

## Actualization of Numeracy Literacy in Character Education at Elementary School Level in the Era of Disruption

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### ABSTRACT

This research aims first to determine the extent of the role of literacy and numeracy in the educational context in building character. Furthermore, to find out what obstacles make literacy and numeracy does not work well well in the educational environment in forming character. The research method used in this article is a systematic literature review, the author searches for published articles related to the title or research topic that the researcher has determined, the articles searched are limited to 50 articles, then the researcher filters them to 20 articles that are considered appropriate and close to each other. to answer this research. The results of the research show that as many as 20 articles from the search results show that the role of literacy and numeracy has a significant impact on improving numeracy and reading skills at primary school level, especially from the results of PISA and OECD data which reveal that Indonesia is still experiencing a decline in terms of literacy and numeracy. From the search results, it can be concluded that literacy and numeracy have a role in character formation in the world of education. So, researchers provide recommendations for the need for support from the government, educational institutions, students' environment and parents to work together to improve students' abilities in calculating and reading while aiming to shape the character of each student

**Keyword:** *Literacy, Numeracy, Character, Pisa, Oecd*

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## 1. INTRODUCTION

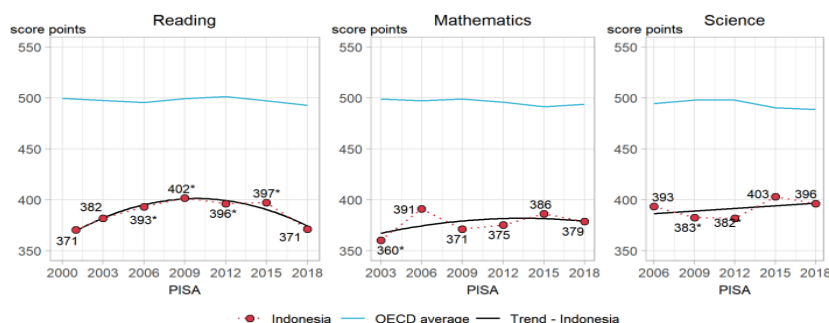
Character education and numeracy literacy are two important aspects in forming individuals who are competent and able to face the challenges of the era of disruption. The era of disruption is characterized by rapid changes in various aspects of life, including economic, technological and social. In facing this era, it is important for the education system to actualize numeracy literacy as an integral part of character education. Numeracy literacy is an individual's ability to understand, use and interpret numbers and data. This ability is very important in facing an era of disruption because rapid changes in technology and the economy often require a strong understanding of data and numbers (Dong et al, 2020). With good numeracy literacy, individuals will be able to make smarter decisions in various aspects of life, including career, finances and health. According to Lau & Richards (2021), numeracy literacy is also closely related to character development. The ability to understand and use numbers requires precision, perseverance, and discipline, which are an integral part of character education.

By integrating numeracy literacy in character education, individuals will be trained to become careful, intelligent and responsible individuals in managing various aspects of their lives. On the other hand, character education is also an important aspect in facing the era of disruption. Rapid changes in technology and society often give rise to various moral and ethical challenges (Altun et al., 2022). In this context, strong character education will help individuals to remain firm in the moral and ethical values that are important in living life in an era of disruption. By integrating numeracy literacy in character education, individuals will be

trained to not only be academically intelligent, but also have integrity, empathy and concern for society. Apart from that, facing an era of disruption also requires strong adaptation and innovation skills. Numeracy literacy can be an important foundation in the development of these skills (Yang & Gorver, 2023).

With a strong understanding of numbers and data, individuals will be better able to adapt to change and develop the innovations needed to face the challenges of the era of disruption. However, the facts show that Indonesia has participated in the Program for International Student Assessment (PISA) several times. The test was designed by the Organization for Economic Co-operation and Development (OECD) to measure the reading, mathematics and science abilities of Indonesian students who have completed or completed basic education. This test is not directly related to the Indonesian school curriculum, but is a competency test whose results can be compared internationally. The PISA test assesses the extent to which 15-year-old students who have completed primary education have the skills and knowledge necessary to participate fully in modern society. The PISA assessment focusing on core school learning content, namely reading, mathematics and science, does not seem to have obtained satisfactory results. Based on a study conducted by the OECD in the field of reading, around 27% of Indonesian students have a proficiency level of 1b, where students can only solve the simplest text comprehension problems, such as retrieving clearly stated information, such as from a title. it is a simple and common text or from a simple list. They demonstrate proficiency in some subskills, or basic elements of reading literacy, such as literal sentence comprehension, but are unable to synthesize and apply these skills to longer texts or make simple inferences. In mathematics, approximately 71% of students do not meet the minimum level of mathematical ability (Robertson, 2021). This means that there are still many Indonesian students who have difficulty dealing with situations that require the ability to use mathematics to solve problems. Often, they cannot solve arithmetic calculation problems that do not use integers or problems whose instructions are not clear and detailed.

