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Planning for Cultivation Numerical Literacy in Mathematics Learning for Minimum Competency Assessment (AKM) in Elementary Schools

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Abstract: Numeracy literacy skills in learning mathematics in elementary schools are still low. This is evident from the AKM value, which is still below average. This low numeracy literacy ability is caused by various things, such as the teacher's lack of ability to make HOTS questions and the lack of habituation for students to work on complex. The main problem that causes students to be still unable to complete learning based on numeracy literacy is the teacher who has not familiarized students with literacy-based questions. Many teachers still cannot compile numeracy literacy questions, especially at the elementary school level. This research is qualitative research with a case study. The results of this research are planning for curricular activities in cultivating numeracy literacy carried out by compiling a Learning Implementation Plan (RPP), compiling numeracy literacy-oriented learning materials, compiling numeration literacy-oriented evaluation questions with the criteria of Higher Order Thinking Skill (HOTS), and designing audio-visual and realistic learning media.

Keywords: Numeracy literacy, Curricular activities, Planning, Cultivation, HOTS.

1. Introduction

The main components of Education consist of curriculum, learning and assessment. The curriculum contains the material to be studied. Learning discusses how to achieve the goal of mastering the material through the applied curriculum. Assessment is used to measure everything that has been learned. The assessment is carried out using various assessment methods to determine the extent of students' understanding of content mastery. Education is important to get attention for the progress of a nation's civilization. The government continues to improve the world of Education in Indonesia. One way that the government does this is to promote independent learning. Freedom of learning requires students to master a deep understanding of concepts that can be applied in various life contexts. The abolition of the national exam and its replacement with the Minimum Competency Assessment (AKM) is a policy carried out by the government related to independent learning. Minimum Competency Assessment is used to measure students reading literacy and numeracy literacy.

The Minimum Competency Assessment (AKM) is an assessment of the basic competencies needed by all students in order to develop their own abilities and play an active role in society in positive value activities (Rachmawati, 2022). The Minimum Competency Assessment does not focus on the final result but on the learning process. The final result of AKM is to map education in the form of inputs, processes and outcomes. This Education Mapping aims to encourage teachers to improve the quality of education in schools in the next academic year. The implementation of the assessment is not only to measure mastery of the material in accordance with the curriculum but to determine the quality of education as a whole and make improvements to the quality of education that is not good. The main focus of AKM is the fulfilment of students reading literacy, numeracy literacy skills and and character education (Machromah et al., 2021). The National Assessment (AN) and the National Examination (UN) have a fundamental difference; namely, they do not evaluate individual achievements but are carried out comprehensively and carried out regularly with the aim of mapping the

education system. AKM is used to measure cognitive learning outcomes, which include reading and numeracy literacy skills. The character survey was used to measure the attitudes, habits, and values of students to match the six Pancasila Student Profiles.

Mastery of mathematics consists of several abilities, one of which is numeracy literacy skills. Students are said to be able to master mathematics if all aspects of mathematics can be understood well. The mathematical ability of students can reflect the competence of students in mathematics subjects. The ability to speak, write, draw and explain mathematical concepts is one of the ways used to share ideas. There are two reasons why mathematical skills are considered very important in the success of learning mathematics. First, mathematics is not only used as a tool for thinking, determining formulas, solving problems and concluding, but mathematics is an essential language that has unlimited value for conveying various ideas correctly. Second, mathematics is the core of human activities, for example, in interaction activities between students and teachers, students and other students, as well as learning materials and students. The two reasons above show that mathematics is considered a science that contains everything that makes sense and is an ability that really requires communication to be able to convey ideas to others. A person needs mathematical skills to be able to communicate mathematics. However, the reality in the field is that there are still many people who do not have mathematical abilities (T. R. Hayati & Kamid, 2019).

Literacy numeracy mathematical plays a role in understanding mathematical problems correctly (Putri Hapsari et al., 2022). Through literacy numeracy mathematical, it is easier for students to get solutions to solving mathematical problems. Teachers must be able to plan literacy culture from the start to the evaluation of results. Teachers should not only focus on the final result without planning the lesson beforehand. In learning mathematics in elementary schools, there are a lot of materials that require an understanding of mathematical literacy. The development of students' mathematical literacy understanding will affect other literacy skills such as interpreting data, presenting data, communicating data processing processes and understanding how statistical conclusions can be reached. Therefore, it is very important to cultivate numeracy literacy in schools.

