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Developing Teaching Materials "IPAS Flipbook" for Elementary Schools

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ABSTRACT

The flipbook media science teaching materials were developed because in the schools where the research was carried out, especially in the UPT SDN 236 Gresik and also in the school cluster area of Menganti District, Gresik Regency, this type of media has never been developed. Learning resource media are mostly in the form of printed books and pdf format books. The content of the material is developed and adjusted contextually. With the existence of new learning resources, it is hoped that students will be interested, so that they are more intensive in studying the material of IPAS CHAPTER VI and subsequently it is expected to have an impact on increasing learning outcomes. The development research model used is Borg and Gall with 10 development steps to the dissemination and implementation stages. The flipbook making application program used is *flip pdf professional*. The data collection technique uses observation, interviews, and filling in instruments carried out by three experts, namely design experts, material experts, and media experts. Instruments are also filled by students after small tests, medium group tests, and field tests. The results of data processing by media experts are 85%, material experts are 98%, design experts are 92%, from students are 87%, and from peers are 95%, which are interpreted based on the Likert scale is included in the category of feasible and qualified for use.

Keywords: Teaching materieals, flipbook, elementary school.

ABSTRAK

Bahan ajar IPAS media flipbook dikembangkan karena di sekolah tempat penelitian dilakukan khususnya, yaitu di UPT SDN 236 Gresik dan juga di kawasan gugus sekolah Kecamatan Menganti Kabupaten Gresik belum pernah dikembangkan jenis media ini. Media sumber belajar sebagian besar berupa buku cetak dan buku format pdf. Isi materi dikembangkan dan disesuaikan secara kontekstual. Dengan adanya sumber belajar baru, diharapkan siswa akan tertarik, sehingga lebih intensif dalam mempelajari materi IPAS BAB VI dan selanjutnya diharapkan berdampak pada meningkatnya hasil belajar. Model penelitian pengembangan yang digunakan adalah Borg and Gall dengan 10 langkah pengembangan hingga tahap diseminasi dan implementasi. Program apikasi pembuatan flipbook yang digunakan adalah flip pdf professional. Teknik pengumpulan data menggunakan observasi, wawancara, dan pengisian instrumen yang dilakukan oleh tiga orang ahli yaitu ahli desain, ahli materi, dan ahli media. Instrumen juga diisi oleh siswa setelah uji kecil, uji kelompok sedang, dan uji lapangan. Hasil pengolahan data ahli media sebesar 85%, ahli materi sebesar 98%, ahli

desain sebesar 92%, dari siswa sebesar 87%, dan dari rekan sejawat sebesar 95%, yang diinterpretasikan berdasarkan skala likert termasuk dalam kategori layak dan memenuhi untuk digunakan.
Kata kunci: *Bahan ajar, media flipbook IPAS, sekolah dasar.*

A. INTRODUCTION

In the Law on Teachers and Lecturers number 14 of 2005, it is stated that one of the competencies that teachers must have in relation to the ability to manage student learning is competence. To support this competence, teachers must be able to utilize learning technology. Learning technology in this case is related to the use of technology as a learning medium.

It is undeniable, currently there are a lot of teaching material media that can be found. According to Anderson (1976) in (Adiutami and Sujana 2022), media is divided into 9 types, namely: a) audio media, b) print media, c) audio-print media, d) silent visual projection media, e) silent audio-visual projection media, f) dynamic visual media, g) physical object media, h) human and environmental media, and i) computer media. This variety of media is expected so that teaching and learning activities can run effectively and efficiently (Sari and Ahmad 2021)(Yulaika et al. 2020)(Fahrezi 2021), the message from the subject matter can be conveyed to the recipient (student) so that the learning objectives can be achieved.

