

## Developing Quartet Card Media for IPAS Learning on Norms and Local Wisdom In Elementary School

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### Abstract

This study aims to develop Quartet Card media for IPAS learning on norms and local wisdom to strengthen cultural understanding and character education among fourth-grade elementary students at SDN 3 Sukosono. The study employed a Research and Development (R&D) approach using the ADDIE model, consisting of analysis, design, development, implementation, and evaluation stages. Data were collected through observation, questionnaires, and pre-test and post-test instruments involving 26 fourth-grade students, with validations conducted by material and media experts. Data analysis used descriptive qualitative and quantitative techniques, including validity, practicality, N-Gain, and Paired Sample T-Test analyses. The findings indicate that the developed media is highly feasible, as reflected by material expert validation (95.38%) and media expert validation (90.76%). Practicality results also showed positive responses from teachers (82%) and students (90.10%). Furthermore, the media effectively improved students' understanding, demonstrated by the increase in average scores from 50.6 to 88.1, supported by a high N-Gain score (0.77) and a significance value of <0.001. This study highlights the novelty of integrating local wisdom values into Quartet Card-based IPAS learning as an interactive medium that supports culturally responsive learning and strengthens students' understanding of social norms and character values in elementary education.

### Abstrak

Penelitian ini bertujuan untuk mengembangkan media Quartet Card pada pembelajaran IPAS materi norma dan kearifan lokal guna memperkuat pemahaman budaya serta pendidikan karakter siswa kelas IV di SDN 3 Sukosono. Penelitian ini menggunakan pendekatan Research and Development (R&D) dengan model ADDIE yang meliputi tahap analisis, desain, pengembangan, implementasi, dan evaluasi. Data dikumpulkan melalui observasi, angket, serta instrumen pre-test dan post-test yang melibatkan 26 siswa kelas IV, dengan validasi yang dilakukan oleh ahli materi dan ahli media. Analisis data menggunakan teknik deskriptif kualitatif dan kuantitatif, meliputi uji validitas, kepraktisan, N-Gain, dan Paired Sample T-Test. Hasil penelitian menunjukkan bahwa media yang dikembangkan berada pada kategori sangat layak, ditunjukkan oleh hasil validasi ahli materi sebesar 95,38% dan ahli media sebesar 90,76%. Hasil uji kepraktisan juga menunjukkan respons positif dari guru sebesar 82% dan siswa sebesar 90,10%. Selain itu, media terbukti efektif meningkatkan pemahaman siswa, yang terlihat dari peningkatan nilai rata-rata siswa dari 50,6 menjadi 88,1, didukung oleh skor N-Gain sebesar 0,77 dalam kategori tinggi dan nilai signifikansi <0,001. Penelitian ini menegaskan kebaruan berupa integrasi nilai-nilai kearifan lokal ke dalam pembelajaran IPAS berbasis Quartet Card sebagai media interaktif yang mendukung pembelajaran responsif budaya serta memperkuat pemahaman siswa terhadap norma sosial dan nilai-nilai karakter di sekolah dasar.

### ARTICLE INFO

#### Article History:

Received : 28-April-2026

Revised : 14-May-2026

Accepted : 25-May-2026

**Keywords:** *Quartet Card Media, Local Wisdom, Cultural Learning, Character Education, ADDIE Model.*

**Kata Kunci:** Media Quartet Card, Kearifan Lokal, Pembelajaran Berbasis Budaya, Pendidikan Karakter, Model ADDIE.



## Introduction

Education is a conscious and planned process aimed at optimally developing students' potential. One of the efforts made by a teacher in delivering instruction is the use of instructional media.<sup>1</sup> According to Purwaningsih et al., education focuses not only on the transfer of knowledge but also on the development of students' attitudes, skills, and thinking abilities so that they can actively participate in community life.<sup>2</sup> In the learning process, the use of media is crucial for creating interactive learning experiences so that students are not merely passive recipients of information but actively construct their own understanding. Appropriate learning media can enhance students' attention, motivation, and engagement in learning.<sup>3</sup> Furthermore, interactive media that utilize visual elements, images, audio, and educational games can create a more engaging and enjoyable learning experience.<sup>4</sup> Therefore, the selection of media must be tailored to learning objectives, student characteristics, and the subject matter being taught to ensure optimal learning outcomes.<sup>5</sup>