1.1. Problem Statement

AKM consists of mastery of reading literacy and numeracy literacy. Students are required to be able to understand mathematical concepts through HOTS (Higher order thinking skill) level questions. Numerical literacy is the ability to explain information related to numbers, formulate problems, analyze, and solve problem (Sutama et al., 2020). Numerical literacy skills require critical thinking patterns to answer any existing problems. Numerical literacy ability is an ability that all students must possess, but in reality, many students do not have this ability. Many students can answer math problems but cannot understand unstructured problems.

The low numeracy literacy ability of students can be influenced by several factors. One of the factors that affect the low literacy skills of students is the lack of numeracy literacy exercises. Teachers tend to make closed questions that can be directly solved by using a formula. To overcome this problem, the teacher must plan a numeracy literacy culture program in learning mathematics so that students can face AKM well.

1.2. Related Research

This study refers to (Machromah et al., 2021), that which make a design task based on Minimum Competency Assessment in order to help students literacy. The minimum competency assessment is PISA oriented. Therefore, teachers must be able to construct questions at the PISA level that contain understanding, application, and reasoning. This study also refers to (Rizki & Priatna, 2019), that Which explains the critical role of mathematics. Priatna revealed that everyone must know the role of mathematics to evaluate and use mathematics to become human beings who want to think. Math skills must be honed from an early age. Numerical literacy skills that are given early on help children become skilled in mathematics. However, this skill is also influenced by several factors. According to (Erickson, 2019), gender and parental

occupation affect children's numeracy and literacy skills. The results of Barham's research show that male students have better numeracy literacy skills than female students, and parents' educational level dramatically influences the development of students' numeracy literacy abilities. Numerical literacy skills need to be appropriately honed, according to (Ferdianto et al., 2022), who states that teachers need to learn mathematical thinking patterns so that students are better prepared to face math problems. Therefore, teachers need to observe students' abilities and then plan to cultivate numeracy literacy in learning mathematics.

1.3. Research Objectives

Based on the background and the previous problem formulation, this study aims to describe the planning of numeracy literacy activities in elementary schools to face minimum competency assessment.

2. Theoretical Framework

Literacy skills are not only needed in language learning but also in learning mathematics. Numerical literacy skills are needed because, with this ability, students can solve complex mathematical problems. Students can only solve problems with low-level thinking skills. This will lead to a low minimum competency assessment score. The minimum competency assessment requires students to master language literacy and numeracy skills. Mathematical numeracy literacy skills consist of various indicators, one of which is mathematical communication skills. Mathematical communication skills can reflect students' competence and understanding of mathematical material. Mathematical communication ability is an essential ability where students are required to be able to communicate their ideas or ideas towards solving mathematical problems. Supported by Allen et al., (2020), mathematical communication is a step for sharing ideas and thoughts. In addition, with mathematical communication, students can clarify their understanding. When students communicate something mathematically orally or in writing, students are trained to explain things clearly, confidently, and precisely and can solve math problems well.

2.1. Mathematic

The mathematical ability of students can reflect their competence of students in mathematics. The ability to speak, write, draw and explain mathematical concepts is one way to share ideas. Several reasons say that mathematical communication skills are considered very important in the success of learning mathematics. Mathematics is not only learning that is learned and used as a tool for thinking, determining formulas, solving problems, and concluding, but mathematics is an essential language that has infinite value for conveying various ideas and various problems correctly. Mathematics is the central core in human activities, for example, in interaction activities between students and teachers, students with other students, and learning materials and students. The two reasons above show that mathematics is considered a science that contains everything that makes sense and is an ability that requires communication to be able to convey ideas to others. A person needs mathematical communication skills to be able to communicate mathematics. However, the reality in the field is that many people still do not have mathematical abilities. Mathematical communication plays a role in understanding mathematical problems correctly. Through mathematical communication, it is easier for students to get solutions to solving mathematical problems.