The role of Science and Technology (IPTEK) is one of the forms of learning in the 21st century that must be fulfilled. From children to adults, they are not spared from the use of technology, especially gadgets in daily life. Likewise with students, in current learning activities, students will be more interested in learning that utilizes technology in it, for example the use of *artificial intelligence* (AI), *virtual reality* (VR), and digital teaching materials (*e-book*) of course. This research is emphasized on the development of digital teaching materials by utilizing *flipbook* (Fahrezi 2021). The development of this electronic module is in the form of multimedia containing text, images, animations, and audio-video. The photos in it were obtained from the surrounding environment where the school is located. Design *ebook* made colorful so that it makes students even more interested. In addition, it is also equipped with a link to the student activity sheet, answer keys in addition to entering a table of contents, mapping learning outcomes and the flow of learning objectives. This digital book is expected to be used as a teaching material that can also be printed.

The development of this module is expected to provide variety and learning experience to students. Deep (Marizal and Asri 2022) It is stated that the characteristics of the material in the development of this flipbook are considered in accordance with the teaching tools to be developed, which become a complete and systematic unit with multimedia features that are not found in the printed module, where students will feel bored if faced with printed books.

Social Sciences (IPS) can be interpreted as a discipline that studies human life and its environment and existing social problems, aiming to equip and develop students in

knowledge, attitudes, values and existing social problems (Aristiani and Anak Agung Gede Agung 2022) (Handayani 2023). In grade IV of elementary school in the Independent Curriculum, social studies material is included in the social science (Natural and Social Sciences) material (Standards, Education Assessment of the Ministry of Education, and Technology 2022). One of the social studies material chapters is about "Indonesiaku Kayabudaya Budaya" in Chapter VI. According to (Noor Akhmad, Rufi'i, and Hartono 2022), understanding the concept of social studies will be easier if it provides a real experience through interactive media. We all know that IPAS materials tend to contain a lot of texts or readings. Educators tend to deliver it with lectures or show makeshift pictures or videos.

Based on simple observations to fourth-grade teachers, they tend to teach what is in the student's book. If you associate it with the diversity of local culture as well as by telling stories, direct experience by showing the history of the area where students live is almost not found in some forms of books or modules. Meanwhile, at the summative time, the questions made also display the diversity of local culture, so that most students do not know if what is asked is the local diversity of their area. Of course, this makes you bored. Therefore, as a way to give students a better understanding of the culture of their region, the author strives to develop the development of teaching materials with contextual materials and more interactive displays. The contextual material is adapted to local wisdom and the cultural diversity around them.

The schools where the research was conducted, especially in the school cluster area, have never used flipbooks as a learning resource medium. Learning resources are mostly in the form of printed books and books in PDF format. It is hoped that the increase in student learning motivation and the improvement of learning outcomes through the development of flipbook media teaching materials that include contextual materials, smart readers, question links, and other multimedia tools, such as links on the Wikipedia search engine. The development of this flipbook media is different from several previous studies on the same material, namely social studies. This is the development of teaching materials for social studies subjects that will be applied in the independent curriculum, while what exists is the development of social studies subjects. Book pages have buttons to unmute text, but not all pages have them. It is hoped that this will help students with an auditive learning style.

This research was conducted at UPT SD Negeri 236 Gresik, East Java. This school is located in Randupadangan Village, which is located in Menganti District, Gresik Regency. Most of the population worked as farmers or laborers. Even though the internet network and computer tools, such as *chrome books* , are available, learning science and technology at the school is still relatively simple. However, students' learning experience with digital media is still very limited. Educators typically use YouTube videos as material support references, and most of the time is spent on textbooks. Sometimes, they also invite students to see the surrounding environment firsthand. The author tries to develop the Social Studies Chapter VI teaching materials about "Indonesiaku Kaya Budaya" into *a flipbook*. The development of teaching materials into digital media and in it presented

material that is adapted to the history or conditions where the school is located is expected to be able to provide new experiences to students, especially and fellow teachers in general.