Figure 1. Performance trends in reading, math and science



Source: OECD, PISA 2018 Database, Tables I. B1.10, I. B1.11 and I. B1.12.

The caption above shows average performance scores that are statistically significantly higher or lower than Indonesia's 2018 PISA scores. The blue line shows the average performance across OECD countries with valid data for all PISA assessments. The red dashed line shows the average yield in Indonesia. The black line represents the Indonesian trend line (best). Based on the PISA findings reported by the OECD, Indonesia generally has 3 important education problems that need to be addressed immediately. First, there is still a high proportion of underachieving students. Although Indonesia has succeeded in increasing access to the school system for children aged 15, greater efforts are needed to educate them to reduce the proportion of underachieving students to the lowest possible level. Efforts that have been made by the government include changing the national examination scheme and system to a Minimum Competency Assessment and Character Survey, which consists of the ability to reason using language (literacy), the ability to reason using mathematics (numeracy), and strengthening character education (Ministry of Education and Culture, 2019). The Minimum Competency Assessment will be carried out on students who are in the middle of the school level, such as grade 4 for elementary school, grade 8 for junior high school, and grade 11 for high school. By conducting it at the middle level, the results of the assessment can be used by schools to identify students' learning needs. By carrying it out from elementary school level, the results can be an early detection of problems with the quality of national education. Although minimum competency assessments can be carried out at the junior high school (SMP) and senior high school (SMA) levels, in this research the author focuses more on the elementary school (SD) level (Hou et al., 2023).

With efforts, integrating numeracy literacy which also has a focus on character education will not only help individuals to become academically intelligent individuals, but also able to adapt and innovate in

the face of rapid change. Overall, actualizing numeracy literacy in character education is an important step in preparing individuals to face an era of disruption. By integrating numeracy literacy in character education, individuals will be trained to become individuals who are intelligent, responsible, have integrity, and are able to adapt and innovate in the face of rapid change. This will help create a generation that is ready to face the various challenges of the era of disruption, and is able to contribute positively in building a better society. Based on the background described above, there are several problems that can be identified (1) There are still high rates of student underachievement in Indonesia. (2) Reading ability at the basic level is still low. (3) There is still a lack of facilities and infrastructure in each educational unit. From the results of the problem identification above, the problems in this research can be formulated (1) How to actualize numeracy literacy in character education at the elementary school education level. (2) Are there any obstacles in actualizing numeracy literacy in character education at the elementary school level? Based on the problem formulation described above, the aim of writing this article is, (1) To find out the process of actualizing numeracy literacy in character education at the elementary school education level. (2) To determine the obstacles to the actualization of numeracy literacy in character education at the elementary school level. From the research objectives described above, it is hoped that this research will provide two benefits (1) theoretically and as a reference for future researchers. (2) praktiks become material for correction as well as a reference for interested parties, in order to improve literacy and numeracy skills in each educational unit, both at the national level.

## 2. RESEARCH METHOD

This research will adopt a systematic literature review method. The systematic literature review method uses data sources obtained from the internet in the form of literature reviews in (1). Local, national and international journals, (2). Books, (3). Technical description, and (4). Relevant laws and regulations. Then, in this research, it is also targeted that 50 articles will be published as answers to the results of the research, but later 20 articles will be filtered and selected that are in accordance with the research theme. The analysis technique used in this research is interactive analysis which was popularized by (Budgen et al., 2022). The stages can be seen as follows: (1) Plan Review: This stage plans and summarizes, selecting the main things that focus on the themes that have been found. based on the pattern. (2) Conduct Review is a process of reviewing or presenting data that is carried out after the data has been completed at the reduction stage. Presentation of data can be done in the form of short descriptions, charts, and correlations between categories can use flowcharts and the like with the hope that the data can be well organized in presenting patterns and obtaining relationships that can be understood. (3) Document Review, namely conducting a review and drawing conclusions to answer existing problems. Below you can see the flow diagram in the Systematic Literature Review.

