



## **Development of natural science supplement books based on local wisdom in integrative thematic learning in the elementary schools**

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**Abstract:** The purpose of this study was to develop a natural science supplement book based on local wisdom in thematic-integrative learning in the fourth grade of elementary schools. This study uses Research and Development of the Dick and Carey model. The research data were obtained through observation, interviews, and questionnaires. The results of the feasibility of a local wisdom-based science supplement book were obtained through a product assessment questionnaire for material experts, media experts, linguists, and classroom teachers. While the trial results were obtained through a response questionnaire given to 58 fourth-grade elementary school students. The results of the validators show that the science supplement book is very feasible from the assessment of the material aspects with an average of 86.33%, the media aspect is also considered very feasible with an average of 91.63%, while the language aspect is considered feasible with an average of 76.67%. The results obtained from practitioners also get very feasible criteria with an average of 87.06%. The results of small-scale trials obtained an average of 100% and the results of large-scale trials obtained an average of 97,08% with very good criteria. Based on these results, the local wisdom-based science supplement book is very suitable for fourth-grade elementary school teachers in thematic-integrative learning.

**Keywords:** local wisdom, natural science supplement books, thematic-integrative learning

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### **Introduction**

Books are important things in a person's life. Even books are used as a determinant of the quality of the country (Kul et al., 2018). Therefore, there are many studies that explain the effect of books on learning in various countries (Sungif et al., 2014; Xiong et al., 2017). The importance of this book it is greatly felt by school students, especially elementary schools. Because in elementary school students take the most information from books so that books have the most contact with students (Ismajli & Neziri, 2019). In addition, books in elementary schools are also a means of providing basic knowledge and skills so that students can adapt to the environment (Cokuk & Kozikoglu, 2020; Saripah & Widiastuti, 2019). Thus, books are indispensable for students.

Books in elementary schools are not only important for students, but also important for teachers. This is because textbooks are a resource and guide for teachers in providing knowledge and understanding of student learning (Lee & Catling, 2016; Yang et al., 2017). In addition, textbooks are a tool that facilitates teachers and provides more learning opportunities for students (Tefamicael & Lundeby, 2019). So that the textbook must have good content. According to Sitepu (2012), a good book must pay attention to things such as book size; layout; font size and spacing; font type; illustrations and diagrams; and book anatomy. In addition, it is also necessary to pay attention to the characteristics of elementary school students. According to Piaget, the characteristics of students in elementary schools are on a concrete operational stage. This is because elementary school students are between 7-11 years old, so (Babakr et al., 2019). At this stage, students develop skills to think logically (Hanfstingl et al., 2019). So that at this stage students should be invited to carry out direct activities such as simple practices. Students who are in grade IV of elementary school, are in the age range of 9-10 years and begin to practice finding their own knowledge. Knowledge is what shapes the learning experience, the formation of this learning experience requires active and dedicated student participation (Santrouk,



2010). By paying attention to this, textbooks can be a means of achieving the learning objectives to be achieved (Aghababaeian et al., 2017).

Today, Indonesia will use the 2013 Curriculum. This curriculum is known for its thematic-integrative learning. This thematic-integrative learning provides opportunities for students to connect experiences and knowledge through learning to use themes (Wangid et al., 2014; Pujiastuti et al., 2021). This theme is an integrated combination of subjects. This thematic-integrative learning is carried out to produce students who not only develop knowledge and skills but can also apply attitude, values in daily life (Hamimah et al., 2019). However, in this thematic-integrative learning, problems are often encountered such as the difficulty of finding references and learning resources (Islamy, 2019). This makes it difficult for students to understand the material and examples because the existing materials and examples are not in-depth (Arif & Sulistianah, 2019).