Students at UPT SD Negeri 236 Gresik, East Java, still do not know what a digital book is. What they do know is that digital books (*ebooks*) are package books in the form of PDFs, which are read like reading textbooks only on cellphones or laptops. The author tries to introduce digital books combined with multimedia in the form of *flipbooks* and adjust the content of the material to the conditions of the students' environment. With the existence of new learning resources, it is hoped that students will be interested, so that they will be more intensive in learning, which in the end the delivery of IPAS CHAPTER VI material can be conveyed well. Therefore, the Development of Class IV Science Flipbook Media Teaching Materials was carried out at UPT SD Negeri 236 Gresik, East Java.

B. RESEARCH METHOD

This research is a type of development research or often known as Research and Development (R&D). According to Sugiyono in his book Quantitative, Qualitative, and R&D Research Methods (2014) is a process with systematic steps to develop a new product or improve or improve an existing product and can be accounted for. This is also the same meaning in the book Development Research Model from I Made Tegeh (2014). The approach to the product development procedure used is the development model according to Borg & Gall (1983). This model is considered to provide guidance on systematic steps in developing and producing products with feasibility standards (Awalunisah and Putri Setianingsih 2023)(Nabila 2023). With 10 systematic steps in the stages and can be adjusted to the steps of research and development of flipbook media teaching materials, this is the reason why the Borg and Gall model approach is used.

Development with the Borg and Gall model has advantages and disadvantages. The advantage of this development model is its detailed steps so that it is able to produce products with high validation values, so that it can encourage the continuous product innovation process. However, it also has disadvantages, because the procedure is relatively complex so it requires a relatively long time and considerable cost.

The research was conducted in the even semester of the 2023-2024 school year in class IV UPT SDN 236 Gresik, Menganti District, Gresik Regency, East Java. This study involved several test subjects. The test subjects are human resources who are directly involved in this research and development process. Consisting of material experts, media experts, design experts, grade IV students, and peers.

Content experts are people who have competence in evaluating and testing the suitability of learning materials with the applicable curriculum, syllabus, learning outcomes, and learning objectives that have been set. The task of the content expert is to ensure that the concepts, explanations, information presented are relevant. Media experts validate the functionality of the material, face-to-face usability (*user interface*), existing audio and visual quality. Design experts ensure that the visual design of the developed learning materials is

attractive and can support student understanding. UPT SDN 236 Gresik grade IV students as many as 33 people were the subjects of product trials to find out the effectiveness, attractiveness, and practicality of the flipbook media that presented Indonesiaku material (Fatonah and Yunianto n.d.)(Putri et al. n.d.). The colleague is a grade IV teacher of UPT SDN 236 Gresik, Menganti District, Gresik Regency, East Java. This subject was chosen as a user validator to find out the level of practicality and how interesting this learning media is in the learning process of Rich Culture developed with contextual materials.

The stages of research and development according to Borg and Gall consist of 10 steps, namely: 1) Research and Information Colleting (research and collection of information/data/literature studies; 2) Planning (research planning); 3) Develop Preliminary of Product; 4) Preliminary Field Testing (limited trial); 5) Main Product Revision (limited revision); 6) Main Field Test (product test widely/field test); 7) Operational Product Revision (revision from field tests); 8) Operational Field Testing (feasibility test); 9) Final Product Revision (final revision of feasibility test results); and 10) Dissemination and Implementation (Ashauqi 2020)(Ellysia and Irfan 2021).

The research procedure for the development of teaching materials for grade 4 IPAS *flipbook* media at UPT SDN 236 Gresik is presented in the chart below:

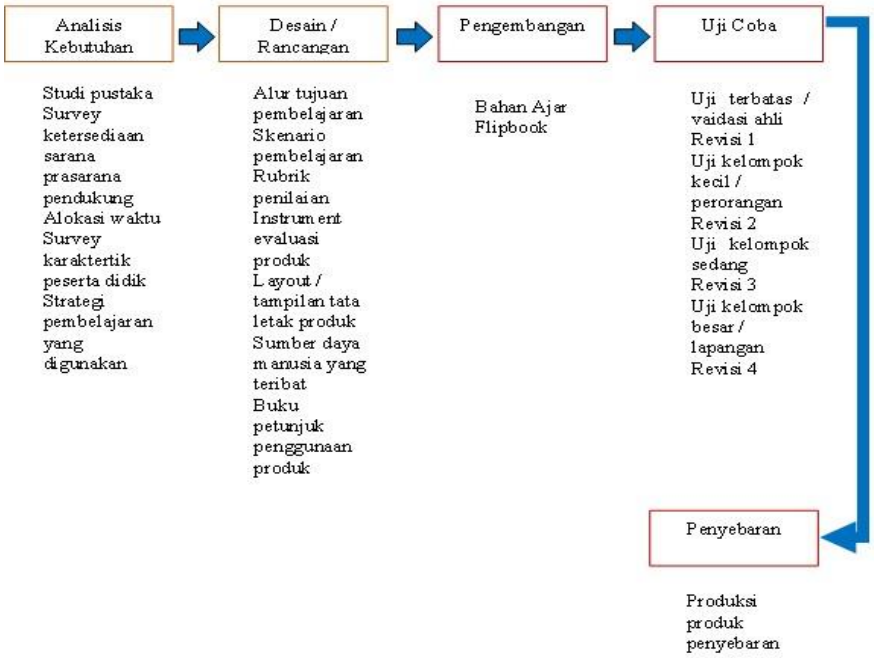

Figure 1 : Research Flow Diagram

The application of the research procedure in the Borg and Gall development model with 10 steps in the Research and Development of Teaching Materials for Class 4 IPAS Flipbook Media Chapter VI is as follows: 1) *Research and Information Collecting* (Research and Collection of Information/Data/Literature Study). What is carried out is: Literature study by collecting references in the form of books, journals, articles, previous research on product development to be carried out, product development approaches, and product development research steps; Needs analysis, namely related to the latest products

developed, whether they have important value for education, especially education in the scope where the research is carried out, as well as conducting a survey of student learning characteristics. Can it be accommodated with the application of this product? 2) *Planning* . The steps taken include determining the flow of learning objectives, making product evaluation instruments, designing layouts, determining the resources needed, and designing product manuals. 3) *Develop Preliminary of Product* (product design development). Prototype products from teaching materials and *flipbooks* to be developed and made, mapping the resources needed both supporting infrastructure facilities as well as human resources who will use, and making a user manual. 4) *Preliminary Field Testing* (limited trial). The product that has been made will be tested on a limited basis to three students, but will first be validated by three experts, namely design experts, media experts, and material experts. 5) *Preliminary Field Testing* (limited trial). The findings from the results of the limited trial and ahl validation will be improved at this stage. 6) *Main Field Test* (extensive product test/field test). The product that has been improved, will then be tested again to six students to determine the functionality, effectiveness, and user satisfaction of the product made and its effect on the learning system. 7) *Operational Product Revision* (revision from field tests). Furthermore, improvements will be made based on the existing findings from the field trials. The revision from this stage aims to produce a product in the form of an operational model design that is ready to be tested in the field. 8) *Operational Field Testing* (feasibility test). This stage is the final trial stage for feasibility. It was carried out in a large group, namely 33 children in grade IV of UPT SDN 236 Gresik, Menganti District, Gresik Regency, East Java. This stage is carried out to ensure that the product is ready for use on a wide scale and in mass production. 9) *Final Product Revision* (final revision of the results of the feasibility test). Final improvements to products developed from feasibility tests that have been carried out to produce products that are ready to be implemented in the field with feasibility standards and meet user needs. 10) *Dissemination and Implementation* . The final step of the Borg and Gall approach is to disseminate and publish the products developed in particular research sites or to users and other stakeholders. Dissemination can be in the form of presentations, training, documentation, or scientific publications.

Research and development of flipbook media products for science and technology subjects at UPT SDN 236 Gresik, Menganti District, Gresik Regency, East Java uses two types of data, namely qualitative and quantitative data. Qualitative data was obtained from suggestions, inputs, and responses from research subjects (experts, students, and peers) (Magdalena et al. 2020). Quantitative data was obtained from research instruments whose data collection was in the form of numerical scores. This research instrument is distributed to media experts, design experts, material experts, students, and peers to be subsequently filled in based on the instructions in the instrument at the time the product is tested (Asri and Dwiningsih 2022).