One of the subjects that requires interesting learning media is Natural and Social Sciences (IPAS) in elementary schools. Social studies subjects not only aim to increase students' knowledge, but also shape the character and social attitudes of students. One of the important materials in IPAS class IV is regional norms and customs. Norms are rules of behavior in people's lives, While customs are hereditary habits that are carried out repeatedly which become the identity of a region.<sup>6</sup> Understanding of norms and customs is important to be instilled from an early age so that students are able to appreciate cultural diversity and have a good social attitude in social life.<sup>7</sup>

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<sup>1</sup> Mohd Babiker and A Elmagzoub, "For Effective Use of Multimedia in Education, Teachers Must Develop Their Own Educational Multimedia Applications.," *Turkish Online Journal of Educational Technology-TOJET* 14, no. 4 (2015): 62–68.

<sup>2</sup> Ika Purwaningsih et al., "Pendidikan Sebagai Suatu Sistem," *Jurnal Visionary: Penelitian Dan Pengembangan Dibidang Administrasi Pendidikan* 10, no. 1 (2022): 21–26, <https://doi.org/https://doi.org/10.33394/vis.v10i1.5113>.

<sup>3</sup> K Kustyarini, Sri Utami, and Endang Koesmijati, "The Importance of Interactive Learning Media in a New Civilization Era," *European Journal of Open Education and E-Learning Studies* 5, no. 2 (2020), <https://doi.org/http://dx.doi.org/10.46827/ejoe.v5i2.3298>.

<sup>4</sup> Baorong Lu and Romainoo Nurul Hanim, "Enhancing Learning Experiences through Interactive Visual Communication Design in Online Education.," *Eurasian Journal of Educational Research (EJER)*, no. 109 (2024), <https://doi.org/10.14689/ejer.2024.109.009>.

<sup>5</sup> Ifewulu Henrietta Amaka and Katie Goeman, "Selecting Media for Effective Learning in Online and Blended Courses: A Review Study," *Journal of Educational Multimedia and Hypermedia* 26, no. 1 (2017): 29–59.

<sup>6</sup> Aelita Mikhailovna Mongush, "The Role of Customs in the System of Social Norms," in *SHS Web of Conferences*, vol. 118 (EDP Sciences, 2021), 2019, <https://doi.org/https://doi.org/10.1051/shsconf/202111802019>.

<sup>7</sup> Eneida Zalli, "Globalization and Education: Exploring the Exchange of Ideas, Values, and Traditions in Promoting Cultural Understanding and Global Citizenship," *Interdisciplinary Journal of Research and Development* 11, no. 1 S1 (2024): 55, <https://doi.org/https://doi.org/10.56345/ijrdv11n1s109>.

Based on the results of interviews and observations in grade IV of SDN 3 Sukosono, it was found that teachers are still experiencing difficulties in developing innovative learning media and in accordance with the characteristics of *science* materials. Learning still uses black and white photocopy LKS media which is less attractive so that students look passive, lack enthusiasm, and have difficulty understanding the material of regional norms and customs. Learning interaction is also still going on in one direction so that student involvement is not optimal. This condition has an impact on student learning outcomes that have not been maximized, as shown by an average score of 64.94 or around 65%. Low learning outcomes show the need for learning media innovations that are able to increase student motivation, active participation, and understanding of learning materials. Therefore, learning media is needed that can increase motivation, active participation, and students' understanding of the norms and customs of my region.

