Development of Balitar Booklet Teaching Materials for Numeracy Learning in Grade IV Mathematics Material Elementary Schools

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Abstract: This study aims to determine the feasibility and readability of the Balitar booklet teaching materials (Read, Write, Count Geometric Shapes) for numeracy learning in grade IV mathematics material elementary schools. The research employed the 4D development model (define, design, develop, disseminate) by S. Thiagarajan, et al. (1974), but was limited to the develop stage. The collected data were analyzed quantitatively using expert validation results and qualitatively in the form of suggestions and input from lecturers and validators. The results of expert validation by material experts were 78.3%, media experts 81.4%, and language experts 84.1%. The average assessment was 81.2%, very feasible criteria. The readability test of grade IV teachers obtained a score of 89.6%, a very feasible category. The readability test of grade IV elementary school students obtained a score of 83.8%, a very feasible category. Based on the research results, it was concluded that the feasibility test of the Balitar booklet teaching materials which had been validated by experts gave the assessment that they were very suitable for use as mathematics teaching materials for numeracy learning in class IV elementary school.

INTRODUCTION

The literacy and numeracy levels of elementary school students in Indonesia still face significant challenges. Based on the 2023 National Assessment, approximately 39% of elementary school students have not achieved minimum competency in literacy and 54% in numeracy. This indicates the need for learning innovation to improve these basic skills. The government and educational institutions such as the Tanoto Foundation have also launched literacy and numeracy improvement programs aimed at improving the quality of teaching in elementary schools. The ongoing learning process and the availability of various learning tools offered by schools determine the achievement of educational goals. In mathematics learning, the study of shape, size, relative position, and spatial qualities is the focus of the mathematical field of geometry. In everyday life, geometry is essential for everything from navigation to architecture and design.

This reinforces the importance of a visual media-based approach in understanding abstract geometry. Fauzan (2020) asserts that geometry offers a foundation for understanding unique ideas that are central to science and mathematics. This statement is reinforced by Putri (2020), who states that the goal of teaching geometry in elementary schools is to help students become more capable of critical thinking, visualizing objects, and solving problems of shape and space. However, due to its abstract nature, geometric concepts are often difficult for students to grasp in practice. Therefore, creative learning strategies such as the use of technology, visual media, and contextual methods are needed to help students understand geometric concepts. A growing body of research on educational geometry also shows how the use of technology in teaching can improve students' understanding of spatial ideas (Hidayat, 2020). This exemplifies the importance of using appropriate learning strategies when learning geometry.

Three-dimensional shapes such as cubes, cuboids, cylinders, cones, pyramids, and spheres are studied in a branch of geometry called spatial geometry. Each shape has elements such as sides, edges, and vertices that characterize it. This material is taught in the fourth grade of elementary school so that students can understand important concepts such as volume, surface area, and the relationships between elements in spatial shapes. According to Suharjana et al. (2009), the geometry learning process should begin with an introduction to concrete objects that students often encounter, such as milk cartons (cubes), toothpaste tubes (tubes), or soccer balls (spheres), to facilitate understanding of abstract concepts. According to Hidayat (2020), learning spatial shapes also utilizes various strategies, such as the use of teaching aids, transparent models, and simulations to help students understand the relationships between elements in spatial shapes. This strategy is consistent with the principles of PAKEM (active, creative, effective, and enjoyable learning) which is expected to improve students' understanding of geometry (Putri, 2020).

Based on the results of a preliminary study in three elementary schools in Blitar Regency, namely SDN Nglegok 02, SDN Garum 01, and SDN Sumberdiren 02, problems were found in numeracy learning in geometry material, especially

solid shapes. In this study, a sample of 38 students was used, through the use of observation, interviews, and questionnaires as data collection tools. The results of observations in the three schools showed that mathematics learning still relies on Student Worksheets (LKS) and textbooks, with PPT. This is caused by the presentation of material that is dominated by long texts and the use of visuals that are unclear and less interesting. In addition, the learning strategies implemented by teachers are still conventional, namely writing on the blackboard without using concrete media or teaching aids. The main media used in learning are limited to Student Worksheets (LKS), textbooks, and occasional presentations using PowerPoint (PPT). In addition, group discussions and practice-based learning activities are also rarely carried out, so students have less opportunity to deepen the learning material directly.

Interviews with fourth-grade students revealed that the learning media used included worksheets (LKS), textbooks, and presentations in the form of PowerPoint presentations. The use of worksheets and textbooks tends to disengage students because the material presented is text-heavy and visually unclear and uninteresting. Meanwhile, in learning using PPT, only students sitting in the front row are more actively paying attention to the teacher's explanation, while those in the back row tend to be less focused. This is because learning using PPT is one-way, where the teacher explains the material in a classical manner without optimal interaction, resulting in uneven student understanding of the material.