The research instrument, according to Sugiyono (2013) is explained in (Nabila 2023) and also emphasized in (Nina Adlini et al. 2022)(Nurhamidah 2021) It is a tool used to

measure the phenomena, parameters, or variables observed or researched, which are related to research problems. In this research and development, the types of data and data instruments used are:

Table 1 : Research and Development Instrument Needs

Instrument Type	Purpose of the Instrument	Observed data	Respond
Validation sheet	Product validity	Validity of the material and language structure	Material expert
	Product appeal	Design validity	Design experts
	Product functionality	Media validity	Media members
Observation sheet	Attractiveness and effectiveness of the product	The response of interest and enthusiasm of students and teachers in KBM using the flipbook media *of* the Science and Technology subject Chapter VI	Teacher Pupil

Explained in (Permitasari, Hartono, and Sugito 2022) and in (Permitasari et al. 2022) The characteristics of the interactive multimedia module are declared to be of high quality and ready to use if it has 5 aspects of assessment from material experts consisting of 1) Introduction; 2) content; 3) learning; 4) summary; and 5) training. 3 aspects of the assessment of design experts and learning media, namely 1) display; 2) use; and 3) utilization. And the assessment criteria in the group trial consist of 3 aspects, namely 1) learning; 2) display; and 3) programming. Still according to the reference, Arikunto (2010) explained that the quality of the product is said to be good and ready to be used in the learning process if the percentage of students is at least 66%.

The awarding of a score or score on each aspect of the instrument, as well as an assessment to determine the feasibility of the product, is guided by the Likert scale with the following value ranges (Nora et al. 2022)(Kusna et al. 2023):

Table 2 : Instrument Score

Score	Percentage	Category	Information
5	81-100 %	Fulfilled Very Well	Criteria met, without revision
4	61-80 %	Well fulfilled	Criteria met, minor revisions
3	41-60 %	Quite Fulfilled	Criteria have been met, revision is underway
2	21-40 %	Less Fulfilled	Criteria can be met, major revisions and improvements
1	1-20 %	Unfulfilled	Criteria not met

For the calculation of the product validity of each instrument, an analysis is carried out using the following equation (Permitasari et al. 2022)(Fatih 2023):

$$\bar{x} = \frac{\sum x}{n} x\ 100\%$$

Information:

$\bar{x}$ = Average score of all aspects or assessment criteria

$\sum x$ = the sum of the scores of all aspects of the assessment

n = Maximum number of scores

C. RESULTS AND DISCUSSION

Development research or often known as Research and Development (R&D) on the Development of Flipbook Teaching Materials for Class IV Science Materials UPT SD Negeri 236 Gresik East Java aims to produce an interactive digital book (*flipbook*) with an attractive appearance, with complete features such as additional video, voice, automatic reading, practice questions, and *user friendly*. To realize this goal optimally, this study was developed using the Borg and Gall model.