One alternative media that can be used is *quartet cards* or quartet cards. Quartet cards are educational game media in the form of picture cards that are played in groups.<sup>8</sup> One alternative media that can be used is *quartet cards* or quartet cards. Quartet cards are educational game media in the form of picture cards that are played in groups.<sup>9</sup> In addition, game-based visual media has attention, affective, and cognitive functions that can help students understand the material more easily.<sup>10</sup> With these characteristics, media *quartet cards* are considered suitable for use in *learning IPAS* material on regional norms and customs because it is able to connect learning concepts with concrete and fun learning experiences.

Some previous studies have shown that quartet card media is effectively used in elementary school learning. Putri and Nurul Kumala Dewi found that the Human Body Skeleton Quartet Card (*Raktuma*) media was able to improve students' understanding of concepts in *social studies* learning.<sup>11</sup> In addition, Wijayanti stated that the quartet card media has a positive effect on the learning outcomes of elementary school students both in

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<sup>8</sup> Nur Asa Qolbyatin, Kiki Septaria, and Siska Ayu Wulandari, "Quartet Learning Media and Student Argumentation: Development Analysis and Correlation in Science Learning in Junior High Schools," *INSECTA: Integrative Science Education and Teaching Activity Journal* 4, no. 2 (2023): 138–50, <https://doi.org/https://doi.org/https://doi.org/10.21154/insecta.v4i2.7012>.

<sup>9</sup> Fatatul Hikmah and Fathul Niam, "Pengembangan Kartu Kuartet (Kartet) Materi Wujud Benda Untuk Meningkatkan Penguasaan Kosakata (Pada Siswa Kelas II SDI Ma'arif Tawang Sari Garum)," *Patria Educational Journal (PEJ)* 2, no. 2 (2022): 74–88, <https://doi.org/https://doi.org/10.28926/pej.v2i2.103>.

<sup>10</sup> Miftahul Walidiati, Muhammad Tahir, and Aisa Nikmah Rahmatih, "Pengembangan Media Kartu Kuartet Pada Pembelajaran IPA," *Journal of Classroom Action Research* 5, no. 4 (2023): 321–30, <https://doi.org/https://doi.org/https://doi.org/10.29303/jcar.v5i4.5868>.

<sup>11</sup> Ersya Anugraheni Putri, Nurul Kemal Dewi, and Nurwahida Nurwahida, "Pengembangan Media Kartu Kuartet Rangka Tubuh Manusia (Raktuma) Pada Pembelajaran IPAS Kelas VI Di SDN 4 Labuan Tereng," *Cokroaminoto Journal of Primary Education* 8, no. 2 (2025): 875–90, <https://doi.org/https://doi.org/10.30605/cjpe.8.2.2025.6350>.

cognitive and affective aspects. The results of the study show that quartet card media has great potential as an innovative learning media that can improve the quality of learning in elementary schools.<sup>12</sup>

However, research on the development of quartet card media on regional norms and customs is still limited. Most previous research has focused more on improving cognitive learning outcomes and general *IPAS* materials, such as the human body, daily needs, and cultural diversity. There has not been much research that specifically develops image-based quartet card media on local norms and customs material that aims to instill students' social values, character, and cultural awareness. Therefore, this research has an element of novelty, namely the development of quartet card media based on regional norms and customs material for memperkuat pemahaman konsep, karakter sosial, dan kesadaran budaya siswa sekolah dasar.

This research uses a *Research and Development (R&D)* approach that aims to produce learning media that is feasible, practical, and effective for use in *science learning*. The development of media is adjusted to the characteristics of grade IV elementary school students who are at the concrete operational stage so that it is easier to understand concepts through visual media and educational games.<sup>13</sup> This research is expected to provide theoretical benefits as a reference for the development of innovative learning media based on educational games, as well as practical benefits for students, teachers, schools, and other researchers in improving the quality of *science learning* in elementary schools.

Based on this description, the formulation of the problem in this study includes how the process of developing quartet *card* media in *the learning of IPAS* material norms and customs in my region for grade IV students of SDN 3 Sukosono, how the level of feasibility and practicality of media based on expert assessment, and how effective is the use of media *quartet cards* in improving students' understanding of the norms and customs of my region. The scope of the research is focused on the development of quartet *card media* in learning *IPAS* material on norms and customs in my region for grade IV students of SDN 3 Sukosono. Thus, this research aims to produce learning media that is innovative, interesting, and in accordance with the needs of students so that it can improve the quality of *IPAS learning* more effectively and meaningfully.