Not all students have good mathematical abilities. Students' mathematical oral communication skills differ by gender. Female students have a higher level of mathematical communication skills (P. Hayati et al., 2020). Many still have difficulty connecting, explaining, and stating their ideas, which will trigger inaccurate thoughts because they cannot be adequately conveyed. Students' mathematical abilities will be achieved if students do not experience problems in understanding and solving mathematical problems. The soft communication skills of students can be seen from the difficulties in communicating with students. Students still find it difficult to express their ideas well to the teacher. Many students

are not able to communicate with their friends well. Therefore, the planting of mathematical concepts must be in line with the mastery of mathematical communication skills.

2.2. Literacy Numeracy

Numerical literacy is defined as a person's ability to use reasoning. Reasoning means analyzing and understanding a statement through activities in manipulating mathematical symbols or language found in everyday life and expressing the statement orally. Numerical literacy is a part of mathematics. Thus, the components of implementing numeracy literacy cannot be separated from the covered material in mathematics. Mathematics is a science that deals with exact knowledge that has been systematically organized, including rules, ideas, logic, and logical structures.

Numerical literacy consists of three aspects, counting, relational numeration, and arithmetic operations (Purpura, 2010). Teaching mathematics from an early age has a positive impact on children's academic achievement, especially in learning mathematics (Guhl, 2019). At the formal numeracy stage, students learn more complicated mathematical operations because the use of arithmetic operations presents mathematical problems that are not only applied in everyday life. Children will learn to operate basic arithmetic such as addition, subtraction, multiplication and division. In order for students to better understand the concept of using arithmetic operations, the teacher integrates basic arithmetic operations into the form of stories.

Numeracy literacy in mathematics is characterized by several main competencies, namely: (1) Students can think critically by asking mathematical questions and understanding the limitations of mathematical concepts. (2) Be able to distinguish between proofs from other mathematical reasoning and be able to create mathematical ideas. (3) Have mathematical communication skills so they can express ideas verbally and visually. (4) Able to translate reality in mathematical form and can perform validation tests. (5) Willing to ask questions and can solve problems in various ways. (6) Represent and be able to understand the relationship between different representations. (7) Able to use mathematical symbols well. (8) Able to use a variety of mathematical tools. (Rizki & Priatna, 2019).

2.3. Literacy Numeracy in Elementary School

Numerical literacy is one of the abilities that students must possess. The main problem that causes students to be still unable to complete learning based on numeracy literacy is the teacher who has not familiarized students with literacy-based questions. Many teachers still cannot compile numeracy literacy questions, especially at the elementary school level. Hence, students become more accustomed to solving these non-routine questions. Teachers tend to make routine questions that are closed and can be directly solved by using a formula.

Deep numeracy literacy in elementary schools can be done by providing a stimulus to students. In addition, teachers also need to provide guidance on learning so that it is not monotonous. The stimulus given must be contextual, interesting and contemporary with the aim of stimulating students' curiosity.

2.4. Minimum Competency Assesment

The Minimum Competency Assessment and character survey will be used as a substitute for implementing the national examination in Indonesia. The National Assessment is a form of evaluation of the education system by the ministry at the elementary and high school levels. The Minimum Competency Assessment is one part of the National Assessment, which measures students' literacy and numeracy abilities. Literacy is the ability to use language, while numeracy is the ability to reason using mathematics. The National Assessment measures several components: a minimum competency assessment, a character survey, and a learning environment survey. The National Assessment aims to map education to create a conducive learning environment and realize effective schools.

The National Assessment has several objectives, among others, too:

1. Measure cognitive learning outcomes.
2. Measure non-cognitive learning outcomes.
3. Measure the quality of the learning environment.

Cognitive learning outcomes will be measured through a minimum competency assessment of literacy and numeracy skills. Non-cognitive learning outcomes include student attitudes and character, which must follow the Pancasila student profile measured through a character survey. The quality of the learning environment in schools is measured through a survey of the learning environment. The implementation of this competency assessment makes teachers have to be more creative in compiling assessment instruments for students.