The application of the research procedure in the Borg and Gall development model with 10 steps in the Research and Development of Teaching Materials for Flipbook Science Media Class 4 Chapter VI is as follows: 1). Research and Information Collecting (Research and Information Collection/Data/Literature Study), which is carried out is: a. Literature Study by collecting references in the form of books, journals, articles, previous research related to product development to be carried out, product development approaches, and product development research steps, b. Needs analysis, namely related to the latest products developed, whether they have important value for education, especially education in the scope where the research is carried out, as well as conducting a survey of student learning characteristics. Can it be accommodated with the application of this product? 2). Planning (Perencanaan Penelitian); the steps taken include determining the flow of learning objectives, making product evaluation instruments, designing layouts, determining the resources needed, and designing product manuals. 3). Develop Preliminary of Product; product *prototypes* from teaching materials and flipbooks that will be developed and made are carried out, mapping the resources needed both supporting infrastructure facilities as well as human resources who will use, and making user manuals. 4). Preliminary Field Testing; the product that has been made will be tested on a limited basis to three students, but will first be validated by three experts, namely design experts, media experts, and material experts. 5). Preliminary Field Testing; the findings from the results of the trial are limited and expert validation will be improved at this stage. 6). Main Field Test; the product that has been improved, will then be tested again to six students to determine the functionality, effectiveness, and user satisfaction of the product made and its effect on the learning system. 7). Operational Product Revision (revision from field tests); furthermore, improvements will be made based on the existing findings from the field trials. The revision from this stage aims to produce a product in the form of an operational model design that is ready to be tested in the field. 8). Operational Field Testing; this stage is the final trial stage for eligibility. It was carried out in a large group, namely 4th grade students of UPT SDN 236 Gresik as many as 33 children. This stage is carried out to ensure that the product is ready for use on a wide scale and in mass production. 9). Final Product Revision (final revision of the results of the feasibility test);

final improvements to products developed from feasibility tests that have been carried out to produce products that are ready to be implemented in the field with feasibility standards and meet user needs. 10). Dissemination and Implementation; the final step of the Borg and Gall approach is to disseminate and publish the products developed in particular research sites or to users and other stakeholders. Dissemination can be in the form of presentations, training, documentation, or scientific publications (Ellysia and Irfan 2021).

The products that have been created are first validated by media experts, material experts, and design experts. The three experts are someone who is competent in their field with a minimum educational qualification of a master's degree. Guided by the instrument processing score table (table 2), the validation results are obtained for further interpretation.

Media experts validate with the aim of finding out the functionality of the material, the usability of the face-to-face (*user interface*), and the existing audio and visual quality. The following are the results of product validation through the media expert instrument sheet:

Table 3: Results of Media Expert Validation

No	Assessment Aspects	Percentage	Category
1	Display aspect	82%	Fulfilled
2	Usage aspects	90%	Fulfilled
3	Utilization aspect	83%	Fulfilled
Overall average		85%	Fulfilled

In general, and the overall results of the validation of media experts show that all aspects and indicators in the development of this flipbook media teaching material are feasible and fulfilled without revision. However, media experts advise to harmonize the writing (*font*) used in some parts of *the flipbook*. The next stage is to improve according to the direction of media experts by increasing the size of the writing in the corrected parts and standardizing the type of writing.

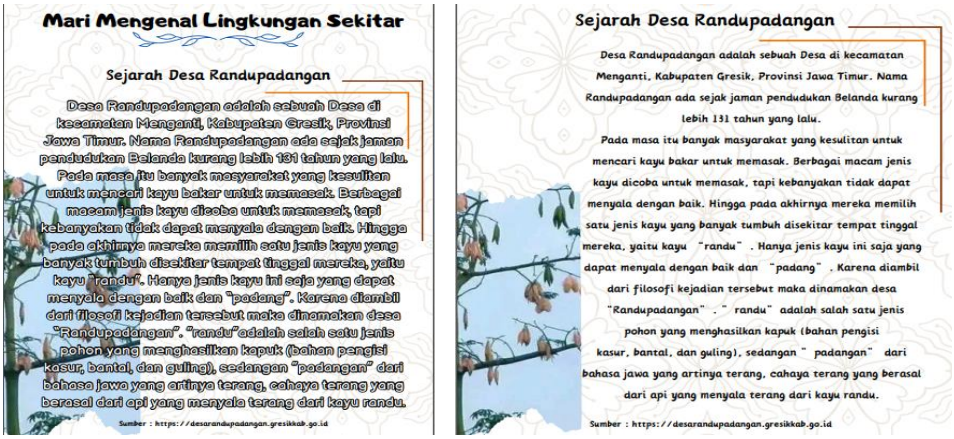

Figure 2 : the contents of the flipbook before revision (left) and display after revision (right)

Next is the result of the validation of material experts. The subject matter expert will evaluate and test the suitability of the learning material with the applicable curriculum as

well as the set learning outcomes and objectives, as well as ensure that the concepts, explanations, and information presented are relevant.