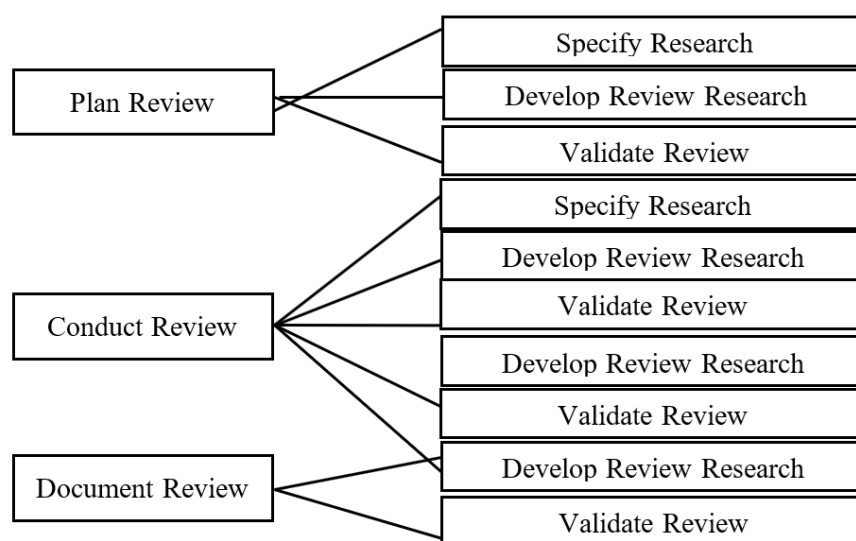


Figure 1. Stages of Systematic literature review (Budgen et al., 2022)

## 3. RESULTS AND DISCUSSION

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Based on the results of the document search which began with carrying out a plan review, conduct review and document review which have been published in journals, conclusions can be drawn in table 1 as follows.

Table 1. Document Review

Writer	Title	Research methods	Findings
Cheung et al., (2021)	Home Literacy and Numeracy Environments in Asia	Literature Review	By studying underlying trends in insights gained across different geographic regions, we can determine in advance whether there are potentially unique characteristics in the Asian context. We suggest future research directions that recognize the role of cultural values and social factors in shaping the home learning environment and supporting the development of children's early literacy and numeracy skills.
Yesi et al., (2023)	Children's Literacy and Numeracy Improvement Program through the Kukerta Program in Pematang Obowe Village	Literature Review	Literacy, literacy and numeracy play an important role in helping students develop the skills they need to meet the complex challenges of modern times. The use of technology provides opportunities to enrich students' learning experiences through the presentation of interactive and relevant materials. Situated learning through real-life situations, enabling learners to combine reading, writing and numeracy skills
Dwi Noerbella (2022)	Implementation of the 2nd generation campus teaching program to improve students' literacy and numeracy competencies	Descriptive Qualitative	In this spirit, students from the teaching campus conducted AKM tutoring activities for Class V students to improve their reading and writing skills in preparation for the upcoming national assessment. The results of the study show that the implementation of the second-grade teaching campus program in SDN Pasirangin 01 is progressing smoothly and the reading and writing skills of fifth-grade students have improved.
Carroll, H.C.M. (2022)	The relative effect of pupil absenteeism on literacy and numeracy in the primary school	Descriptive Qualitative	The study presented in this article addresses the second question by assessing the literacy and numeracy abilities of poorer and better 11-year-old children using the Basic English Word Reading and Arithmetic Ability Scale. There are significantly more students whose math scores are significantly lower than their reading scores. The article concludes by considering the implications of this research for primary school teachers and the impact of COVID-19 on the findings.
Bonifacci et al., (2021)	Home Literacy and Numeracy Interact and Mediate the Relationship Between Socio-Economic Status and Early Linguistic and Numeracy Skills in Preschoolers	Literature Review	This study also explored the interaction between family literacy and young children's literacy skills. 310 preschool children attend the school in their second and third years. Furthermore, family literacy and numeracy skills significantly influence the relationship between socioeconomic status and children's skills. Finally, there were significant negative interactions between home reading skills and home arithmetic skills and symbolic arithmetic skills. Implications for research and educational settings are discussed.
Atteh et al., (2023)	Hidden Curriculum Activities on Numeracy and Literacy	Qualitative Analysis	The discoveries of this ponder show that early review teachers are profoundly mindful of covered up educational programs exercises and lock in in a assortment of extracurricular exercises to create their students' numeracy and education abilities. In this