Students are required to be able to work on national assessment questions in the category of higher-order thinking skills but, many people do not know about HOTS. HOTS questions do more than improve thinking skills through complex questions HOTS requires students to think critically and see how they can solve existing problems. High early math ability is essential for students to develop critical thinking skills based on interpretation indicators (Sutama et al., 2022). In fact, students rarely think critically and have inconsistent beliefs about mathematics and the learning process (Sachdeva & Eggen, 2021). Teachers must plan the right strategy so that evaluations using HOTS questions can be carried out correctly. Teachers must be able to make HOTS questions both in daily tests and semester tests (Arifin & Retnawati, 2017; Widana, 2017).

3. Method

3.1. Research Design

This research is qualitative research with a case study. This research examines numeracy literacy's cultivation for the Minimum Competency Assessment in Elementary school. This research explores information about literacy culture numeracy in Elementary Schools.

3.2. Participant/Respondent

The participants in this study were 10 students in grade 4, consisting of 5 boys and 5 girls. Participants were randomly selected to collect information related to students' numeracy literacy skills during class. In addition, the participants also consisted of 2 teachers in grade 4. The teachers are from 2 different schools. The teacher provides information related to activities carried out while in class to support students' numeracy literacy skills.

3.3. Data Collection

Data collection techniques were carried out through observation, interviews and documentation. Observations were made at the time of learning mathematics. Interviews were conducted with teachers and students in grade 4. The interviews were conducted by asking the teacher about the activities that have been carried out to support mathematical numeracy literacy and asking questions about the student's ability to understand mathematical concepts. Interviews with students were conducted by asking about the teacher's learning methods and the student's understanding of numeracy literacy in mathematics learning. Documentation is in the form of math test scores containing numeracy literacy to measure the extent to which students' basic numeracy literacy skills are in learning mathematics.

3.4. Data Analysis

The data analysis technique used in this study is the data analysis technique of the Miles and Huberman model. According to (Sugiyono, 2014), Miles and Huberman's analysis includes:

1. Data reduction is carried out by summarizing and selecting the primary data to be used in research,
2. Data presentation, namely presenting data that has been obtained through observations during the process of implementing numeracy literacy which is then presented in a brief description,

3. Conclusions or verification, namely making conclusions or findings unrelated to the implementation of numeracy literacy in mathematics learning.

3.5. Validity and Reliability

Validate was done by triangulation. Triangulation is a way to get valid data by using a multiple-method approach. The triangulation used is a triangulation of data sources. Triangulation of data sources is used to examine evidence from various sources and use it as a reference in research. Triangulation of data sources is done by comparing the results of interviews about numeracy literacy activities in schools from the teacher and student aspects. In addition, source triangulation is done by comparing student learning outcomes with observations during learning.

4. Findings

The researcher conducted this research in 2 different schools. The purpose of conducting research in various schools is to make the data obtained more relevant. The study was conducted at schools in the same district but with different levels of accreditation. The first is a school with A accreditation, and the second is with B accreditation. The difference in selecting school accreditation is intended to compare numeracy literacy culture in schools with A and B accreditation.

4.1. Mathematical Literacy Numeracy Skills of Students in Elementary Schools

Numerical literacy is the ability to think critically to solve math problems. There are various indicators of students' mathematical abilities in solving statistical problems in elementary schools, but researchers will use three indicators:

1. Being able to express mathematical ideas and demonstrate them visually.
2. Being able to use mathematical terms in describing mathematical concepts.
3. Able to understand and interpret mathematical concepts.

All students must own numerical literacy skills because this ability can help students to solve complex mathematical problems. The numerical literacy abilities of elementary school students in learning mathematics are very diverse. Based on the indicators above, the data obtained from 10 students is as follows:

As many as three students have low numeracy literacy skills. This low skill can be seen in the students' mathematics test scores. In addition, the results of interviews with students also showed that students needed help understanding the questions given because they used complicated mathematical sentences. Students have not been able to write down the correct answers, so students still need to meet the numeracy literacy indicators.

Furthermore, as many as five students have numeracy literacy skills at a moderate level. This skill can be seen from the student's math scores following the minimum value. The results of the interviews with the five students also showed that the questions given had been given several times by the teacher so that they could understand the questions and were able to write down the answers correctly. Student A said that although many questions had been given, there were still confusing questions because there was quite an extended reading.