Table 4 : Results of Validation of Material Experts

No	Assessment Aspects	Percentage	Category
1	The material helps to get to know the existing alternatives and the conditions that apply *(Information Use)*	100%	Fulfilled
2	Purpose of Teaching Materials *for Flipbook Media for* Science and Technology Subjects	100%	Fulfilled
3	Description of the content of the *teaching materials for the Flipbook* Media of the Science and Technology Subject	93%	Fulfilled
4	Image Display	100%	Fulfilled
5	Evaluation	97%	Fulfilled
Overall average		98%	Fulfilled

By looking at the percentages of the table, it is concluded that the developed IPAS CHAPTER VI Grade 4 learning materials are feasible and meet all criteria.

Design experts validate with the aim of evaluating the visual aspects of the learning material consisting of layout, use of colors, and other visual elements. Design experts ensure that the visual design of the developed learning materials is attractive and can support student understanding.

Table 5 : Results of Validation of Design Experts

No	Assessment Aspects	Percentage	Category
1	Aspects of the Learning Plan	86%	Fulfilled
2	Technology aspects	100%	Fulfilled
3	Aspects of Message Design	90%	Fulfilled
Overall average		92%	Fulfilled

The validation of the design expert shows that the learning design contained in the flipbook teaching materials, the technology accompanying it, and the design of the message contained in the teaching materials have been fulfilled and feasible and appropriate for elementary school students.

After obtaining validation from experts, the product will be tested in three stages. The first is a small group trial consisting of three students, the second is a medium group trial of six students, and the last is a feasibility test for all students, in this case the number of 4th grade students at UPT SDN 236 Gresik is 42 students who have been included in the first and second trials, so that there are 33 students left to conduct field trials.

Preliminary field testing

Three students were randomly selected to carry out product trials. From this stage, it is expected to obtain initial feedback and evaluation of both the system and the methodology. The results of this stage of the trial are as follows:

Table 6 : Results of Small Group Trials

No	Assessment Aspects	Percentage	Category
1	Aspects of the content of the presentation material	87%	Fulfilled
2	Aspects of ease of access	78%	Fulfilled with minor revisions
3	Aspect of clarity of the message conveyed	87%	Fulfilled
Overall average		84%	Fulfilled

The results of the research are presented in the form of graphs, tables, or descriptive. Analysis and interpretation of these results are necessary before they are discussed. For experimental research, the order of presentation of results is adjusted to the research hypothesis, while for qualitative research, it is adjusted to the research question.

Overall, the results of the small group trial were interpreted as feasible and fulfilled. However, in terms of ease of access, results were obtained with categories fulfilled but with minor revisions. This is because this flipbook is still a new thing for students at UPT SDN 236 Gresik, so they still experience ignorance in recognizing the function of the buttons contained in it. Subsequently, repairs were made by providing an explanation in the instruction manual.

Main field test

Six students were randomly selected to carry out product trials. This stage is carried out to test the functionality, effectiveness, and user satisfaction of the product made and its effect on defense. The results of this stage of the trial are as follows:

Table 7 : Results of Medium Group Trial

No	Assessment Aspects	Percentage	Category
1	Aspects of the content of the presentation material	86%	Fulfilled
2	Aspects of ease of access	88%	Fulfilled with minor revisions
3	Aspect of clarity of the message conveyed	92%	Fulfilled
Overall average		89%	Fulfilled

In this second trial, there was an increase in percentage. From each aspect and overall, the percentage that is included in the category is fulfilled without revision. Based on observations, students began to like and could explore the content and usefulness of the flipbook tested. So that repairs have not been made at this stage.