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<sup>12</sup> Novita Wijayanti, Aan Nurhasanah, and Febby Fajar Nugraha, "Efektivitas Penggunaan Media Pembelajaran Kartu Quartet Terhadap Hasil Belajar Siswa Kelas IV Sekolah Dasar," *Jurnal Ilmiah Aquinas*, 2023, 124–33, <https://doi.org/https://doi.org/10.54367/aquinas.v6i2.2677>.

<sup>13</sup> Cicilia Ika Rahayu Nita, Arief Rahman Hakim, and Rizki Sulistyowati Utami, "Analisis Motivasi Belajar Siswa Kelas IV Pada Pembelajaran Tematik Pada Masa Pandemi COVID-19 Di SD NEGERI 5 JATIGUWI," in *Prosiding Seminar Nasional PGSD UNIKAMA*, vol. 4, 2020, 340–46.

## Research Methods

The development model of this research is ADDIE. This research uses a *Research and Development (R&D)* approach with the ADDIE model with five stages, namely the analysis, design, development, implementation and evaluation stages. This model is based on an effective and efficient approach. In addition, the interactive nature is also an advantage of this model.<sup>14</sup> The following is the flow of media development carried out by the researchers:

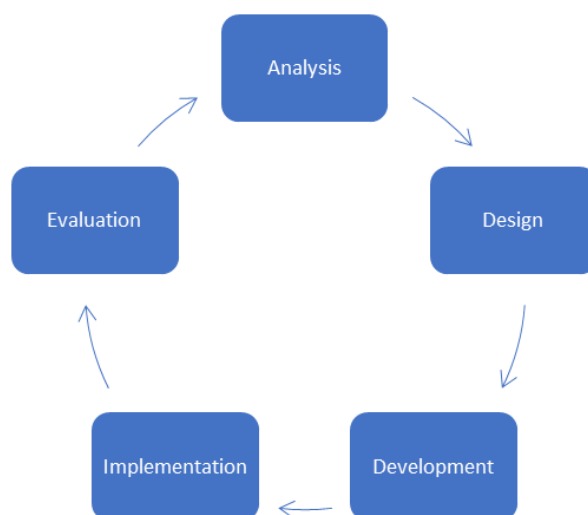


Figure 1. Research Development Flow

The *analysis* stage was carried out to identify learning needs, student characteristics, and *social science* learning problems in grade IV of SDN 3 Sukosono. The *design stage* includes the *design* of the quartet card *media*, the preparation of materials, visual design, images, colors, and card layouts according to the characteristics of elementary school students. The *development stage* is the process of making media as well as validation by material experts and media experts to determine the feasibility of the product. The *implementation stage* was carried out through a media trial for fourth grade students of SDN 3 Sukosono to find out the practicality and effectiveness of the media. The last stage, *evaluation*, is carried out to assess the quality of the media and make revisions based on the results of validation and trials.

The subjects of this study are 26 grade IV students of SDN 3 Sukosono. The selection of grade IV students as research subjects is based on the characteristics of the cognitive and social development of students who are already at the concrete operational stage. In

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<sup>14</sup> Fitria Hidayat and Muhammad Nizar, "Model Addie (Analysis, Design, Development, Implementation and Evaluation) Dalam Pembelajaran Pendidikan Agama Islam Addie (Analysis, Design, Development, Implementation and Evaluation) Model in Islamic Education Learning," *J. Inov. Pendidik. Agama Islam* 1, no. 1 (2021): 28–37, <https://doi.org/https://doi.org/https://doi.org/10.15575/jipai.v1i1.11042>.

addition to students, the research also involves subject matter experts and media experts as product validators. Data collection techniques use observation, tests, and questionnaires. Observations were carried out to determine the learning conditions and student involvement during the use of media. Tests in the form of *pre-test* and *post-test* are used to measure the improvement of student learning outcomes before and after the use of media. The questionnaire was used to obtain expert validation data as well as teacher and student responses to the developed *quartet card* media.