Based on a preliminary study conducted in the fourth grade of elementary schools, namely SDN Mangkauk 1 and SDN Mangkauk 2, the teachers said that the books used were quite good, especially with the help of student worksheets books for students. However, according to the teacher, there is a lack of books, especially for teaching science subject content. This is because the examples in the teacher and student books are made for the national level so that sometimes it is not suitable for the student environment in the area. Teachers have tackled this matter by inviting students to study in a school environment, but it is not optimal. The existing worksheets cannot help with this either. From the students' accounts, they became less active because they had not been trained to find the information themselves. Whereas in the learning observations that occur the teacher lectures more when doing learning so that students are less active in learning. Whereas the 2013 curriculum aims to provide students with a learning experience. Therefore, the teacher expects a supporting book to help train students to be active in learning, especially in science learning content by containing local wisdom.

The best learning for elementary school students is to provide opportunities for students to learn to use real experiences (Guilherme et al., 2015). Therefore, the supplement book developed is a supplemental book that helps students to be active in shaping learning experiences, through the material and simple experimental activities in it. The formation of this learning experience can be helped by the content of science learning. Because science provides knowledge through observations in the environment (Tias, 2017). To emphasize thematic-integrative learning, this science content is integrated with other learning content such as SBdP and Indonesian. Linking some of these learning contents makes learning more meaningful for students (Wulandari & Rofiah, 2020; Wuryandani & Herwin, 2021).

This science supplement book uses the basis of local wisdom in its manufacture. Because a good supplement book uses local wisdom (Asmaningrum et al., 2018). Learning to use local wisdom can help students increase their knowledge and understanding, so they can face all problems outside of school, as well as a means of instilling a sense of love for their area (Shufa, 2018). In addition, learning by utilizing the surrounding environment can provide a direct and meaningful experience for children, especially elementary school-aged children (Rochanah, 2018). This is because students' interest in learning is higher if learning is packaged with the local wisdom of the region (Murti et al., 2020). Thus, learning to use local wisdom as a basis provides more benefits than conventional learning (Setyorini & Izzaty, 2016).

Several studies reveal the benefits of supplement books in learning. Ray et al. (2015) stated that supporting books help students by providing narratives and activities that are appropriate to the region. Furthermore, Anggraini et al. (2018) also stated that textbooks plus supplement books can be more effective in improving learning. Zaenuri et al. (2017) state that supplementary books are used to help students prepare for the environment. Another study by Farida et al. (2021) stated that HOTS-oriented supplement books can effectively improve students' problem-solving abilities. Likewise, research conducted by Kartikasari et al. (2018) states that learning outcomes using supplementary books based on Community Technology, Science are more effective in improving student learning outcomes than just using ordinary textbooks.

Referring to the research and the problems presented previously that occurred at SDN Mangkauk 1 and SDN Mangkauk 2, it is necessary to develop learning support books that help textbooks to improve students' critical thinking skills and environmental caring character. Therefore, researchers carried out research and development of natural science supplement books based on local wisdom for thematic-integrative learning in grade IV elementary schools. In contrast to previous studies, this study uses local wisdom combined with activities that invite students to actively learn. Through activities such as let's

read; let's observe; let's find out; let's conclude, and let's show. In this activity, local wisdom was inserted, such as transportation, dance, traditional games, and regional products as outlined in the local wisdom-based science supplement book. So that not only the knowledge of the area is increased, but the experience of students in building their knowledge can also be realized.

Based on the description above, the focus of this research is to develop a natural science supplement book based on local narrative and to sharpen the appropriateness of supplement books in integrated thematic learning in grade IV elementary schools. The results of this study are expected to contribute to the world of education in Indonesia, especially South Kalimantan. Besides, it can provide teacher innovation in implementing the learning. Then for students, the science supplement book is expected to help students actively in building their knowledge so that the student's learning experience can be maximized.