Large group tests / operational field testing

As the final stage of the feasibility trial, it was carried out on 33 grade 4 students at UPT SDN 236 Gresik. From this stage, it is ensured that the product is ready for use on a wide scale and mass-produced. The results of this stage of the trial are as follows:

Table 8 : Results of Large Group Trials

No	Assessment Aspects	Percentage	Category
1	Aspects of the content of the presentation material	87%	Fulfilled
2	Aspects of ease of access	82%	Fulfilled with minor revisions
3	Aspect of clarity of the message conveyed	91%	Fulfilled
Overall average		87%	Fulfilled

The results of this field trial or large group trial were also met in all aspects and in general obtained a result of 87% which means that the product is suitable for use and disseminated without revision.

Peer Test

This stage is carried out with the intention of finding out the level of practicality and how interesting this learning media is in the learning process. The colleague is a 4th grade teacher at UPT SDN 236 Gresik.

Table 8 : Results of Peer Response

No	Assessment Aspects	Percentage	Category
1	Material aspects	89%	Fulfilled
2	Linguistic aspects	92%	Fulfilled
3	Aspect of presentation	100%	Fulfilled
4	Aspects of the effect of media on learning strategies	92%	Fulfilled
5	Comprehensive display aspect	100%	Fulfilled
Overall average		95%	Fulfilled

Grade 4 teachers gave a good response to the development of this flipbook media science science teaching material. A high percentage shows that this teaching material is feasible and is expected to be a learning choice for students and teachers. The absence of comments on the product, indicates that there is no need for repairs/revisions. So the next step in accordance with the stages of Borg and Gall is to disseminate and implement.

Dissemination and Implementation

The product is distributed in two forms, namely with an .exe extension (application) that can be downloaded by students or teachers in need. With this extension, the product can be used offline. However, some facilities connected to article links cannot be used, but other facilities such as practice questions, videos, and voice buttons can still be used. Here is the flipbook display in .apk form:

Figure 3 : Initial view of the flipbook

Flipbooks can be flipped by pressing the bottom right corner of the book or the top right corner of the book or pressing the arrow keys on the right and left sides of the display. Here's what it looks like when it's opened. The image below also shows a page with a button to voice the existing text.

Figure 4 : Display in a flipbook

The product will be stored on the author's website in the form of *google sites* because the school does not have an independent website. The product is also embedded in *the school's google drive* so that teachers can download it at any time if needed (https://drive.google.com/file/d/1K_5_3s10sUG9pqKs41w0WUUrIBC4kmOl/view?usp=sharing). If the classroom teacher uses *google classroom*, then it can also be embedded in it.

Users who have done the trial show good interest. This can be seen from the percentage of questionnaires that show results that are in the category of fulfilled / interesting / appropriate. From grade 4 teachers by 95% and the results from field trials or large group tests of grade 4 students are 87%.

D. CONCLUSION

The development of teaching materials for flipbook media for IPAS chapter VI grade 4 at UPT SD Negeri 236 Gresik is a development of existing teaching materials to adjust the material contextually. The result of this development is in the form of a flipbook digital book product equipped with multimedia features such as text reader buttons on several pages, supporting videos, links to supporting articles, practice question buttons, reflection

buttons after learning, and a colorful display in addition to supporting images. This development research uses the Borg and Gall approach with 10 steps in it. Based on the results of data processing and analysis, this flipbook media teaching material is included in the category of feasible to be used in learning in elementary schools without revision. Feasible and meets the criteria of the aspects presented in the instrument that are disseminated to experts, students, and peers. Based on the calculation results, it is also known that the interest of students and class teachers related to teaching materials in the form of flipbooks is very high. This interest can be seen from several indicators in the instruments filled in by students in the scale of 4 and 5 and in percentage terms the results of the field test conducted to 33 grade 4 students at UPT SDN 236 Gresik are 87% which means that it is well fulfilled in all aspects of the instruments presented. The development of *this flipbook* teaching material is limited to the subject of IPAS CHAPTER VI, in the future it is hoped that it can be developed for other subjects. Multimedia facilities such as smart readers only exist in certain parts of the flipbook page, for subsequent development it is hoped that it can be applied to all flipbook pages to facilitate students with auditory learning styles.

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