In addition, the results of the student questionnaire from SDN Nglegok 02 amounted to 13 students, SDN Garum 01 with 17 students, and SDN Sumberdiren 02 with 8 students. So a total of 38 from 3 schools were analyzed preliminary study. A total of 52.6% or 20 students in mathematics learning have numeracy skills that are still below standard. Supported by the results of the AKM student report card scores which stated that in 1 school with a good score and two other schools experienced a decline in numeracy assessment. The AKM report card indicates that students have achieved minimum competency for numeracy. Encouraging students to achieve this is necessary. The achievement scores have

decreased from last year, resulting in a lower national ranking. Competency in the geometry domain has also decreased, resulting in a lower national ranking. This impacts students' low comprehension skills in reading, writing, and solving simple problems involving the use of formulas. The questionnaire results showed that of the 38 students from 3 schools analyzed in the preliminary study, 47.3%, or 18 students, stated that they experienced difficulties, especially in understanding the concept of geometric shapes. This condition indicates the need to develop teaching materials and learning media that are more engaging, contextual, and able to effectively support students' numeracy learning. Difficulties encountered include solving numeracy story problems and applying mathematical formulas. One contributing factor is the limited learning media used, specifically worksheets and textbooks, specifically in mathematics learning. The use of these teaching materials causes students to quickly become bored, thus impacting students' low numeracy skills and their understanding of the material being studied.

Based on the problems that researchers found in the field, researchers took the initiative to provide a solution, namely by developing a booklet. One way to package mathematical material to become teaching material is to design it in an interesting and appropriate way for use in learning activities, and is able to support students' understanding of numeracy in mathematics subjects with geometric geometric material, namely the Balitar booklet teaching material. according to Sinarti et, al (2018) A booklet is a book publication that is smaller than a textbook and is printed on A5 paper. The combination of the terms book and leaflet forms the word booklet. put forward Ningrum (2017) A5 size (15 cm x 21 cm) is half of A4 paper, has at least 5 (five) pages but no more than 48 (forty-eight) pages (excluding the cover). This booklet was developed as an alternative solution to students' low numeracy skills. Based on findings in the field, the Balitar booklet teaching material is one way to package mathematical content into interesting teaching material. This teaching material is used to support students' numeracy learning during mathematics learning. It is hoped that this learning resource will improve students' numeracy skills because it is practical and adaptable, making it easy to use and carry around both at home and at school. It is

presented in an integrated manner to ensure students learn everything, and contains practice questions that are easy to understand and apply because they are based on real-world situations relevant to students' lives.

Based on previous research conducted by Purwaningrum, Kusmanto, Ahyani & Purwoko (2023), it shows that development of teaching materials in the form of valid and practical illustrated mathematics books in an effort to improve literacy and numeracy of dyscalculic students, the book contains 3D comics and is suitable as an independent learning resource and supports the independent curriculum strengthening program. However, there has not been much research that develops teaching materials specifically for numeracy learning for grade IV elementary school in general. Based on this, this research is intended to reach a wider range of students. In addition, research conducted by Dwirahma, Kusmaharti & Yustitia (2023) stated focuses on literacy and numeracy-based mathematics teaching materials on scale and comparison material for grade V elementary school, colored books, in the form of A4-sized packages. Assessment of teaching materials The validation results provided by material experts, media experts, and language experts concluded that this product is very suitable for use, with percentages of 95.8%, 80%, and 90%, respectively. Based on the assessment results, it shows that the teaching materials are suitable for application in mathematics learning. However, there has not been any research that combines the concepts of writing, counting, and reading in one teaching material. The development of Balitar booklet teaching materials offers a more economical alternative without reducing the effectiveness of learning. This research contributes to developing effective, practical, and relevant Balitar booklet teaching materials that support each other in the learning process so that they can support numeracy learning for fourth grade elementary school students.

Based on responses from educators at three observed schools, they agreed to develop Balitar booklet teaching materials as a learning medium for fourth-grade elementary school. Based on interviews, teachers stated they had never used booklets as a teaching aid, especially in mathematics. The need for Balitar booklet teaching materials as teaching materials for fourth-grade

elementary school students prompted researchers to conduct a study entitled **Development of Balitar Booklet Teaching Materials (Read Write Counting Geometric Shapes) in Mathematics Material for Numeracy Learning for Grade IV Elementary Schoo Balitar booklet teaching materials (Read, Write, Count Geometric Shapes) for numeracy learning in grade IV mathematics material elementary schools**.

RESEARCH METHODS

This research employs a qualitative approach complemented by a quantitative approach. The qualitative approach in this study includes input and suggestions from both the supervising lecturer and the validators, which include material experts, media experts, and language experts. Meanwhile, the quantitative approach was used to analyze the results of the quantitative assessment in this study, measured by the expert assessment scores and the readability questionnaire.

The type of research used is R&D (Research and Development). This design is to produce a specific product and test its validity and readability (Sugiyono, 2016). The development model used in this study refers to the 4D development model, which is one of the development models developed by S. Thiagarajan, et al. (1974). This development model consists of four stages: define, design, develop, and disseminate. However, in this study, the researcher only adopted Thiagarajan's 4D model up to the development stage. The dissemination stage was not implemented due to time and cost constraints. To find out the steps in the 4D model research, see Table 1.