The data analysis technique uses qualitative and quantitative descriptive analysis. Descriptive analysis is used to describe the media development process based on model ADDIE, while quantitative analysis is used to calculate the level of eligibility, practicality, and effectiveness of the media.<sup>15</sup> Data from expert validation, teacher responses, and student responses were analyzed using the percentage formula:

$$\text{Feasibility Percentage} = \frac{\text{obtained Score}}{\text{Maximum Score}} \times 100\%$$

The data on *the results of the pre-test and post-test* were analyzed using the normality test, *the N-Gain* test, and *the Paired Sample T-Test*. The *N-Gain test* is used to determine the improvement of student learning outcomes with the formula:

$$N - Gain = \frac{\text{Post - test Score} - \text{Pre - test Score}}{\text{Maximum Score} - \text{Pre - test Score}} \times 100\%$$

Meanwhile, *the Paired Sample T-Test* test is used to find out the significant difference between *pre-test* and *post-test results*. Media is declared effective if there is an increase in student learning outcomes after the use of media *quartet cards* in *social studies learning*. The following is a table of the categories of material and media validity:

Tabel 1. Media and material expert validation category

Persentase Hasil	Kategori
81%-100%	Very Valid
61%-80%	Valid
41%-60%	Fairly Valid
21%-40%	Less Valid
0%-20%	Not Valid

<sup>15</sup> Amalia Salma Nadia and Eka Titi Andaryani, "Pengembangan Media Kartu Kuartet Berbantuan QR Code Untuk Meningkatkan Hasil Belajar," *Paedagogie* 21, no. 1 (2026): 573–78, <https://doi.org/https://doi.org/10.31603/paedagogie.v21i1.16216>.

Table 2 is a category table used after obtaining the results of validation by material experts and media experts using a questionnaire that has been prepared beforehand. The data is analyzed, then categorized according to table 2 so that conclusions can be drawn about the validity of the media. In addition, data from the results of student and teacher responses are then analyzed and the results are categorized into the following category tables:

Tabel 2. Categories of media practicality

Percentage of Results	Category
81%-100%	Very Practical
61%-80%	Practical
41%-60%	Quite Practical
21%-40%	Less Practical
0%-20%	Impractical

Table 3 is a category table used after the data from the results of the student and teacher response survey are obtained. The data will be analyzed, then the results will be categorized according to the table above. The results of the pretest and posttest will be statistically analyzed including the normality test, the N-Gain test, and the Paired Sample T-Test test to determine the effectiveness of the quartet card media on the Norms and Customs of the Region for grade IV elementary school. Then the results of the calculation of each data will be used to make a decision or conclusion on the feasibility of this product or media.

## Results and Discussion

This research is a research *and development* that aims to produce *quartet card* learning media in *the learning of IPAS* material on norms and customs in my region for grade IV students of SDN 3 Sukosono. The development model used is ADDIE which consists of *analysis, design, development, implementation, and evaluation* stages.

### 1. Analysis Stage

At the *analysis stage*, the researcher conducted observations and interviews with grade IV teachers of SDN 3 Sukosono. The results of the observation show that learning still uses media in the form of photocopies of *black and white LKS* so that students are less interested in participating in learning. In addition, students have difficulty understanding the material on norms and customs in my region because of the many types of norms and the diversity of customs that must be learned. Learning is also still going on in one direction so that student involvement is not optimal. The results of the daily assessment

showed an average student score of 64.94 which shows that student understanding still needs to be improved. Based on the results of the analysis, the researcher developed a *quartet card media* as a learning medium that is interesting, interactive, and in accordance with the characteristics of elementary school students.