	Development in Early Grade Education: Perspectives from Elementary School Teachers in Ghana		manner, the covered up educational modules contributes to a more all-encompassing instruction by growing the scope of learning past the subjects indicated within the curriculum.
Napoli et al., (2021)	Characteristics Related to Parent-Child Literacy and Numeracy Practices in Preschool	Content Analysis	The discoveries of this ponder show that early review teachers are profoundly mindful of covered up educational programs exercises and lock in in an assortment of extracurricular exercises to create their students' numeracy and education abilities. In this manner, the covered up educational modules contributes to a more all-encompassing instruction by growing the scope of learning past the subjects indicated within the curriculum.
Rakhmawti et al., (2022)	The circumstances of literacy numeracy skills: Between notion and fact from elementary school students	Quantitative descriptive	Inquire about discoveries appear that students' numeracy proficiency aptitudes are still within the destitute category. Numeracy proficiency has not been created within the usage of the School Proficiency Development (GLS). Fundamental education exercises have not been actualized well.
Reder et al., (2020)	Practice makes perfect: Practice engagement theory and the development of adult literacy and numeracy proficiency	Quantitative	The discoveries in this ponder propose that proficiency preparing that increments engagement in important hone can result in capability development. Investigate has appeared that this approach shows up to be successful in making strides students' education capability.
Barham et al., (2019)	Assessment of first-grade students' literacy and numeracy levels and the influence of key factors	Quantitative	The investigate comes about too uncovered that understudy had a medium level of advancement in composing, put esteem, and expansion and subtraction of two-digit numbers as well as moo level numeracy abilities related to fundamental word issues, designs, clocks, geometry, estimation, and cash. In expansion, the investigate comes about appear noteworthy contrasts between male and female to begin with review understudies, where male understudies have superior education and numeracy aptitudes than female understudies. The comes about appeared there were no factually critical contrasts in proficiency and calculation was related to preschool knowledge, while there were critical conflicts between children and education, and calculation was related to the educational level of parents.
Rosnelli et al., (2023)	Independent Curriculum Learning Management to Improve Students' Literacy and Numerical Competence in Schools	Descriptive	The research results prove that students' literacy and numeracy competencies are in the good category, especially in the areas of literacy, literacy and numeracy, science, digital, finance, culture and citizenship. If we look at the status of the school, there is no difference in perception regarding the efforts that must be made to improve literacy and numeracy competencies.
Naples & Purpura (2018)	The home literacy and numeracy environment in	Descriptive Quantitative	The comes about appeared that in spite of the fact that code-related proficiency hones and storybook perusing did not broadly anticipate children's proficiency and