### Methods

#### Types of research

This study uses an adaptation of the Dick and Carey research and development model. Dick's model and ten stages of product development. The ten stages are as follows: 1. Assess needs to identify goal(s); 2. Conduct instruction analysis; 3. Analyze learners and contexts; 4. Write performance objectives; 5. Develop assessment instruments; 6. Develop instructional strategy; 7. Develop and select instructional materials; 8. Design and conduct formative evaluation of instruction; 9. Revise instruction; 10. Design and conduct summative evaluation (Gall et al., 2003). Based on the ten stages of Dick & Carey's research and development model in Figure 1. Researchers carried out nine stages of research and development in this study, which are as follows.

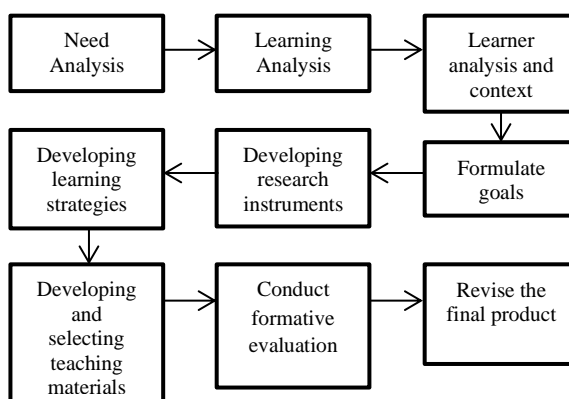


Figure 1. Stages research and development (Sulistyaningrum et al., 2021)

#### Research subject

This research procedure includes nine stages, namely (1) needs analysis (questionnaire distribution), (2) learning analysis (observation), (3) learner analysis (teacher and student interviews and literature study), (4) formulate goals (making design product), (5) developing research (making initial prototypes), (6) developing strategic learning (making lesson plans and research instruments), (7) developing and selecting teaching materials (formulating learning materials), (8) conduct formative evaluation (testing feasibility, small-scale and large-scale trials), (9) revise the final product. The subjects in this study were experts, teachers, and students. The appropriateness of the supplement book was assessed by 1 material expert, 1 media expert, 1 linguist, and 3 grade IV teachers. Meanwhile, the trial involved 58 fourth-grade students of SD Negeri Pengaron 2, SD Negeri Pengaron 3, and SD Negeri Benteng Seberang.

#### Data collection technique

Data collection techniques using observation, interviews, scales, and questionnaires. The instruments used were observation sheets, teacher and student interview sheets, validation sheets for material experts, media experts, and linguists, as well as teacher and student response questionnaires. Observation sheets and interviews were used to collect needs analysis data. Validation sheets are used

to assess product feasibility by material experts, media experts, and linguists. Meanwhile, the teacher's response questionnaire was to determine the teacher's response so that the media was more valid and reliable before being used for trials and student response questionnaires were used and students towards the development of supplement books during the trial. Before being used, the instrument is assessed first and declared feasible by the instrument expert.

#### Data analysis technique

The data analysis technique used is descriptive qualitative. The results of the calculation are then converted into a percentage (P) with the criteria very feasible / very good ( $P > 80\%$ ), decent / good ( $60\% < P < 80\%$ ), quite decent / good enough ( $40\% < P < 60\%$ ), less feasible / not good ( $20\% < P < 40\%$ ), and very unfeasible / very not good ( $P < 20\%$ ) (Anggraheni et al., 2018).

### **Results and Discussion**

#### Research and information collecting stage

At this stage, a field study is carried out to identify and analyze the learning conditions and product needs that the school needs. The stages of this field study were carried out through observation and interviews with the school regarding the implementation of learning. Based on the results of collecting information with grade IV teachers conducted in 3 elementary schools in Pengaron District, it is known that the learning that has been carried out is good. The existing textbooks are also quite good and many, there are also supporting books such as student worksheets. But these student worksheets still make it difficult for students to understand the material and examples, especially those with science content in them. This is because the material and examples in student worksheets tend to be less. Therefore, teachers feel they need other supporting books to help textbooks in learning by containing local wisdom so that it is easier for students to understand. Teachers have tried to work around this too, by occasionally inviting students to study in the school environment with materials that can be done in the school environment to achieve learning objectives. However, in the implementation of learning, teachers tend to use lectures more often, question and answer, and very rarely involve students in learning so that it is less effective.