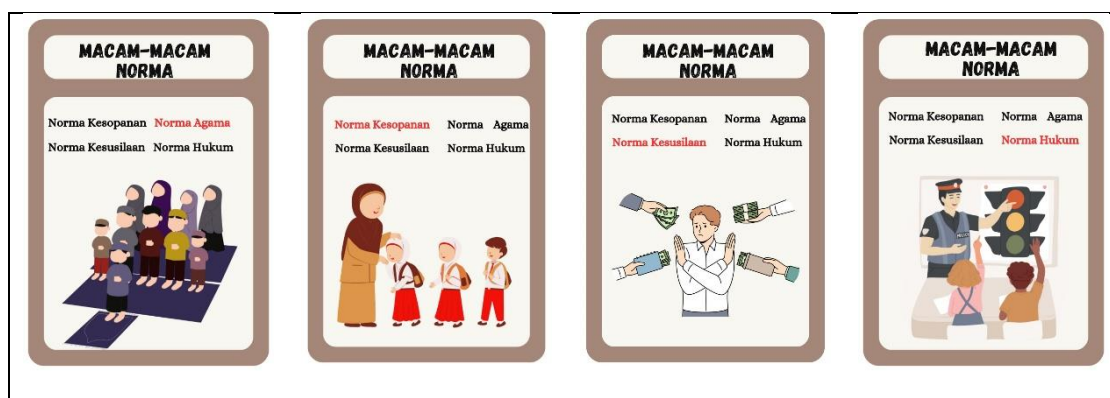
## 2. Design Stage

In the *design stage*, the researcher prepares a quartet card media design including determining the material, preparing the card contents, visual design, color selection, drawing, and card layout. The media is designed using attractive images and simple language to make it easy for elementary school students to understand. Each card contains a picture, a title, and a brief explanation of the norms and customs of my area. In addition, the researcher also developed game rules so that students can learn while playing actively and collaboratively. This design stage is carried out to produce media that is in accordance with the characteristics of elementary school students who are in the concrete operational stage so that it is easier to understand the material through visual media and game activities.

## 3. Development Stage

In the *development stage*, the media *quartet cards* that have been developed into 32 cards divided into 8 sub-themes with a size of 12 x 8, are then validated by material experts and media experts to determine the level of media eligibility.

### a. Media before revision (initial product)



Picture 2. Initial product image

The disadvantages of the initial product of the *quartet card media* were the small size of the writing, the combination of colors that lacked contrast, and some images that did not match the material. The initial product is also not equipped with a cover, instructions on how to play, and a manual for using media so that teachers and

students still have difficulties in using the media. Therefore, revisions were made by improving the appearance of the cards, simplifying the material, and adding how to play and a manual for using media to make it more attractive and easy to use.

b. Media after revision (final product)



Picture 3. Final product image

The improvement of the media *quartet card* is carried out based on suggestions and inputs from material experts and media experts. Improvements include enlarging the size of the writing to make it easier for students to read, improving color combinations to make the media appearance more attractive, and replacing some images to better suit the material of norms and customs in my area. In addition, the content of the material on the card is simplified to make it easier for elementary school students to understand. The researcher also added instructions on how to play and a manual on the use of media to make it easier for teachers and students to use media *quartet cards* during the learning process.

c. Subject matter expert validation

The results of the validation of the material experts obtained a score of 62 out of a maximum score of 65 with a percentage of 95.38% and included in the category of "Very Feasible". The assessment includes aspects of material suitability, language use, and presentation systematics. These results show that the material in the media is in accordance with learning outcomes and is easy for students to understand.

## d. Media expert validation

The results of the validation of media experts obtained a score of 59 out of a maximum score of 65 with a percentage of 90.76% and included in the category of "Very Feasible". The assessment includes display design, image quality, color combination, readability of the text, and ease of use of media.

Table 3. Expert validation results

Validator	Score obtained	Maximum score	Percentage	Category
Media expert	62	65	95,38%	Very worthy
Material expert	59	65	90,76%	Very worthy

Based on the results of the validation of material experts and media experts, the media *quartet card* was declared very suitable for use in *learning IPAS* material on norms and customs in my region. These results show that the developed media has met the aspects of material content and media display quality so that it can support more interesting and interactive learning.