While as many as three students have a high level of numeracy literacy, the results of the interviews show that the questions given have often been done. Students in this category also stated that they needed help solving long-reading problems. Students in this category have been able to solve math problems but have yet to be able to answer completely and correctly.

Based on the findings above, it can be seen that the majority of students have low numeracy literacy skills. Most students have yet to be able to solve problems with long readings. This is a sign that students still need to improve their numeracy skills.

4.2. Factors That Infuence Numeracy Literacy in Elementary School

Various factors influence students' mathematical literacy skills. Factors influencing students' numeracy literacy skills include internal and external factors. Internal factors are factors that

come from students themselves. These internal factors include age, maturity, motivation, and innate intelligence. Students with an IQ or intelligence above the average have better numeracy literacy skills than those with a low IQ. The age of students also affects the maturity of their way of thinking so that students with a mature age will better understand the mathematical concepts taught by the teacher. Students with high motivation in learning will also affect their numeracy literacy skills. Students who need more motivation to learn from the start will undoubtedly find it difficult to accept the material provided by the teacher.

Another factor that affects students' numeracy literacy skills is external factors. This factor comes from outside the student. External factors include the teacher's ability, family circumstances, and environment. The teacher's ability to teach numeracy literacy in class is considered the factor was influencing students' numeracy literacy skills. Teachers must be able to master the material and be able to choose learning methods that match the characteristics of students. Teachers who understand the characteristics of students will certainly easily approach and can determine how the student's learning styles. Apart from teachers, the family environment also greatly influences numeracy literacy skills. Parents with a high level of education will usually do anything to support their child's education, in contrast to parents with low education who usually pay little attention to their child's education. Parents who work all day also affect the quality of children's learning because parents seem less attentive, while parents who are more at home will usually help guide children in learning. Environmental factors also affect the quality of student learning. Students who live in a quiet environment will focus more on learning. In contrast, students living in a busy environment will usually focus less on learning, affecting their numeracy literacy skills.

4.3. Minimum Competency Assesment in Elementary School

The minimum competency assessment measures reading and numeracy literacy skills as a result of cognitive learning. Grade 5 students carry out the minimum competency assessment. The minimum competency assessment does not determine whether students will pass or not but only measures students' cognitive understanding. The results of the AKM will show the quality of the school and the teacher's ability to deliver learning material. AKM in elementary schools has been implemented two times with different results. In 2021, the AKM results from both schools still showed scores below the minimum competency. Different from 2022, the results of the AKM, which were downloaded via the Education report card, have experienced an increase even though they have yet to meet the school's expectations. Schools with A and B accreditation have received good scores in the reading literacy category, but both received poor scores in the numeracy literacy category. The AKM results report will show the competency level of students in each education unit. In addition, the results of the AKM can be used as a comparison and an indication of the progress of the learning process in an educational unit.

The low results of numeracy literacy are due to extended reading of math problems. It takes a deep understanding so that students can solve the problem. Based on the results of an interview with one of the students at school A who stated that math problems were too long and difficult to understand. The questions given are also tricky, so when the answers have yet to be found, the time is up. Students also experienced this at school B, who stated that the questions given had never been studied and the reading was too long, causing less time given to work on them.

4.4. Literacy Numeracy Planning in Elementary School

Mathematics is learning that is very necessary for everyday life. But in reality there are still many people who have not mastered mathematics or are only able to understand formulas but cannot solve problems critically. To find out the level of mathematical ability in elementary schools, interviews and observations were conducted with teachers and grade 4 students at 2 different schools.

The results of the interviews explained that the level of mathematical ability in the two schools was very different. In school A students are able to think critically and can solve problems

quickly, while in school B students are not able to solve problems quickly. Many students at school B have not been able to understand the mathematical concepts being asked.

The cultivation of numeracy literacy in schools is inseparable from three stages, namely planning, implementation and evaluation. The most important thing so that the cultivation of numeracy literacy in schools can run smoothly is to make careful planning. Learning planning starts from before learning until the end of learning. School A and school B have almost the same numeracy literacy culture planning. The planning for cultivating numeracy literacy includes making a learning implementation plan (RPP). RPP is used as a reference for learning for one day. The teacher at school A explained that

"…. The lesson plan is like a spirit for the teacher. Every teacher is obliged to make it to be a reference for learning because the lesson plan includes learning material, what will be done, methods, and media for the assessment that will be carried out."