Table 1. 4D Model Steps

DEFINE	***DESIGN***	***DEVELOP***
1. Front-end anlysis 2. Concept analysis of CP, ATP, and TP 3. Formulation of learning objectives 4. Task analysis 5. Developing the concept of booklet teaching materials	1. Preparation of booklet teaching materials 2. Selection of a format appropriate to the learning material 3. Initial planning (product creation process)	1. Pra-validation (supervisor) 2. Expert validation (revisions I and II) 3. Readability trial (teachers and students)

Data analysis techniques using qualitative and quantitative data analysis. This qualitative data analysis technique is used to describe the results of product development in the form of input and suggestions from both the supervisor and validators, which include material experts, media experts, and language experts. Quantitative data analysis techniques are used to obtain data in the form of numbers and percentages regarding the products that have been developed, to obtain general conclusions measured from the assessment scores by experts, and the readability level questionnaire. The feasibility of the teaching material product will be obtained in the form of a percentage using a 5-point Likert scale. To calculate the total score of the results of the assessment of the product development by the validator, the following formula is used:

$$P = \frac{\sum x}{\sum x1} \text{ x } 100\%$$

Keterangan :

P	: The percentage you are looking for
$\sum X$	: Total value of respondents' answers
$\sum X1$	: The number of ideal values

From the product development validation results obtained based on the formula above, it is then adjusted to the validity criteria in Table 2.

Table 2. Validation Criteria

Presentase	Kategori
0%-19%	Not really worth it
20%-39%	Not feasible
40%-59%	Quite decent
60%-79%	Feasible
80%-100%	Very feasible

RESULTS AND DISCUSSION

The results of this study are presented systematically based on the 4D stages, a development model developed by S. Thiagarajan et al. (1974). In this study, the researchers adopted Thiagarajan's 4D model up to the development stage. Each stage describes the process of developing Balitar booklet teaching materials, starting from define, design, and develop. The following is a complete description of each stage.

A. Define (Tahap Pendefinisian)

This stage seeks to identify and determine the conditions required for learning. The initial data found are as follows: (a) front-end analysis: reveals several facts in the implementation of numeracy learning, namely the teaching materials used are limited to the use of worksheets and textbooks, tend to contain a lot of unclear text and images, and the use of thick and large textbooks. (b) concept analysis: compiles concepts or materials that will be arranged methodically in booklet teaching materials. This analysis process is carried out through CP (Learning Outcomes) which contain core competencies that must be achieved by students at the end of the phase, then ATP (Learning Objective Flow) which describes the steps of learning objectives in more detail and sequentially, and TP (Learning Objectives) specific objectives to be achieved in one or several learning activities. (c) goal formulation: formulates learning objectives along with achievement indicators that refer to the mathematics material in accordance with Learning Objective (TP) 4.4.1 that will be delivered. (d) task analysis: Several tasks that will be given to students are compiled through task analysis. This analysis is carried out by providing the necessary learning tasks in accordance with ATP and TP.

Based on the definition results, researchers developed Balitar booklet teaching materials (Reading, Writing, counting geometri shapes). The development of booklet teaching materials will make it easier for students to learn general numeracy material for grade IV elementary school. It aims to reach a wider range of students by combining the concepts of writing, counting, and reading in one teaching material. This research contributes to developing effective, practical, and relevant Balitar booklet teaching materials that support each other in the learning process so that they can be used in numeracy learning for grade IV elementary school students. By using Balitar booklet teaching materials, it is hoped that they can help in numeracy learning for grade IV elementary school students, and can be used as teaching materials that are suitable for use and can be additional insight for educators, students, or the general public, especially for mathematics material.

According of Maulana (2021) literacy booklets or pocket books increase students' reading motivation, especially for students who have difficulty understanding long texts. Nastiti & Dwiyanti (2022) put forward numeracy-based teaching materials can improve students' analytical skills, especially in solving simple problems that require reading and counting skills.

B. *Design* (Tahap Perancangan)

This stage aims to design and produce teaching materials in the form of booklets that will be applied in learning activities. This stage includes: (a) media preparation: adjusting to the learning material to be studied and student characteristics. (b) format preparation: from the format developed is to create educational materials that combine layout design, fonts, illustrations, images, and attractive colors. (c) initial plan: the process of creating a complete booklet teaching material product carried out by the researcher based on the stages that have been carried out previously. This stage obtained the initial product of the Balitar booklet teaching material for numeracy learning in grade IV of elementary school.

The initial product design carried out by the researcher was to create a prototype or initial product of the NICA (Nulis, Itung Baca) booklet teaching material. The creation of the initial product of the booklet teaching material was adjusted to the stages that had been carried out previously. The first step taken by the researcher to create the teaching material was by collecting numeracy mathematics materials, numeracy materials, and searching for references/sources of numeracy mathematics materials. The second step was compiling the media for the booklet teaching material using Canva, as well as selecting a format that was adapted to the learning material. The third step taken by the researcher was identifying the materials needed in compiling the booklet teaching material, which included materials on geometric shapes, including their types such as flat-sided geometric shapes and curved-sided geometric shapes. The materials needed to support the teaching material were obtained from various sources or references. After all the data or materials needed in making the booklet teaching material were

collected, the fourth step was developing the initial product of the booklet teaching material.