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	preschool: Cross-domain relations of parent–child practices and child outcomes		numeracy results, the numeracy environment at domestic did anticipate numeracy and definitional lexicon results. These discoveries illustrate a connect between the home numeracy environment and child and dialect development and contributes to an emerging body of research, and there are critical connections between early numeracy and dialect development.
Piper et al., (2018)	Identifying the essential ingredients for literacy and numeracy improvement: Teacher professional development and coaching, student textbooks, and structured teachers' guides	Descriptive Quantitative	It was found that two of the three material combinations had a statistically significant positive impact on learning outcomes. So, it is clear which elements of improving literacy and numeracy are most effective in providing overall impact, and suggests to policy makers that careful decisions about program elements will result in interventions that are more effectively designed and implemented to improve learning in countries. developing country.
Singh et al., (2023)	Effectiveness of literacy and numeracy in commerce subjects among secondary schools in Fiji	FGD	The results show that reading and math skills are very important in business subjects, as students need basic reading and math skills to read, write, understand, calculate and interpret. The "Drop everything and read" program and modern technology were found to have a positive impact on students' reading and math skills, leading to better performance in business classes.
Manolitsis et al., (2013)	Examining the effects of home literacy and numeracy environment on early reading and mathematics acquisition	Descriptive Qualitative	These results indicate that home literacy and home numeracy environments are important for early literacy and numeracy, but that their effects are mediated by literacy and numeracy development.
Chang (2023)	Early numeracy and literacy skills and their influences on fourth-grade mathematics achievement: a moderated mediation model	Descriptive Qualitative	Findings of direct and indirect conditional effects of early numeracy skills on G4 mathematics achievement suggest that children who have more advanced early literacy skills use strategies beyond initial numeracy skills to solve G4 mathematics problems and that children's strategies for solving problems mathematics can be enhanced by their proficiency in literacy skills.
Lechner et al., (2021)	Stability and change in adults' literacy and numeracy skills: Evidence from two large-scale panel studies	Quantitative	The results show that literacy and numeracy levels are at a high level but not completely stable ( $0.61 \leq r \leq 0.85$ in the total population). However, individual differences in change dominate this picture and require further investigation. Our findings may serve as a benchmark for comparing future longitudinal findings.
Niklas et al., (2016)	Parents supporting learning: a non-intensive intervention supporting literacy and numeracy in	Quantitative	Worldwide thinks about appear that the domestic learning environment (HLE) given by guardians is closely related to children's cognitive results: education exercises at domestic tend to anticipate children's education capacities and numeracy exercises at domestic tend to foresee children's numeracy capacities.

	the home learning environment		Investigate discoveries appear that guardians reacted emphatically to this approach, which the proficiency and numeracy viewpoints of the HLE are particular indicators of children's numeracy and proficiency competencies.
Ghosh et al., (2021)	Foundational literacy and numeracy in West Bengal	Descriptive Quantitative	Education and instruction are vital improvement markers for a country. With more than 200 million children, India has the foremost comprehensive primary instruction framework within the world. In spite of the fact that essential school enrollment rates have expanded essentially, learning levels stay moo. To fortify the establishment of proficiency and numeracy, the government of West Bengal propelled "Shishu Aloy" a show Coordinates Child Improvement Administrations center in 2015
Yulia et al., (2023)	Literacy and Numeracy Teaching and Learning in Pandemic Outbreak: A Case Study of Private Primary School in Rural Area	Descriptive Qualitative	The educating method is claimed to be in three stages – starting, center and conclusion. The instructing and learning handle amid the widespread were carried out in different ways, such as utilizing recordings and utilizing diversions and melodies. Conclusion: The student's challenge is the need of lexicon and word meaning. In conclusion, instructors got to develop learning based on school and understudy characteristics. This can be done to create understudy learning inspiration, so that understudy education and numeracy can increment.

Source: Document Review by the Author

## Discussion

### *a. Actualization of Numeracy Literacy in Character Education at Elementary School Level*

The actualization of numeracy literacy in character education at the elementary school level is an important effort in forming a young generation who is competent and has noble character. Numeracy literacy refers to an individual's ability to understand, use, and interpret various mathematical concepts and operations in daily life, while character education emphasizes the formation of good values, attitudes, and behavior. Integrating numeracy literacy in character education can help students develop a better understanding of the importance of mathematics in everyday life. Through applying mathematical concepts to real situations, students can learn to make rational decisions, solve problems, and develop critical thinking skills. However, the author is only limited to finding numeracy literacy, because there are very few articles directly related to the actualization of numeracy literacy in education, especially in aspects of character formation at the elementary school education level. The results of the author's search for empirical documents found that the results of research conducted by Rohim (2021) revealed that the implementation of the national exam faced obstacles before, during and after implementation. National exam scores should not be used as an indicator of student academic success. And in Indonesia there has been a change in the evaluation system. From the search results, it is known that the assessment is not based on curriculum-based learning abilities as in the national exam, but is designed to plan and improve the overall quality of education. Literacy Assessment (AKM) focuses on knowledge of measured literacy and numeracy skills. Therefore, by implementing the Basic Skills Assessment (AKM) it is hoped that it can improve the mathematics abilities of elementary school students.