The lesson plan is prepared based on the characteristics of the students in the class. Teachers must be able to understand the character of students first before determining the methods and media to be used to teach numeracy literacy in class. In addition, teachers must be able to choose modules appropriate to students' cognitive abilities and according to the cognitive level of AKM as a guide in learning. Teachers must be able to compose questions oriented to Higher Order Thinking Skills (HOTS). This is following the results of interviews with school B teachers, who explained that

"... students at this school already understand the basic mathematics concepts but have been unable to apply them in problem-solving. This happens because students are only given questions with a low-order thinking skill level when the questions used in AKM are questions with higher-order thinking skills. Therefore, as a teacher, I have to make questions at the HOTS level so that students get used to being invited to think critically."

Planning for cultivating numeracy literacy in schools A and B is also carried out by planning learning media to be used in learning. Teachers in both schools observe student characteristics before deciding what media to use. This is as said by teacher A who stated that

"… we use various learning media, and learning methods must also be varied so that children stay energized. The media and methods chosen must be adapted to the characteristics of the students in the class. Usually, I use the game method and colorful learning media to keep the student interested in learning. One of the media I made was a question lottery, where students were given a lottery, chose the numbers they wanted, and then answered the questions in the lottery. This seems simple, but students are more active when using a playing learning method like this."

Teachers at schools A and B also utilize network technology to support teaching and learning activities. This is done because the implementation of AKM is also carried out by students using network technology. In addition, media that utilize technology attracts more students' attention, so students will be more motivated and enthusiastic about participating in learning. Interactive technology using mathematical applications makes students more interested in learning, but there are still many things to learn, and it further impacts student learning (Miller, 2018).

4.5. Obstacle to Implementing Literacy Numeracy in Elementary School

The cultivation of numeracy literacy in each school is, of course, different. Even though all schools follow a minimum competency assessment and must master numeracy literacy, many schools still have not been able to hone this ability. Numeracy literacy culture has been carried out in school A. Numeral literacy culture has been carried out from before learning until after learning is finished. The teachers at school A stated, "Cultivating numeracy literacy has been carried out since grade 1. This culture includes working on pre-test questions before learning to give post-test questions with higher-order thinking skills after learning. The test is done so that students get used to thinking critically."

Meanwhile, in school B, the cultivation of numeracy literacy has yet to run smoothly. Many students need more motivation to study in class. The teacher at school B stated, "The school has been trying to implement numeracy literacy culture from an early age, but there are still several obstacles in its implementation, including students' lack of motivation to learn and cannot be invited to think critically."

The teacher at school A stated that the mathematical abilities of grade 4 students at this school had entered the stage of being able to be invited to think critically. They can think critically because school A has been cultivating mathematics from grade 1 so that grade 4 students can think critically.

At school B, there are still many students who need help to think critically. School B's teacher stated that this school still did not master the concept of mathematics well. Many children still have difficulty applying basic mathematical concepts, especially if they have to face problems requiring critical thinking.

Several grade 4 students at school A stated that mathematics is a fun lesson because the teacher explains mathematical concepts using concrete objects and uses a variety of media so that learning is more interesting. In addition, they also stated that the teacher often gave questions suddenly to students and caused students to be motivated to learn to be able to answer questions presented by the teacher.

Meanwhile, Students at school B stated that learning mathematics in class was boring because the teacher only explained the material orally and rarely use any media. In addition, the teacher gave a lot of questions without explanation beforehand.