The initial product development of the booklet was carried out by designing the cover of the booklet, compiling the booklet containing a foreword, table of contents, concept map according to the learning outcomes, compiling the booklet content along with supporting activities, and a bibliography. In addition, in this initial product development, the researcher determined the layout, font, letter size, images, and supporting illustrations in the development of the booklet teaching materials. The result of the initial product development was in the form of the NICA (Nulis Itung Baca) booklet teaching materials.

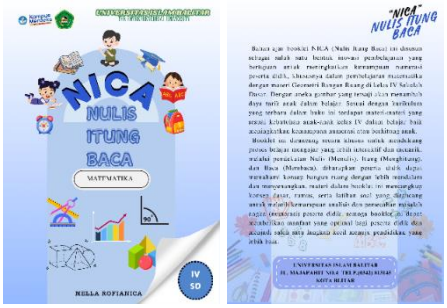

Figure 1. Initial Design of Booklet Teaching Materials

Researchers are advised to adjust the title of the book which was originally "NICA" which means Write, Count, Read to be changed to "Balitar" which means Read, Write, Count Geometric Shapes in accordance with the stages or concepts of learning activities in the booklet teaching materials being developed.

Figure 2. New Design of Booklet Teaching Materials

C. *Develop* (Tahap Pengembangan)

The primary goal of this stage is to design and produce a final product in the form of a booklet of teaching materials that has been refined based on input and suggestions from the validators. The stages implemented in this phase are as follows:

(a)Pre-validation: the researcher provided guidance to the supervising lecturer regarding the booklet teaching material product that had been prepared. The results of the pre-validation were in the form of improvements to all "practice" questions in the booklet teaching material, which were changed into numeracy-based questions according to the material and level of elementary school grade IV. Such as matching questions, using tables, drawing, and solving story problems using surface area and volume formulas.

(b) Revision stage 1: making improvements to the booklet teaching materials based on suggestions and input from the supervising lecturer.

(c)Expert validation: the validation process carried out by validators on the booklet teaching materials that have been compiled by researchers, as a basis for improving and revising the product so that the teaching materials produced are more suitable and effective for use in the learning process.

The validation stage starts from the validation of material experts, this assessment includes aspects of the feasibility of the material/content including material coverage, material accuracy, up-to-dateness and contextuality, presentation techniques, and feasibility of presentation including presentation support, material presentation, and material sequence which obtained a score of stage 1 of 68.3% and in stage 2 the researcher obtained a score of 88.3%. The two stages of the material expert assessment obtained an average of 78.3%, including in the assessment range of 60%-79% and included in the feasible category.

Table 3. Results of Material Expert Validation Stage 1

Statement number	Assessment score			Score
	Validator 1	Validator 2	Validator 3	
1	3	3	4	10
2	3	3	4	10
3	3	3	4	10
4	3	2	5	10
5	3	2	5	10
6	2	2	4	8
7	3	2	4	9
8	4	3	5	12
9	4	3	4	11
10	4	3	5	12
11	3	3	4	10
12	4	3	4	11
Amount				**123**
Criteria score				**180**
Presentase				**68,3%**

Table 4. Results of Material Expert Validation Stage 2

Statement number	Assessment score			Score
	Validator 1	Validator 2	Validator 3	
1	4	4	5	13
2	5	4	5	14
3	5	4	5	14
4	5	4	5	14
5	4	3	4	11
6	4	3	5	12
7	4	4	4	12

8	5	4	5	14
9	5	4	4	13
10	5	5	5	15
11	5	4	4	13
12	5	4	5	14
Amount				159
Criteria score				180
Presentase				88,3%

Validation by media experts assessed presentation aspects including presentation techniques, supporting material, cover design, and product development materials, resulting in a score of 81.4%. This assessment score is in the 80%-100% range and falls into the very feasible category.

Table 5. Result of Media Expert Validation

Statement number	Assessment score			Score
	Validator 1	Validator 2	Validator 3	
1	5	4	4	13
2	4	4	4	12
3	5	5	4	14
4	4	5	4	13
5	5	5	4	14
6	4	5	3	12
7	4	4	4	12
8	4	4	4	12
9	4	3	4	11
10	4	3	4	11
11	5	4	4	13
12	5	4	4	13
13	4	3	4	11
14	4	4	4	12

15	4	4	4	12
16	5	3	4	12
17	4	4	4	12
18	4	4	3	11
Amount				220
Criteria score				270
Presentase				81,4%

idation by language experts assesses aspects of language suitability which include clarity, communication, motivational ability, and conformity to Indonesian language rules, obtaining an assessment score of 73.3%. The score obtained is in the range of 60%-79% and is included in the feasible category.