Likewise, the results of a study conducted by Oktaviana et al., (2022) The results of this research were obtained from data from the Mathematics Questionnaire and Mathematics History Test which were distributed to Class V students. Familiarity with class V counting habits showed results at a high criteria level, namely 91%. The test results show that the mathematics learning outcomes of class V students are good with a standard level of 57.78%. Based on the product moment correlation test, the results obtained are  $r_{xy} = 0.41$  which is greater than  $r_{table} = 0.2940$  at a significance level of 5%. This shows that the alternative hypothesis is accepted. Based on data analysis, it can be concluded that counting habits have a relationship and influence on students' mathematics learning outcomes. Likewise, the results of a study conducted by Muliantara & Husband (2022) Strategy for increasing literacy and numeracy that can be implemented to support the government's policy of independent learning in elementary schools, in realizing freedom of learning through government policy, apart from focusing on character, the learning process is also assessed in

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the form of Literacy Assessment (AKM). This is achieved through establishing a literacy culture in schools, forming a School Literacy Team (TLS), collaborating with third parties, mobilizing a community of practitioners, and implementing school programs that involve students directly to strengthen literacy and numeracy, reading and writing skills are minimal or basic skills. that students need to master, assessments are carried out by students at the secondary school level, thereby enabling teachers and schools to improve the quality of learning.

Then the study conducted by Ermawati & Rahmawati (2022) also represents part of the government's efforts to prevent learning loss, strengthen the Mathematics Movement, and strengthen the profile of Pancasila students. The Ministry of Education and Culture has placed emphasis on Mathematics at the elementary school level and focused on increasing abilities. reading, writing and arithmetic towards better basic skills Modules have been released. We will introduce various educational content reinforced by strengthening character education and life skills. The results of this research show that critical thinking personality is one of the elements of the Pancasila student profile found in learning activities, work instructions, and class 4 literacy and numeracy module material, Topic 4 and Subtopic 4. Furthermore, a study conducted by Iswara et al., (2022) regarding the analysis Ethnomathematics-based problem-solving in elementary school showed that students with level 1 questions on numeracy were rated as high, while those with levels 2 and 3 were considered medium. Studentsand#039; numeracy skills come from ethnomathematics-based mathematical problem solving, especially in terms of understanding the problem as the key to problem solving skills, allowing students to plan solving strategies and solve problems that are difficult to implement and verify. The results are based on the level of problem solving that exists. The reason for this is the absence of numeracy and mathematical knowledge among students. The maturity of mathematical concepts, which is the primary cause of students' anxiety about learning mathematics, can be influenced by numeracy skills in ethnomathematics-based problem solving. The above description indicates that the role of is evident. of actualization in the learning process using literacy and numeracy concepts and approaches has a significant impact. This has been proven from several studies conducted by previous research, at least there are changes from the results of implementing the learning process using literacy and numeracy in each educational unit spread across various regions, therefore it is important to maintain and support the process of continuing the concept learning using literacy and numeracy.

#### *b. Barriers to actualizing numeracy literacy in character education at the elementary school level*

Numeracy literacy is an individual's ability to understand, use and interpret numbers and data in everyday life. Character education at the elementary school level aims to form good character in children, including numeracy literacy. The results of a study conducted by Safitri et al., (2022) show that there are several obstacles in actualizing numeracy literacy in character education at the elementary school level, namely (1) Inadequate curriculum: An inadequate curriculum can be an obstacle in actualizing numeracy literacy at the elementary school level. elementary school education. (2) Limited resources: Limited resources such as books, teaching aids and technology can be an obstacle in actualizing numeracy literacy at the elementary school education level. (3) Lack of student motivation: Lack of student motivation can be an obstacle in actualizing numeracy literacy at the elementary school education level. (4) Lack of teacher skills: Lack of teacher skills in teaching numeracy can be an obstacle in actualizing numeracy literacy at the elementary school education level. (5) Non-conducive learning environment: A non-conducive learning environment can be an obstacle in actualizing numeracy literacy at the elementary school education level.