Students also said that they had difficulty understanding the material because the examples in the book were not interesting for them. Besides, students also said that they listened more to the teacher's lecture when delivering the material, even though students expected learning to invite them to find out for themselves. Therefore, the development of a complementary book in the form of a science supplement book based on local wisdom was developed to help and provide facilities for students other than using compulsory books. Using a natural science supplement book based on local wisdom can help teachers and students learn according to their environment and provide students with an experience of finding out themselves.

#### Planning stage

This planning stage includes designing a Learning Implementation Plan (RPP), learning materials, and designing a book prototype. The Learning Implementation Plan is the starting point in planning the learning process that will be carried out using textbooks assisted by supplement books. The RPP is made based on the 2013 curriculum by containing the identity of the learning unit, Core Competencies (KI), Basic Competencies (KD), learning indicators, learning objectives, learning methods and models, learning tools and materials, teaching materials, learning activities, time allocation, and appraisal. The theme used is Theme 8 for grade IV (the area where I live), sub-theme 2 (the uniqueness of the area where I live), and sub-theme 3 (Proud of the area where I live) with limited material on Natural Sciences (Relationship between Style and Motion), Indonesian (Text of Fiction), and SBdP (Regional Creative Dance and Three Dimensional Objects). Therefore, four lesson plans were designed with integrated learning content according to basic competencies. The learning process is emphasized on a scientific approach (observing, asking, collecting data, associating, and communicating) which is adapted to local wisdom as shown in Figure 2.

G. Kegiatan Pembelajaran

Kegiatan	Deskripsi kegiatan	Alokasi waktu
Pendahuluan	1. Pengkondisian kelas: a. Guru memberikan salam dan mengajak berdoa b. Guru mengecek kesiapan siswa 2. Melakukan apersepsi: a. Bertanya tentang pembelajaran sebelumnya b. Menyampaikan materi hari ini c. Mengaitkan pembelajaran sebelumnya d. Menyampaikan tujuan pembelajaran	20 Menit
Inti	1. Membaca cerita fiksi dan menjawab pertanyaan berdasarkan cerita 2. Menampilkan hasil identifikasi tokoh 3. Membentuk kelompok heterogen yang beranggotakan 4-5 orang 4. pemberian rangsangan berupa suatu masalah 5. Setiap kelompok mencari tahu dan mengumpulkan data dari percobaan sederhana 6. Setiap kelompok memeriksa dengan cermat hasil observasi mereka 7. Setiap kelompok mendiskusikan hasil percobaan sederhana 8. Setiap kelompok menyimpulkan hasil percobaan 9. kelompok siswa menampilkan hasil laporan	200 Menit
Penutup	1. Siswa bersama guru menyimpulkan hasil pembelajaran 2. Siswa mengerjakan soal evaluasi 3. Siswa berdoa bersama guru untuk menutup pembelajaran	30 Menit

Figure 2. Learning activity design in learning implementation plan

The learning materials developed in this supplement book are Natural Sciences (Style Relationship with Motion), Indonesian Language (Fiction Text), and SBdP (Regional Creative Dance and Three-Dimensional Objects) sub-theme 3 Proud of the area where I live. Learning material is contained in the supplement book through fiction and observing activities and simple practical activities. In addition, activities that help students practice conclusions through mind maps are also included. At the final stage, the learning process includes activities that invite students to convey their observations through presentations. The design of the teaching materials developed in the science supplement book activity is made by dividing each sequential activity from reading, observing, finding out, concluding, and displaying what is shown in the Figure 3.

