental concepts. The feedback from experts and test subjects has led to a more

structured and engaging presentation of the material, making it easier for students to understand the differences between natural and artificial environments. These improvements ensure that the educational content is both informative and accessible, offering a more comprehensive learning experience for primary school students (Clark & Sweeney, 2021).

The results of this study demonstrate the effectiveness of interactive comic media with a contextual approach in enhancing student learning outcomes, as evidenced by significant improvements in pre-and post-test scores. These findings corroborate earlier research by Ahmed & Usman (2021), which highlighted the ability of interactive media to boost student engagement and comprehension. However, this study advances the field by integrating the contextual approach, enabling students to connect academic content with real-world experiences.

One key novelty of this research is its focus on elementary social studies, a subject often overlooked in multimedia-based learning research. While prior studies, such as those by Hijau & Williams (2020), emphasize contextual methods in other subjects, this study uniquely applies those principles to third-grade topics on natural and artificial environments. This ensures that the developed media aligns with educational standards and supports students' understanding of their surroundings, a critical aspect of social studies education.

Another distinct feature of this research is its narrative-driven interactive format. Unlike traditional multimedia tools that may rely heavily on static visuals or text-heavy materials, the comic media developed in this study combines storytelling with interactive elements. This approach has improved retention and engagement, particularly among young learners, by fostering a sense of curiosity and personal connection to the material. The findings of this study confirm that such an approach resonates well with third-grade students, as reflected in their overwhelmingly positive feedback.

This research also underscores the importance of iterative development in educational media design. The structured process, which involves expert validation and multiple rounds of field testing, ensures that the final product meets pedagogical and practical needs. This meticulous approach distinguishes this study from others lacking extensive stakeholder involvement or comprehensive revisions. The involvement of students, teachers, and experts throughout the design process added depth and relevance to the media, making it a model for future developments.

Finally, the study's integration of quantitative and qualitative data collection methods adds robustness to its findings. The research presents a holistic understanding of the media's impact by combining statistical analysis of test scores with insights from student and teacher feedback. The evidence shows that this innovative tool enhances knowledge acquisition and supports teaching efficacy, positioning it as a valuable contribution to elementary education.

4. Conclusion

The development of interactive comic media with a contextual approach for social studies learning in grade 3 elementary schools successfully addresses the objectives of this research. This study demonstrates that interactive comic media, validated through expert evaluation and practical testing, is effective, valid, and feasible for enhancing students' learning experiences. Interactive comic media advances educational technology by integrating contextual learning approaches with

interactive tools that engage students and improve their understanding, particularly in social studies topics such as natural and artificial environments. The findings prove its potential to improve educational outcomes, as shown by students' evaluation results consistently exceeding the minimum competency criteria (KKM). The integration of visuals and interactivity enhances the effectiveness of the learning process, supporting broader pedagogical theories about the benefits of multimodal learning approaches in elementary education.

This media is not limited to the current context but can be adapted and applied to other subjects or educational settings with similar learning objectives. For example, it can be expanded to teach more advanced or interdisciplinary topics. Furthermore, the interactive format is well-suited for schools with access to digital devices, making it an ideal tool for blended or hybrid learning environments. These applications show how interactive comic media can contribute to broader educational advancements, especially leveraging technology to make learning more engaging and effective.

Future research should focus on several areas to enhance and expand the application of interactive comic media. First, there is potential for broader curriculum integration, where additional social studies materials or content from other subjects could be included to create a comprehensive interactive learning platform. Second, developing an online version of the media would allow students to access it remotely and asynchronously, meeting the needs of diverse learners. Third, incorporating adaptive learning features could tailor content delivery based on individual student progress and preferences, enhancing its effectiveness. Finally, longitudinal studies could assess the long-term impact of this media on students' academic performance and engagement. Current developments include piloting the media in other school clusters and exploring the use of augmented reality to enhance interactivity, aiming to solidify further the role of interactive media in fostering meaningful and contextual learning experiences in primary education.

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