## 4. Implementation stage

The implementation stage was carried out through a trial to 26 fourth grade students of SDN 3 Sukosono.

## a. Media practicality test

The media practicality test is used to determine the level of media practicality, the researcher conducts a response test for teachers and students. The results of the teacher's and students' responses obtained a percentage of 82% with the category "Very Practical", while the results of the students' responses obtained a percentage of 90.10% with the category "Very Practical".

Table 4. Result of media practicality tests

Respondents	Percentage	Category
Teacher	82%	Very practical
Student	90%	Very practical

These results show that the *quartet card* media is easy to use, attractive, and able to increase student engagement during learning.

b. Test the effectiveness of the media

The effectiveness of the media was measured through the results of *the pre-test* and *post-test*, *the N-Gain test*, the normality test, and *the Paired Sample T-Test*. Based on the descriptive results, the average *pre-test* score of students was 50.6, while the average *post-test* score increased to 88.1. These results show an increase in student learning outcomes after using the media *quartet card*.

Table 5. Pre-test and post-test results

Data	Pre-test score	Post-test score
Number of students	26	26
Average score	50,6	88,1
Minimum score	30	75
Maximum score	75	100

The results of the normality test using Shapiro-Wilk showed a *significance value of 0.286* and a *post-test* value of 0.080. Because the significance value  $> 0.05$ , the data is declared to be normally distributed so that it can be continued to the *Paired Sample T-Test*.

Table 6. Normality test result

Data	Sig. Shapiro-Wilk	Description
Pre-test	0,286	Normal
Post-test	0,080	Normal

Furthermore, the results of the *Paired Sample T-Test* show a significance value (*p-value*)  $< 0.001$  or less than 0.05. In addition, the results of *the N-Gain* test obtained an average of 0.77 with the category "High".

Table 7. Media effectiveness test result

Test	Result	Information
N-Gain	0,77	High
Paired Sample T-Test	Sig, $< 0,001$	There is a significant difference

Based on these results, the *media quartet card* was declared effective in learning *IPAS* material on norms and customs in my area in grade IV of elementary school.

5. Evaluation Stage

The evaluation stage is carried out at all stages of development to find out the shortcomings of the media and make product improvements based on the results of

validation and trials. Based on the results of the research, *the media quartet card* was declared feasible, practical, and effective to be used in learning.

The findings indicate that the quartet card media possesses strong pedagogical potential in supporting IPAS learning on norms and customs in elementary schools. Its high feasibility reflects not only the appropriateness of the content and visual design, but also the alignment between the characteristics of the media and the developmental needs of elementary school students. At the concrete operational stage, children tend to understand concepts more effectively through visual representation, direct interaction, and contextual learning experiences.<sup>16</sup> Therefore, the combination of images, keywords, and game-based activities in the quartet card media enables students to construct understanding more actively compared to conventional lecture-based instruction.<sup>17</sup> This finding reinforces constructivist learning theory, which emphasizes that knowledge is built through active engagement and meaningful interaction with learning materials.<sup>18</sup>

The effectiveness of the quartet card media can also be interpreted from the perspective of cognitive and social learning processes. The card-based activities encourage students to discuss, identify, and relate social norms and local customs to their everyday experiences. Such learning conditions create a collaborative environment that supports conceptual understanding and strengthens students' social interaction skills. Unlike traditional visual media that function primarily as information delivery tools, quartet card media integrates elements of educational games and local cultural content simultaneously. This integration allows students not only to memorize concepts, but also to contextualize them within their own social environment.<sup>19</sup> Consequently, learning becomes more meaningful because students connect abstract concepts of norms and customs with concrete realities found in their surrounding community.

In addition, the increase in students' learning outcomes demonstrates that the media successfully stimulated students' motivation and active participation during the learning

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<sup>16</sup> David H Uttal and Katherine O' Doherty, "Comprehending and Learning from 'Visualizations': A Developmental Perspective," in *Visualization: Theory and Practice in Science Education* (Springer, 2008), 53–72, [https://doi.org/https://doi.org/10.1007/978-1-4020-5267-5\\_3](https://doi.org/https://doi.org/10.1007/978-1-4020-5267-5_3).