Likewise, based on the results of research conducted by Danuri & Astari (2023), the results of this research reveal the following: (1) children with special needs have lower levels of mathematical literacy and mathematical connections, as evidenced by the results of their arithmetic tests. (2) Mathematical factors that influence the literacy level and level of mathematical connection of students with special needs, namely internal and external needs. (3) students' lack of ability to connect concepts, procedures and ideas. The relationship between ability and mathematical relationships is still relatively weak. (4) Students' barriers to mathematical abilities and mathematical relationships. Connection refers to students' ability to understand material, concepts, procedures, and this is students' lack of understanding when connecting formulas. (5) The solutions provided to improve mathematical literacy and mathematical relationships for students with special needs are: (a) Because teaching mathematical literacy and mathematical concepts is important, teachers must be able to apply mathematical facts, concepts and procedures to students. (b) teachers must be able to understand the characteristics and personalities of students, especially those with special needs. (c) carry out reading and writing activities together before class starts. (d) the teacher must involve the child in the topic.

Then also what was done by Kharismawati (2022) was that the results of the study provided information that the ANBK observation report showed that even though the students' reading and writing abilities had reached a minimum level of proficiency, their personalities continued to develop during this



research. The researcher observed and experienced directly the process of implementing ANBK in SDN Remo which was held in November 2021. Likewise, the data was confirmed based on a study conducted by Harmonis et al., (2023) which revealed how to apply the learning knowledge obtained at school to real life, during this literacy and numeracy activity, students KKN-PLP noticed that due to different levels of education, some children experienced obstacles such as low interactivity in delivering material. As a result, the material studied is different, even if combined it is less effective. That's how the Mataram University KKN-PLP group helps children on Gili Thembesi achieve literacy by dividing tasks between each student to intervene and teach content appropriate to their skill level. Based on the description above, to overcome these obstacles, efforts are needed from various parties such as the government, schools, teachers and parents. The government can improve the quality of the curriculum and provide adequate resources. Schools and teachers can improve skills and motivation in teaching numeracy. Parents can help increase motivation and provide support in learning numeracy at home. With joint efforts, it is hoped that numeracy literacy at the elementary school education level can continue to increase and help shape good character in children. Then, to respond to the problems found, to overcome the problems of actualizing numeracy literacy in character education, there is a recommended framework for actualization which can be seen as follows.

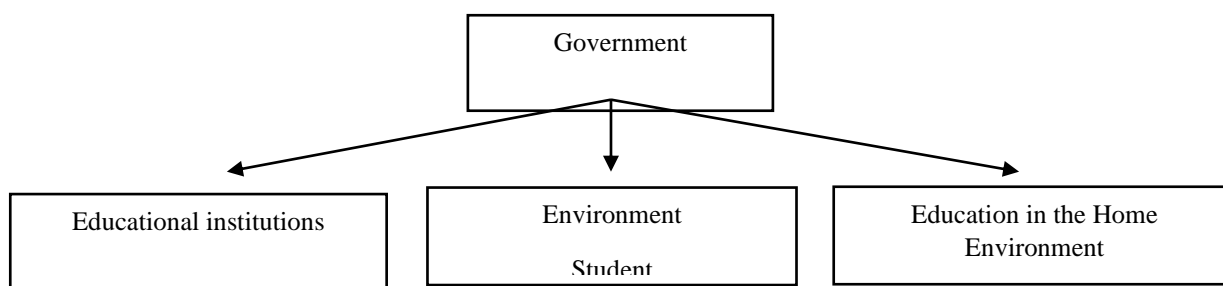


Chart 1: Adoption of Home Learning Environment by Authors (2023)

In Indonesia, interest in reading is very low, this is proven by the latest data in January 2020 which placed Indonesia in second last place in world literacy rates, namely only 0.001% according to UNESCO, meaning that for every 1000 Indonesians, only one person likes to read. Based on the Program for International Student Assessment (PISA) study released by the Organization for Economic Co-operation and Development (OECD) in 2019, Indonesia was ranked 62nd out of 70 countries and ranked 10th in countries with low literacy rates. In general, people know that literacy is basic knowledge and/or abilities that a person needs to have in accordance with society's needs and current developments, but in the 21st century, Indonesian people tend to be lazy about reading, but are more interested in concise things presented in table form, diagrams, graphs, etc. (Tohir, 2019). The reason is, concise information is easier and faster to find than reading long texts which most people consider boring. Whatever efforts can be made to answer the challenges of the 21st century, Indonesian people must acquire six basic competencies (1) Language skills, (2) Numeracy skills, (3) Scientific skills, (4) Digital literacy, (5) Financial literacy, and (6) Cultural and civic education. We hope that by mastering these six reading and writing skills, you will develop critical thinking skills in the areas of problem solving, creativity, communication, and collaboration (Meyer & Norma, 2020).