<p><b>Genre:</b>                      Fani berasal dari Banjarmasin. Fani bercerita tentang daerah asalnya. Ia sangat bangga dengan daerah asalnya tersebut, karena memiliki berbagai macam keunikan. Inilah beberapa keunikan yang ada di Banjarmasin</p>	
Fungsi bahasa:	Fiksi terapan
<p><b>Ayo Membaca</b></p> <p style="text-align: center;">Keunikan Daerahku</p> <p>Minggu pagi yang cerah. Setiap minggu pagi Fani, Kiki dan Dilah selalu bersepeda menuju pasar terapung. Pasar terapung tersebut berada di seberang Masjid Raya Sabali Muhtadin. Pasar tersebut menjual berbagai makanan dan buah-buahan. Selain sebagai pasar tempat tersebut juga menjadi tempat olahraga masyarakat di sana.</p> <p>Ketiga sahabat tersebut mengayuh sepedanya menuju pasar terapung. Semula mereka beriga mengayuh sepeda dengan pelan. Karena tidak sabar untuk cepat sampai ke pasar tersebut Kiki menambah kecepatannya. Sambil mengayuh Kiki berteriak kepada temannya. "Ayo kita balapan menuju pasar terapung, kita lihat siapa yang menang" teriak Kiki. "Ayo siapa takut" sahut Dilah sambil mengayuh sepedanya sekuat tenaga.</p> <p>Sesampainya di pasar terapung mereka menepikan sepedanya untuk istirahat dan memutuskan membeli air minum. "ahh segar sekali minum setelah olahraga" ucap Fani. "Ya, apalagi ditemani dengan suasana yang ramai dan pemandangan yang indah" sahut Kiki. "Ayo, kita berkeliling pasar sebentar sebelum pulang" kata Dilah. "Ayo" sahut Kiki dan Fani.</p> <p>Kiki pun menyesal dan meminta maaf kepada teman temannya. Kiki kemudian mengambil sampah tersebut dan membuangnya ke tempat sampah. Mereka pun mengayuh sepedanya pulang ke rumah masing-masing.</p> <p>Berdasarkan cerita di atas, Jawablah pertanyaan berikut!</p>	
<p>1. Bercerita tentang apakah cerita tersebut?</p>	

Figure 3. Design of teaching material prototype design

The books developed in this research are in the form of natural science supplement books based on local wisdom with the help of Microsoft Word 2010, Photoshop CS6, and Corel DRAW 2018 applications. This book is a complement to the existing book, namely on activities that prioritize local wisdom in elementary school learning, especially in grade IV. This supplement book is divided into 3 parts, namely (1) the initial section contains the front cover, identity, introduction, core competencies, explanation of book contents, character introduction, and table of contents, (2) the core section consists of the opening page of the theme, basic competencies, learning objectives and 5 activities in learning (let's read, let's observe, let's find out, let's conclude and let's present), while (3) the final part consists of a glossary and bibliography. As for the development of the initial prototype design as shown in the Figure 4.