5. Discussion

The minimum Competency Assessment consists of literacy, numeracy, and build-up character education (Machromah et al., 2021). The Minimum Competency Assessment does not focus on the final result but on the learning process. The final result of AKM is to map education in the form of inputs, processes and outcomes. The main focus of AKM is the fulfilment of students reading literacy and numeracy literacy skills (Umar & Widodo, 2021). In order to do the assessment well, students must have critical thinking skill. Critical thinking is reasonable and reflective thinking focused on deciding what to believe or do (Ennis, 2011)

Numerical literacy skills are related to applying essential insights, principles, and mathematical procedures to problems in daily life, for example, understanding things that are served in graphs and sketches. Numerical literacy questions in the national assessment contain questions with hots levels. Problems with HOTS levels require a high level of understanding to solve problems correctly. There are still many students who do not have this problem-solving ability. Students have been able to solve closed math problems but have not been able to solve problems that require high reasoning. In addition to students, teachers also cannot make HOTS questions. Therefore, teachers need to learn how to make good and correct hots questions so that they can be given to students in class. Students must be taught to work on open questions, so they are accustomed to working on hot questions. However, the teacher has difficulty making questions based on hots levels (Suratmi et al., 2020). Open Ended Problems (OEP) or learning with open problems means learning that presents problems with various solutions the way (flexibility), and the solution can also be diverse (multi-responsibility, fluency). Through high-order thinking, students will be able to distinguish ideas or ideas argue well, able to solve problems, able to construct explanations, be able to hypothesize and understand complex things to become more precise; where this ability clearly shows how participants learn to reason (Susetyawati & Nuryani, 2021).

Not all students have good mathematical literacy skills. According to PISA in (OECD, 2013), mathematical literacy skills can be divided into several levels, including:

Table 1. Math ability level according to PISA

Level	Description

Level 1	Students can answer questions and identify information involving familiar contexts and direct commands
Level 2	Students can use basic formulas and can provide direct reasoning
Level 3	Students can choose and do simple problem-solving and can interpret different information
Level 4	Students can solve concrete and complex problems and can develop reasoning abilities
Level 5	Students can solve concrete problems and can choose the correct problem-solving method
Level 6	Students can solve complex problems, represent answers, perform mathematical reasoning, and communicate the finding

According to PISA, students' mathematical abilities are divided into six levels. The national assessment uses a high level of PISA, but there are still many students who can only master up to level 2. Therefore, teachers must cultivate numeracy literacy. The process of acculturation (enculturation) is an effort to form a behavior and attitude of a person based on knowledge, skills, plan so that each individual can play their role. Cultivating numeracy literacy in schools can be carried out starting with planning, implementation and evaluation. Activity planning is designed so that the program can run well and be directed. Furthermore, the implementation of numeracy literacy activities can be applied in preliminary, core and closing learning activities. Evaluation is carried out to see whether the program that has been made can be implemented properly and gives the desired results.

The cultivation of mathematical numeracy literacy is not only carried out at school but also must be carried out at home. According to (Salminen et al., 2021) parental education and the learning environment at home form a complex pattern. Parents with a high education level have taught their children numeracy literacy from an early age. This is the same as Ali's opinion, which states that the environment is related to developing early academic skills (Susperreguy et al., 2022). Meanwhile, according to (Utami et al., 2020), numeracy literacy skills are heavily influenced by affective factors, which means that students' emotions affect the understanding and interpretation of data.

Researchers conduct research at two different school. The implementation of numeracy literacy at school A has been running but has not been maximized. The teacher has made a lesson plan that will be used for teaching that day but has not carried out the preparation of the HOTS questions. Many teachers do not understand and have never been directly involved in making questions with hots levels. The teacher must find the right stimulus in making HOTS questions. Stimulus is an essential thing in compiling HOTS-type questions.

In addition, the low ability in critical thinking that students have can be caused by: a learning process that is less effective in developing interests, talents and potential in each student. To increase students' interest in learning, teachers must implement literacy and numeration learning activities pay attention to each student's needs during the learning process, both in terms of media used to develop students' understanding or differences in the use of learning variations that affect the level of understanding (Helstad et al., 2017). In addition to developing questions, teachers must also be able to develop textbooks. This is meant so that teachers also have an understanding of literacy and the ability questions develop literacy questions independently based on the examples in teaching materials. Teachers play a critical role in the success of the numeracy literacy program. Therefore, the government needs to conduct training for teachers so that teachers are more competent (Meeks et al., 2014).