Numeracy literacy or what is usually called numerical literacy affects not only a person's personality but many people, so it can be said that number literacy is closely related to solving mathematical problems. One of the six literacies related to good decision making, numbers, and mathematical data is numerical literacy. There are many examples such as when shopping, saving, deciding when to study, knowing your weight and height, all of which require arithmetic. The importance of numerical literacy in everyday life makes numerical literacy inseparable, especially in learning at school (Cheung et al., 2021). Numeracy and literacy skills need to be introduced from an early age to prepare competitive human resources in the future. Numeracy literacy is also seen as an important requirement for making functional decisions in everyday life and can increase knowledge and skills in planning and managing activities well. In this regard, one of the major programs created by the government is basic literacy as an effort to overcome existing problems (Jannah & Oktaviani, 2022).

The environment plays a crucial role in students' literacy development. An environment rich in reading material, discussion and exploration will encourage students' interest and ability in reading, writing and understanding information. Through interaction with a supportive environment, students can develop critical reading skills, analytical thinking, and express their ideas effectively. In an environment that promotes literacy, such as a well-organized library, access to quality books, and engaging literacy activities, students will feel encouraged to explore the world of literacy. Apart from that, support from parents and the

community also plays an important role in forming an environment that facilitates student literacy. Through reading together, discussing books, and encouraging literacy activities at home, parents can help strengthen their children's literacy skills (Van Bergen et al., 2023). An adequate environment also includes the integration of literacy in the school curriculum and the use of supportive educational technology. By utilizing these resources, students can engage in learning that is relevant, engaging, and expands their understanding of literacy. Thus, an environment that supports literacy not only creates opportunities for students to learn, but also encourages them to become critical readers, skilled writers, and lifelong learners (Koester et al., 2021). Through the strong role of the environment, students' literacy can continue to develop and provide a solid foundation for their academic and personal success.

According to Hojen et al., (2022) there are five arguments that parents play an important role in helping develop student literacy. A home environment that supports literacy can provide opportunities for students to engage in reading, writing, and speaking activities that strengthen their literacy skills. Following are some ways in which parents can help improve student literacy through the home environment: (1) Reading together: Parents can help improve their child's reading skills by reading together. By reading together, parents can help their children understand more difficult texts, expand their vocabulary, and build critical reading skills. (2) Providing access to books: Parents can provide access to interesting and quality books at home. By having access to interesting books, students will feel encouraged to read and explore the world of literacy. (3) Encourage discussion: Parents can encourage discussion about the books their children read. By discussing books together, students can expand their understanding of the text and build critical thinking skills. (4) Co-writing: Parents can help improve their child's writing skills by co-writing. By writing together, parents can help their children build effective writing skills and expand their creativity. (5) Encourage literacy activities: Parents can encourage literacy activities outside of school, such as visiting the library, joining a reading group, or participating in writing activities. By engaging in literacy activities outside of school, students can broaden their understanding of literacy and build stronger literacy skills. Through the strong role of parents, students can continue to improve their literacy skills and build a solid foundation for their academic and personal success.

#### 4. CONCLUSION

Based on the research conducted, it can be concluded that (1) The actualization of literacy and numeracy in character education at the elementary school education level has not been carried out very much so that it is important for literacy and numeracy to be applied in every educational unit in order to develop more student character. (2) There are still obstacles in actualizing numeracy literacy at the elementary school education level, such as inadequate curriculum, limited resources, lack of student motivation, lack of teacher skills, and a learning environment that is not conducive. To overcome these obstacles, efforts are needed from various parties such as the government, schools, teachers and parents. The government can improve the quality of the curriculum and provide adequate resources. Schools and teachers can improve skills and motivation in teaching numeracy. Parents can help increase motivation and provide support in learning numeracy at home. With joint efforts, it is hoped that numeracy literacy at the elementary school education level can continue to increase and help shape good character in children. Through an environment that supports literacy and numeracy, students can continue to improve their literacy and numeracy skills, so that they have better abilities in understanding, using and interpreting numerical information in everyday life

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