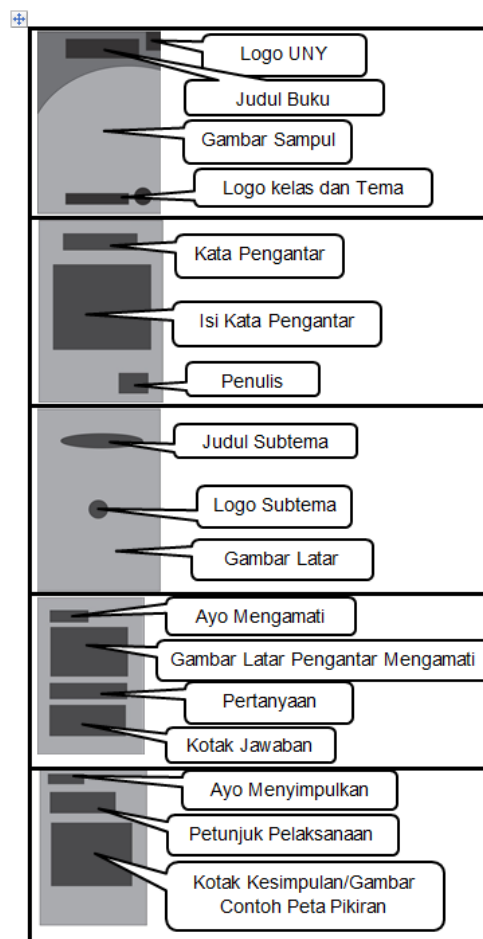


Figure 4. Prototype design

Develop preliminary form of product stage

The initial product development or initial prototype in the supplement book is based on the material and prototype design developed in the previous stage. The initial prototype was made using Microsoft Office 2010. However, the making of supplementary book parts such as covers, images, and other complementary materials was carried out with the help of Adobe Photoshop C6 and CorelDraw 2018. The results can be seen in Figure 5.





Figure 5. Natural science supplement book cover

In the supplement book, there are various activities such as reading stories. Stories are made by incorporating local wisdom and a mandate to invite students to care about the environment.



Figure 6. Supplement book content

Supplementary books use marker pictures at the beginning of the sub-themes to make it easier for students to distinguish each sub-theme. In the supplement book, there are examples of simple experimental activities that students can do to try to prove to themselves that they have learned. The feasibility of a prototype of the science supplement book has been made and then validated by material experts, media experts, and linguists. The assessment was carried out using a product validation scale sheet. Input and suggestions from the validators are used as a reference in the revision of the science supplement book prototype. The results of the feasibility assessment of the material expert can be seen in Table 1.

Table 1. Assesment of material expsert

No.	Aspects	Percentage
1	Conformity description	100%
2	Material conformity	84%
3	Learning support materials	94%
4	Presentation technique	80%
5	Presentation of learning	80%
6	Completeness of serving	80%
Average		86,33%

Based on Table 1, the results of the material feasibility assessment on the suitability aspect of the description get 100%, the suitability of the material get 84%, the supporting material for learning gets 94%, the presentation technique gets 80%, the presentation of learning gets 80%, and the completeness of the presentation gets 80%. The average results obtained from all aspects are 86.33% or are in the very feasible category. While the assessment from the media aspect can be seen in Table 2 below.

**Tabel 2.** Assessment of media expert

No.	Aspects	Percentage
1	Book physical size	86%
2	Book design	90%
3	Legibility	100%
4	Book cover illustration	90%
5	Easy to use books	93%
6	Layout consistency	93%
7	Typography	95%
8	Book illustrations	86%
Average		91,63%

Based on Table 2, the results of the media's feasibility on the aspects of the physical size of the book get 86%, book design 90%, readability 100%, book cover illustrations 90%, easy-to-use books 93%, layout consistency 93%, typography 95%, and book illustrations 86%. The average results for all aspects get 91.63% with a very decent category. Finally, the assessment of the language aspects can be seen in Table 3.

**Tabel 3.** Assessment of linguist expert

No.	Aspects	Percentage	
		Expert I	Expert II
1	Language conformity	50%	70%
2	Use of language	62%	80%
3	Appropriate use of language rules	57%	80%
Average		56,33%	76,67%