Table 6. Results of Language Validation

Statement number	Assessment score			Score
	Validator 1	Validator 2	Validator 3	
1	5	4	4	13
2	4	5	4	13
3	4	5	4	13
4	4	5	3	12
5	5	4	4	13
6	5	4	4	13
7	4	4	4	12
8	4	4	4	12
Amount				101
Criteria score				120
Presentase				84,1%

The results of the feasibility test of the Balitar booklet teaching materials obtained the percentage of assessment results for the Balitar booklet teaching materials by experts, including material experts, media experts, and language experts. The scores obtained by each, namely from material experts, media experts, and language experts were 78.3%, 81.4%, and 84.1%, respectively. The average percentage obtained by experts was 81.2%, included in the range of 80%-100% which means that

the Balitar booklet teaching materials were declared very feasible for use in learning.

Table 7. Summary of Expert Assessment

Validator	Presentase	Criteria
Material expert	78,3%	feasible
Media expert	81,4%	very feasible
Language expert	84,1%	very feasible
Average	81,2%	very feasible

(d) Stage 2 revision: carried out to make improvements to the booklet teaching materials based on suggestions and input from the validators.

(e)Readability test: conducted on teachers and grade IV students who have received the material or used the Balitar booklet material, with the aim of obtaining representative results.

The teacher readability test aims to assess the extent to which the booklet teaching materials developed by the researcher can be understood well from the educator's perspective. The readability test was conducted on three teachers who teach at the same level, namely grade IV teachers.

Table 8. Teacher Readability Test

Statement to-	Evaluasi			Score
	Teachers 1	Teachers 2	Teachers 3	
1	4	3	5	12
2	5	5	5	15
3	5	4	5	14
4	5	5	5	15
5	4	4	5	13
6	4	4	5	13
7	4	4	4	12
8	4	4	5	13
9	4	5	5	14
Amount	39	38	44	121
Criteria score				135

Presentase	89,6%

Based on the results of a teacher readability assessment of the Balitar booklet teaching materials conducted by three teachers at the same level, namely fourth-grade teachers, the score was 89.6%. This score falls within the 80%-100% assessment range and falls into the very feasible category.

This student readability test was administered to students to collect data on the Balitar booklet teaching materials developed by the researcher. The readability test was administered to fourth-grade elementary school students.

Table 9. Students Readability Test

Respondents	Question item									Score
	1	2	3	4	5	6	7	8	9	
Students 1	5	1	5	5	5	4	4	5	4	38
Students 2	4	2	5	5	5	4	4	5	5	39
Students 3	5	3	5	5	5	4	3	5	5	40
Students 4	5	3	5	5	5	4	4	5	5	41
Students 5	4	4	4	4	4	4	3	3	4	34
Students 6	4	3	5	4	4	4	5	4	4	37
Students 7	4	3	5	4	4	4	3	4	4	35
Students 8	5	1	5	5	4	4	5	5	5	39
Students 9	4	3	4	3	5	5	5	4	5	38
Students 10	4	2	4	5	5	5	3	4	4	36
Students 11	5	2	5	5	5	5	5	5	5	42
Students 12	5	5	4	3	3	4	3	5	4	36
Students 13	4	3	4	3	4	4	3	4	4	33
Students 14	4	2	5	5	4	4	5	5	4	38
Students 15	4	2	4	5	5	5	4	3	4	36
Students 16	3	3	4	4	4	5	5	4	5	37
Students 17	4	3	5	3	4	4	5	5	3	36
Students 18	5	3	5	5	5	5	5	5	5	43
Students 19	5	2	4	5	5	4	5	5	4	39
Amount	83	50	87	83	85	82	79	85	83	717
Criteria score										855
Presentase										83,8%

Based on the results of a student readability assessment of the Balitar booklet, conducted by 19 fourth-grade students, a score of 83.8 was obtained. This score falls within the 80%-100% assessment range and is categorized as very feasible teaching material..

The researcher conducted a product evaluation based on the feedback and assessments during the product trial. The Balitar booklet teaching materials that the researcher developed have advantages and disadvantages. These advantages include the display presented in the Balitar booklet teaching materials, which includes "reading," which is an initial apperception activity reading with a comic concept and reading adapted to the material to be studied. Next, "learning," where the researcher presents the material with a variety of colors according to the characteristics of elementary school children. The display includes several types of writing, images, and NICA characters to attract students' attention. And "practicing," the researcher presents a variety of questions according to the material that has been presented, questions are presented with the characteristics of numeracy questions or AKM. In addition, the Balitar booklet teaching materials can be used by both teachers and students so that learning can be used in both classical and individual ways. The Balitar booklet teaching materials also pay attention to student characteristics, namely by developing colorful booklet teaching materials, with A5 size that are effective, practical, and relevant that support each other in the learning process so that they can support numeracy learning for fourth grade elementary school students.

The weakness of the Balitar booklet teaching material is that it is limited to spatial geometry material so it can only be used in learning grade IV mathematics material.

DISCUSSION

The Balitar booklet teaching material received an assessment in the appropriate category from the material validator because the material in the

Balitar booklet was in accordance with the learning outcomes (CP) and characteristics of fourth grade elementary school students. This is in line with one of the objectives of compiling teaching materials according to Aini (2020) that in compiling a booklet as teaching material, one of which is the Title is derived from the Learning Outcomes (CP) or Learning Objectives (TP) of simple elements based on their respective sizes by considering the material.