<sup>17</sup> Vivit Vidayanti et al., "Implementation of Quartet Card Learning Media Through the Problem-Based Learning Model on Animal and Human Locomotor Organs to Improve Learning Outcomes of Fifth-Grade Students at MI Muhammadiyah 1 Probolinggo in the 2022-2023 Academic Year," *Jurnal Profesionalisme Guru* 1, no. 3 (2024): 391–97.

<sup>18</sup> Joseph Zajda, "Constructivist Learning Theory and Creating Effective Learning Environments," in *Globalisation and Education Reforms: Creating Effective Learning Environments* (Springer, 2021), 35–50.

<sup>19</sup> Marcia C Linn, Bat-Sheva Eylon, and Elizabeth A Davis, "The Knowledge Integration Perspective on Learning," in *Internet Environments for Science Education* (Routledge, 2013), 57–74.

process. Educational game-based media tend to create a more enjoyable atmosphere, reducing boredom and increasing students' attention span. From a motivational perspective, the use of quartet cards provides challenges, curiosity, and competition that encourage students to become more involved in classroom activities. This supports learning theories which argue that attractive and interactive media can enhance student engagement and improve retention of learning materials. The significant improvement in post-test scores indicates that students were not only interested in the learning activities but were also able to achieve deeper conceptual understanding after interacting with the media.

Compared with previous studies, this research offers a distinct contribution through the integration of local cultural values into interactive learning media for IPAS subjects.<sup>20</sup> Earlier studies generally focused on the effectiveness of visual or game-based media in improving motivation and learning outcomes, yet they rarely emphasized the contextualization of local wisdom and regional customs within elementary social learning. The novelty of this study lies in the development of quartet card media that combines cultural learning, visual interaction, and educational gameplay in a single instructional medium. This approach strengthens the relevance of learning materials to students' real-life experiences while simultaneously supporting the preservation of local cultural values in elementary education. Therefore, the media not only functions as a tool for improving academic achievement but also as a medium for cultural literacy and character education.

Furthermore, the findings imply that innovative learning media should not merely prioritize attractive design, but also emphasize contextual relevance and student-centered learning experiences. The success of the quartet card media indicates that culturally responsive and interactive media can bridge the gap between theoretical concepts and students' daily realities. In this regard, IPAS learning becomes more adaptive to the demands of 21st-century education, which emphasizes critical thinking, collaboration, communication, and cultural awareness. Thus, the quartet card media can be considered an innovative alternative for elementary school teachers in creating meaningful, engaging, and culturally relevant learning environments.

## **Conclusion**

This study developed Quartet Card learning media for IPAS (science and social studies) content on norms and local customs using the ADDIE model, which was designed

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<sup>20</sup> M Deni Siregar, I Wayan Lasmawan, and I Made Ardana, "Learning Module for IPAS Based on Tesuling Local Cultural Values: Instilling Global Diversity and Religious Moderation in Elementary Students," *Educational Process: International Journal* 18 (2025): e2025433.

to suit the characteristics of elementary school students in order to create more interactive, contextual, and engaging learning experiences. The findings indicate that the media achieved a very high level of validity based on material and media expert evaluations, was categorized as highly practical based on teacher and student responses, and proved effective in improving student learning outcomes, as shown by the increase in pre-test and post-test scores and a high N-Gain value. These results suggest that the integration of game-based learning media with local wisdom contexts can enhance students' engagement, motivation, and conceptual understanding more effectively than conventional instruction. The main contribution of this study lies in the development of an instructional medium that integrates educational game elements and local cultural values in IPAS learning, which remains relatively limited in previous research at the elementary school level. However, this study is limited to a single research site; therefore, further research is recommended to expand the scope of implementation and develop more varied media designs to strengthen generalizability and long-term applicability.

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