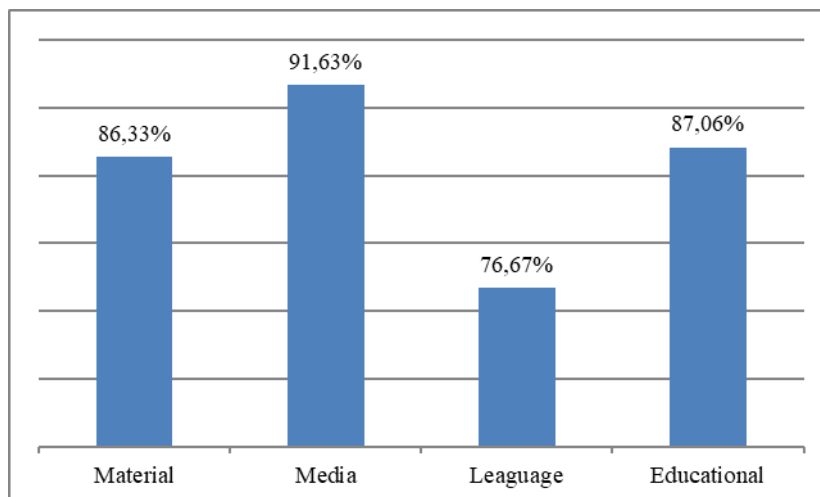
Based on table 3, the results of language eligibility were carried out 2 times, in the first assessment the language suitability aspect got 50%, language use was 62%, and the suitability of using language rules was 57%. The overall average result is 56.33 in the fairly decent category, with these results, an improvement is made and a second assessment is made of language feasibility. The results of the second assessment get an increase in all aspects, in the aspect of language suitability it gets 70%, language usage gets 80%, and the suitability of using language rules gets 80%. These results get an average of 76.67% with the feasible category. Besides, to obtain a valid and reliable natural science supplement book based on local wisdom, an assessment was carried out involving three education practitioners. The results of the practitioner's assessment can be seen in Table 4 below.

**Table 4.** The results of the education practitioner's assessment

No.	Aspects	Education Practitioner			Percentage
		I	II	III	
1	Theory	80%	86%	100%	88,6%
2	Appearance	73%	80%	100%	84,3%
3	Learning	75%	90	100%	88,3%
Average					87,06%

Based on Table 4, the results of the assessment given by three education practitioners are combined and averaged to produce an overall value of the three aspects of 87.06% with the very feasible category. Overall, based on the results of the assessment conducted by education experts and practitioners, it can be concluded that the natural science supplement book based on local wisdom is feasible to be used in trials in grade IV of elementary schools. The comparison of these results can be seen in Figure 7 below.





**Figure 7.** Natural science supplements book feasibility results

Based on Figure 7, the average results of the assessments from the experts get decent to very decent results. The results obtained from material experts, media experts, and education practitioners were each above 80% ( $P > 80\%$ ) so that they were included in the very feasible category. While the results of linguists are only 76.67% and are in the proper category ( $60\% < P < 80\%$ ).

#### Implementation stage

The supplement book that has been declared feasible by the validators and the practitioner is then used for trials to determine student responses. The response questionnaire was used to determine the quality of the product based on the assessments of 58 fourth-grade elementary school students. Elementary school students are divided into small-scale and large-scale trials. Small-scale trials were carried out by involving fourth-grade students at SD Negeri Pengaron 2 and large-scale trials involving fourth-grade students in two different schools, namely SD Negeri Benteng Seberang and SD Negeri Pengaron 3. Based on this trial, data were obtained about deficiencies from supplement books. That was developed. Inputs and suggestions given by students are used as material for consideration for revisions. The results of these trials can be seen in Table 5 and Table 6.

**Table 5.** Small scale trial results

No.	Indicator	Small class
1	Theory	96%
2	Appearance	93%
3	Learning	94%
Total score		94,33%

**Tabel 6.** Large scale trial results

No.	Indicator	Big class
1	Theory	98,25%
2	Appearance	95,5%
3	Learning	97,5%
Total score		97,08%

Based on Tables 5 and Table 7, the results obtained in small-scale trials get a student response to the local wisdom-based science supplement book by 94.33%. And in large-scale trials, the result is 97.08%. Both trials were in a very good category. Based on these results, it can be concluded that the natural science supplement book based on local wisdom is feasible and can be used in learning as an additional supplementary book for learning theme 8, sub-theme 2, and sub-theme 3 in grade IV elementary schools. The enthusiasm of the students was high when learning to use, the local wisdom of their area.