In terms of media validation, the validator assessed the Balitar booklet as very suitable because it fulfilled the purpose of creating teaching materials, where the teaching materials help students and prevent boredom during classroom learning. Kosasih (2021) stated that the designed teaching materials are instructional resources created to support teaching and learning activities and meet learning objectives. Examples include story books, reference books, and material books. The type of teaching materials developed by the researcher is printed teaching materials measuring A5 (half A4). According to Prastowo (2019), based on the form of presentation of teaching materials, printed teaching materials are teaching materials printed on paper media and function as learning resources and means of conveying information. The function of teaching materials in learning is utilized to convey information. Based on its function in the process of conveying information, non-projection teaching materials are a type of teaching materials that can be used without the aid of projection devices. Usually consisting of a combination of media such as text, images, graphics, photos, or models that are static and can be used directly by students. The results of the research conducted by the researcher are developing printed teaching materials in the form of Balitar booklets presented with material accompanied by images and student worksheets. Based on its nature, printed teaching materials include books, booklets, student workbooks, tutorial materials, study guides, graphic maps, and images of magazine and newspaper content. The development of products in the form of teaching materials can be utilized by both teachers and students, thus enabling its application in classical learning as well as individual learning. This is in line with Pujiatna, et al (2020) that teaching materials have 3 functions, namely

classical learning, individual learning, and group learning. In addition, according to Suyaningsih & Kusman (2018) the function of teaching materials for teachers as a medium to supervise all teacher-led learning activities, which are also the core of the competencies that must be taught to students, functioning as an instrument to assess the achievement of student competencies in the learning process. According to Prastowo (2011) for the purpose and benefits of teaching materials, namely helping students in completing assignments, preventing boredom and disinterest in students, making it easier for students in the learning process, and to increase interest in learning activities in the classroom.

This teaching material is developed on mathematics material for numeracy learning in grade IV of elementary school. Numeracy is the skill of considering the application of ideas, methods, data, and instruments using mathematics to solve problems in various real-world situations. In a document published by the Ministry of Education and Culture (2020), the numeracy component is formulated by referring to the basic abilities needed by students to understand and apply mathematical concepts in everyday life. (1) Understanding mathematical concepts, students must understand basic mathematical concepts such as numbers, geometry, measurement, and algebra. This understanding includes how numbers function in everyday life, as well as the concepts of space and shape that are relevant to the learning environment. The printed teaching material, a Balitar booklet that supports mathematical concepts, is presented with a variety of interesting illustrations (examples of pictures, nets, and others) related to the geometry of geometric shapes. Such as the shape of objects that are easily found around us that are the same as geometric shapes. This can support students' understanding of the mathematical concept of geometric shapes. (2) Using relevant mathematical facts and procedures, such as performing arithmetic operations, measurements, or calculations needed to solve problems. The Balitar booklet teaching materials not only present material informatively, but also encourage students to read in “reading” activities that are linked to everyday life for the purpose of

apperception. In addition, reading story problems and writing and calculating in "practice" activities, namely working on contextual story problems that require procedural and applicative understanding according to logical steps. (3) Mathematical problem solving, students are expected to be able to apply mathematical thinking in various real-life situations. This includes recognizing patterns, relationships and mathematical structures in everyday problems and determining logical and effective solutions. The Balitar booklet teaching materials are presented with various kinds of questions in "practice" activities such as grouping objects according to the names of geometric shapes, writing characteristics, drawing, and making geometric shapes, nets, and geometric nets. This can encourage students to apply the concept of geometric shapes to solve contextual problems, training students to develop logical, coherent, and effective solutions in developing mathematical problem-solving skills. (4) Interpreting and communicating mathematical information, this skill is to understand and interpret information in the form of tables, graphs, diagrams, and other data visualizations. Students must be able to explain or communicate the results of this interpretation using appropriate mathematical language. The Balitar booklet teaching materials provide mathematical information and visualizations that help students understand concepts concretely, training students to interpret and explain mathematical information, both from images and written information. In addition, it encourages students to use appropriate and communicative mathematical language through reading, writing and arithmetic activities. (5) Decision making based on numerical information, the ability to use this information in decision making, students are expected to be able to evaluate and analyze numerical data to make the right decisions in various situations. In the Balitar booklet teaching materials there are story problems related to everyday life. In real problem-based activities, encourage students to evaluate and compare numerical information. Thus, not only does it instill the concept of geometric shapes, it can also train students to develop numeracy skills, as well as communicate the reasons behind these decisions in writing with appropriate mathematical language in everyday life. (6) Applying

numeracy in the context of everyday life, numeracy is contextual and focuses on the application of mathematics in real life. The Balitar Booklet presents contextual mathematical material and story problems related to everyday life, such as calculating the volume and area of geometric shapes. Encourages students to apply numeracy skills in solving real problems, to think logically and make decisions. The Balitar Booklet is very relevant for students' numeracy learning, especially in understanding and practicing contextually and meaningfully, such as observing objects in the environment that correspond to geometric shapes.