Numerical literacy planning is carried out in various ways, one of which is by making a Learning Implementation Plan (RPP). The Learning Implementation Plan is a reference for teachers to teach for one day. Learning Implementation Plans must be made by looking at students' abilities in class. The most important thing in preparing the lesson plan is the core components, namely the competencies to be achieved, learning materials, learning activities, and learning

evaluations. This is in line with the explanation of Diandra et al. (2020) that teachers must be able to plan learning activities, namely choosing methods, strategies, learning techniques, technology media in learning, and learning assessment.

The lesson plans are made as much as possible, and improvements in implementation can be made through action research or tiered activities. By doing action research on each plan, the strengths and weaknesses will be known so that improvements can be made to get the maximum possible results. The next plan for numeracy literacy is to determine numeracy literacy-oriented learning materials that are prepared by taking into account the context of numeracy literacy, namely individual contexts, social contexts, and scientific ones. In compiling numeracy literacy-oriented material, it is necessary to study various good references. In addition, it must pay attention to students' cognitive abilities according to the AKM cognitive level as a guide. The preparation of questions with the HOTS criteria begins with training in the preparation of questions for teachers.

Problem planning is carried out by compiling HOTS criteria questions, where this question requires students' ability to solve mathematical problems by classifying, analyzing, and evaluating. Higher-order thinking skills need to be trained and familiarized starting from elementary school age so that students are accustomed to higher-order thinking and can convey argumentative, logical, confident ideas in the form of oral, written, and action. A series of contextual learning can help students' abstraction process towards concrete objects so that students have a good understanding. Applying HOTS questions to learning mathematics can train students to think at a higher level and solve math problems more efficiently (Simorangkir et al., 2021). Critical thinking skills help students solve simple or complex problems (Setiana et al., 2021).

Personal context HOTS question planning focuses on the activities of a person, family and community in meeting personal needs such as preparation, shopping, personal schedules, personal health, personal transportation, sports, and personal finances. The purpose of this context is that students can recognize the role of mathematics in their personal lives. Numerical literacy (mathematics) helps a person recognize the role of mathematics in the real world and as a basis for consideration in determining decisions needed by society and individuals.

Learning media planning is an important aspect of the cultivation of numeracy literacy. Teachers can use various learning media, such as using video and PPT and quizz (Novitasari et al., 2020). Quizz can be used as digital learning media to attract students' attention in class (Saefurohman et al., 2021). For this reason, it is necessary to cultivate numeracy learning by paying attention to learning activities such as the use of problem-based learning models, a collaboration of psychomotor, audio, and visual activities in learning media, as well as understanding the limitations of the teachers themselves in the use of various media (Smith & Cekiso, 2020). Holistic planning by considering various aspects as needed in different learning environments refers to the achievement of superior numeracy literacy competencies.

6. Conclusion

Numeracy literacy skills in learning mathematics in elementary schools are still low. This is evident from the AKM value, which is still below average. This low numeracy literacy ability is caused by various things, such as the teacher's lack of ability to make HOTS questions, the lack of awareness of parents at home, and the lack of habituation of students to work on complex questions. In addition, factors such as low learning motivation and students' understanding of learning material also affect students' numeracy skills. Students consider learning mathematics as a subject that is difficult and less interesting. To overcome this, schools need to cultivate numeracy literacy in learning mathematics. Numerical literacy culture starts with planning. Based on the results and discussion, it can be concluded that planning for curricular activities in cultivating numeracy literacy is carried out by compiling a Learning Implementation Plan (RPP), gathering numeracy literacy-oriented learning materials, compiling numeration literacy-oriented evaluation questions with the criteria of Higher Order Thinking Skill (HOTS), and

designing audio-visual and realistic learning media. Besides that, the teacher can give lessons by using the game method. This game method will attract students' attention so that students will be more focused on learning.

Limitation

The limitation of this research is that this research only discusses the planning of numeracy literacy culture to face the national assessment. In addition, this research was only carried out at the elementary school level.

Recommendation

Recommendations based on research results are that teachers need to plan programs that will be used to improve students' numeracy literacy skills. The program must be cultivated so that students are accustomed to and can solve numeracy literacy problems that require critical thinking skills.

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Conflict of Interest

Researchers in researching and publishing articles there are no elements that indicate conflict of interest.

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