### Product revision stage

Product revisions are based on the results of assessments provided by material experts, media experts, linguists, practitioners, and student response questionnaires. Inputs and suggestions were given as users of local wisdom-based science supplement books. Revisions were made to some inaccurate parts, such as adding pictures of examples of activities, reminders to be careful with activities that could cause injury, correct spelling and writing that are not following the General Guidelines for Spelling in Indonesian Language (PUEBI), use of words that use regional languages, and color adjustments to the book to make it more attractive to students.

Based on the results of research and development, the natural science supplement book based on local wisdom developed for thematic-integrated learning is declared feasible to be applied in the learning process. The supplement book was made to help the teaching and learning process to achieve the desired learning goals (Keban et al., 2012). Therefore, the natural science supplement book based on local wisdom that was developed contains materials, activities, and illustrations containing science learning content and is supported by Indonesian language learning content and SBdP.

The material presented is related to local wisdom by prioritizing science learning content. Juniati & Widiana (2017) stated that with the scientific learning process, students more easily understand abstract concepts through objects and concrete experiences. And linking some learning content makes learning more meaningful for students (Wulandari & Rofiah, 2020). Therefore, to maximize this, science supplement books are facilitated with activities that invite students to actively build their knowledge through activities such as let's read, let's observe, let's find out, let's conclude, and let's present. This activity is carried out to familiarize students with high-level thinking because students who are accustomed to solving problems by thinking at a higher level will be better prepared to deal with problems that exist in their daily lives (Hastuti et al., 2021). In addition, the involvement of students independently to learn to prove theories can help develop students' knowledge (Wartono et al., 2018). Because in Dale's learning pyramid, 70% of student learning experiences are formed from student involvement in learning (Arsyad, 2017). So, to support the materials and activities, it is important to include some illustrations. Because images which are visual media are very influential in the learning process (Shabiralyani et al., 2015; Senen et al., 2021). Especially for fourth graders, who are more interested in interesting pictures.

In addition, the basis of local wisdom in science supplement books helps students more easily understand learning (Ramdiah et al., 2020). Sumayana (2017) states that learning packages with local wisdom will make students more interested. Therefore, learning based on local wisdom can train students to be able to face real situations faced in everyday life (Albantani & Madkur, 2018). In addition, the use of local wisdom can shape students' attitudes to care about their environment, this is because character strengthening is easier to apply with local wisdom (Eko et al., 2020; Suhartini et al., 2019). However, so that the cultivation of this character can be maximized, it is necessary to make habituation and examples from teachers and the community (Hidayati et al., 2020; Ichsan et al., 2020).

### Conclusion

Based on the results of the study, it can be concluded that the science supplement book based on local wisdom is declared feasible to be used in classroom learning in terms of material, media, and language. Science supplement book activities based on local wisdom consist of: (1) title page; (2) foreword; (3) core competencies; (4) explanation of the contents of the book; (5) table of contents; (6) basic competencies, indicators, and learning objectives; (7) learning activities (let's read, let's observe, let's find out, let's conclude and let's show); (8) Glossary; (9) bibliography. Each activity contains the local wisdom of South Kalimantan and an invitation to care for the environment so that students become more concerned about their environment.

The activities in the supplement book are designed so that students become trained to actively build their own knowledge, starting from the let's read activity, which is used to provoke students' curiosity, then invites students to build their knowledge from the let's observe and let's find out activity, and finally train students to conclude. To make it more interesting and easier for students to load pictures and exercises for students. The use of local wisdom can help students develop their thinking skills. Nisa, Hermanto, Ginanjar & Putri (2019) explained that the use of local wisdom is beneficial for increasing students' knowledge and understanding. This is in line with the research of Noorhapizah et al. (2020)

that thematic books using local wisdom can help students develop their critical and creative thinking skills because they use materials that are close to the student's environment.

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