The language validation obtained a very adequate assessment from the validator due to the importance of the booklet using language that is appropriate to the level of understanding of elementary school students, communicative, and does not cause confusion. This is in accordance with Tarigan's (2008) opinion that a complex activity involving written symbols and interpreting their meaning is the activity of reading. An important activity in choosing straightforward and easy-to-understand language in teaching materials for children.

Thus, the results of this validation show that the Balitar booklet teaching materials have a high level of suitability and can be applied to geometry mathematics material for numeracy learning in grade IV elementary schools.

The readability of the Balitar booklet teaching material development was conducted on 3 teachers who teach at the same level, namely fourth-grade teachers at different schools and fourth-grade students who had previously taken material using the Balitar booklet teaching material. The teacher readability test obtained a score in the very appropriate category. The teacher readability instrument consisted of 9 statements that must be filled out by the teacher. Based on the completed questionnaire, it was found that the highest score was found in statement 4, namely that the images presented clearly can help understand the material or are in accordance with the material so as not to interfere with understanding. This finding is in line with Aqid's (2019) theory

regarding various things that need to be considered in making a booklet, one of which is that adding illustrations or images will add aesthetic benefits, in addition to helping in conveying the material. Based on previous research conducted by Purwaningrum, Kusmanto, Ahyani & Purwoko (2023), it shows that development of teaching materials in the form of valid and practical illustrated mathematics books in an effort to improve literacy and numeracy of dyscalculic students, the book contains 3D comics and is suitable as an independent learning resource and supports the independent curriculum strengthening program. However, there has not been much research that develops teaching materials specifically for numeracy learning for grade IV elementary school in general. Based on this, this research is intended to reach a wider range of students. In addition, research conducted by Dwirahma, Kusmaharti & Yustitia (2023) stated focuses on literacy and numeracy-based mathematics teaching materials on scale and comparison material for grade V elementary school, colored books, in the form of A4-sized packages. Assessment of teaching materials The validation results provided by material experts, media experts, and language experts concluded that this product is very suitable for use, with percentages of 95.8%, 80%, and 90%, respectively. Based on the assessment results, it shows that the teaching materials are suitable for application in mathematics learning. However, there has not been any research that combines the concepts of writing, counting, and reading in one teaching material. The development of Balitar booklet teaching materials offers a more economical alternative without reducing the effectiveness of learning. This research contributes to developing effective, practical, and relevant Balitar booklet teaching materials that support each other in the learning process so that they can support numeracy learning for fourth grade elementary school students

The student readability test conducted in 1 class IV with a total of 19 students obtained a score in the very decent category. The student readability instrument consists of 9 statements that must be filled in by students. Based on the completed questionnaire, it is known that the highest score is in the 3rd

statement, namely the text size and font type are easy to read. This means that the booklet teaching material makes it easier for students to read, so that students' understanding of the material is easier. This is in accordance with Tarigan's opinion (2008) that a complex activity involving written symbols and interpreting their meaning is reading activity. An important activity in choosing a language that is straightforward and easy to understand in teaching materials for children. Material related to numeracy learning is a basic skill that is the foundation for developing other skills. This skill plays an important role in numeracy learning, including (1) Improving students' learning abilities: Students who have good literacy and numeracy tend to be more able to understand and analyze information more effectively, which contributes to better learning outcomes. The Balitar booklet teaching material integrates aspects of reading, writing, and arithmetic in one teaching material. This Balitar booklet provides a real contribution to improving students' learning abilities such as critical and analytical thinking skills, independence in learning, and facilitating reading, writing, and counting approaches for numeracy learning. (2) Solving everyday problems: Literacy and numeracy prepare students to have the ability to read and count better prepared to face problems in the real world, such as understanding directions, handling finances, and communicating effectively. Balitar booklet teaching materials integrate aspects of reading, writing, counting in a meaningful context, effective teaching materials to hone critical and practical thinking skills in solving problems independently. So that it can equip students with reading, writing, and counting skills in problems in everyday life. (3) Supporting academic achievement: These skills contribute to academic achievement in various subjects (National Research Council, 2012). In developing Balitar booklet teaching materials with the aim of learning numeracy that uses a reading, writing, counting approach. To support understanding of concepts and logical thinking processes, which are very much needed in various academic contexts.

In addition to the importance of numeracy skills for students, strategies for numeracy learning must also be implemented, including (1) Problem-Based Learning: a learning approach that uses real situations as a background to help students apply the mathematical concepts they learn. This teaching material presents questions and activities related to everyday life, which are expected to develop critical and creative thinking, encourage independent learning, and collaborative and reflective learning. Thus, the Balitar booklet teaching material not only conveys mathematical material, but also trains critical thinking skills in solving everyday life problems. (2) Use of Teaching Aids: Using manipulative tools, such as coins or blocks, to help understand the concept of numbers and operations. The Balitar booklet teaching material is print-based with A5 size (half A4) and presents various illustrations related to geometric shapes that are often found around us. Thus, the Balitar booklet not only contains printed material, but also encourages interactive and concrete learning which is very important for students' numeracy learning in understanding the geometric concepts of geometric shapes. (3) Interactive Exercises: Using educational games or applications that improve students' numeracy skills through fun and interactive exercises. In the Balitar booklet teaching materials, "practice" activities are presented which contain various kinds of practice questions such as grouping objects according to the names of geometric shapes, writing characteristics, drawing, and making geometric shapes, nets, and geometric shapes. With this approach, the Balitar booklet not only delivers material in a one-way manner, but also creates an interesting learning atmosphere and empowers the numeracy skills of fourth grade elementary school students.

This research is in line with research conducted by Sari, A. P., and Hidayah, N (2021) Producing a contextual-based mathematics learning module, designed for mixed arithmetic operations material, using a numeracy approach, presented in the form of a printed module, can improve students' numeracy literacy. The developed learning module received an assessment score from the validators, the following are the assessment results of material

experts with a score of 87.5% in the very feasible category, media experts with a score of 80% categorized as very feasible, and language experts with a score of 91% categorized as very feasible. So the teaching module is very feasible to use. In this study, specifically related to the presentation of visuals and texts related to everyday life in the Balitar booklet teaching materials and students feel happy by learning using teaching materials from several sources that have images so that they can support numeracy learning for fourth grade elementary school students.

CONCLUSIONS AND RECOMMENDATIONS

Based on the results of research and development of booklet teaching materials products. Therefore, it can be said that the final product is a Balitar booklet (Read, Write, Counting Geometric Shapes) booklet teaching material that specifically discusses the mathematics material of geometric solids. The material is for learning in grade IV of Elementary School and has the aim of helping students who have difficulty in learning numeracy of solids. The difficulties encountered include solving numeracy story problems and applying mathematical formulas. The Balitar booklet teaching material that has been developed, the next stage involves a validation process by 9 validators consisting of 3 material experts, 3 media experts, and 3 language experts. Based on the results of the feasibility test of the Balitar booklet teaching material product, validation scores were obtained at 78.3%, 81.4%, and 84.1%. The average percentage of experts was 81.2%, included in the range of 80%-100%, which means that the Balitar booklet teaching material is very feasible category for use in learning.

In addition, a readability test was conducted on three teachers teaching at the same level, namely fourth-grade teachers. A score of 89.6 was obtained. This score is included in the assessment range of 80%-100% and is classified as very feasible. The Balitar booklet teaching material has been tested on 19 fourth-grade students who have completed the material using the Balitar booklet teaching material. The trial was conducted at the UPT SDN Nglegok

02 and obtained a score of 83.8%. This score is included in the assessment range of 80%-100% and is included in the very feasible category.

The advantages and disadvantages of the Balitar booklet teaching materials (Read, Write, Counting Geometric Shapes) are as follows.:

1) Advantages of Balitar booklet teaching materials
   a. The colorful display presented in the Balitar booklet teaching materials is based on the characteristics of elementary school students. There are several displays containing the concepts of reading, learning, and practicing. In the "reading" activity, namely the initial apperception activity of reading with the concept of comics and reading adapted to the material to be studied. Next, "learning" is where the researcher presents the material with a variety of colors according to the characteristics of elementary school children. The display in the teaching materials consists of several, namely writing, images, and NICA characters to attract students' attention. And in "practicing" the researcher presents a variety of questions according to the material that has been presented, the questions are presented with the characteristics of numeracy questions or AKM.
   b. In the Balitar booklet teaching materials, there are NICA figures who accompany the "reading" activity at the beginning before each explanation of the material.
   c. The Balitar booklet teaching materials can be used by both teachers and students, thus enabling their application in both classical and individual learning.
   d. The Balitar booklet teaching materials also pay attention to student characteristics, namely by developing colorful booklet teaching materials, with A5 size which are effective, practical, and relevant, which support each other in the learning process so that they can support numeracy learning for fourth grade elementary school students.
2) Weaknesses of the Balitar booklet teaching materials

a. The Balitar booklet teaching materials are limited to geometric material for spatial figures so they can only be used in learning mathematics material for grade IV elementary school.

Based on the conclusions above, the researcher provides suggestions for the development of Balitar booklet teaching materials, including the following:

1) The development of Balitar booklet teaching materials carried out by researchers is limited to the development stage, so it is recommended that further research can be carried out up to the disseminate stage.
2) For teachers and schools, it is recommended to use the Balitar booklet teaching material as an alternative mathematics teaching material because it is designed according to student characteristics and supports numeracy learning.
3) The development of teaching materials for Balitar booklets ((Read, Write, Counting Geometric Shapes) which discuss the mathematics material of geometric and spatial buildings, requires further research that discusses other mathematics materials, so that the teaching materials for booklets can become an innovation in the world of education.
4) This research and development resulted in a booklet teaching material, which is a printed teaching material. Therefore, the researcher recommends further research to make the booklet teaching material digital and accessible online.
5) Researchers suggest further research to measure improvements in numeracy skills using the Balitar booklet teaching materials.

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