MINIMUM COMPETENCY ASSESSMENT (AKM): AN EFFORT TO PHOTOGRAPH NUMERACY

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Abstrak: Perkembangan teknologi informasi yang pesat berdampak pada ilmu pengetahuan, arus informasi, dan komunikasi. Informasi disajikan dalam berbagai representasi, baik itu dalam bentuk wacana, grafik, maupun, tabel. Penyajian informasi yang beragam menuntut manusia agar dapat membaca, memahami, menganalisis, dan menyimpulkan informasi. Gerakan Literasi Nasional (GLN) merujuk pada *World Economic Forum* (WEF) dan *Boston Consulting Group* (BCG) yang menyatakan bahwa literasi numerasi merupakan salah satu literasi dasar yang harus dikuasai pada abad ke-21. Selain itu, hasil PISA menunjukkan bahwa peserta didik Indonesia memiliki kemampuan literasi numerasi yang tergolong rendah. Kemendikbud menindaklanjuti hal tersebut dengan mengganti Ujian Nasional (UN) dengan Asesmen Kompetensi Minimum (AKM). Penelitian ini menggunakan metode studi literatur. Penelitian ini bertujuan untuk mengkaji upaya meningkatkan kemampuan numerasi. Upaya yang dapat dilakukan untuk meningkatkan kemampuan numerasi adalah dengan pemberian materi dan pengintegrasian pembelajaran dengan pendekatan etnomatematika, pemberian soal *Higher Order Thinking Skill* (HOTS) yang dikaitkan dengan kehidupan nyata, dan pemanfaatan *game* pembelajaran interaktif.

Kata kunci: abad ke-21, literasi numerasi, akm.

Abstract: The National Literacy Movement (GLN) refers to the World Economic Forum (WEF), and the Boston Consulting Group (BCG) states that literacy numeracy is one of the basic literacy that must be mastered in the 21st century. However, PISA results show that Indonesian students have low literacy numeracy skills. The Ministry of Education followed up to replace the National Examination (UN) with a Minimum Competency Assessment (AKM). AKM is an essential competency assessment that is tested on students used to measure learners' reasoning ability when faced with problems that require literacy and numeracy skills, namely problems that require basic mathematical knowledge. This study uses the method of literature study. This study aims to examine efforts to improve numeracy capabilities. Efforts that can be made to improve numeracy skills are by providing materials and integrating learning with ethnomathematics approaches, giving higher-order thinking skills (HOTS) that are associated with real life, and utilization of interactive learning games.

Keywords : *21st century, literacy numeracy, AKM.*

INTRODUCTION

The national assessment is a mapping of the quality of education at all levels of schools coordinated by the Ministry of Education and Culture. The purpose of the National Assessment is to encourage students to develop the quality of the education system. The quality of the education system can be measured using three instruments: 1) Minimum Competency Assessment, 2) Character Survey, and 3) Learning Environment Survey. One of the instruments used to measure the quality of the education system, namely the Minimum Competency Assessment (AKM). AKM is a fundamental competency assessment that is tested to students used to measure students' reasoning skills when faced with problems that require literacy and numeracy skills, namely problems that require basic knowledge of mathematics.

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Based on the World Economic Forum (WEF), Boston Consulting Group (BCG), the National Movement and Literacy (GLN) literacy numeracy is one of the basic literacy that must be possessed in the era of disruption (Nugraha & Octavianah, 2020) in order to improve the quality of human resources and improve the standard of living to determine the progress of a nation (Ministry of Education and Culture, 2017). Literacy numeracy is often simply referred to as numeracy. Numeracy is one way that students can collaborate, think critically and creatively, communicate well, have character, and face challenges with the development of science and technology while studying mathematics (Haerudin, 2018). Furthermore, numeracy is part of mathematics because literacy numeracy studies are taken from the scope of mathematics in the 2013 curriculum (Mahmud &Pratiwi, 2019). This reinforces that numeracy is different from mathematics but part of mathematics.

The Program for International Students Assessment (PISA) defines numeracy as mathematical literacy, which is the ability to use mathematics to make rational conclusions as needed for various aspects of life. Mathematical literacy skills are the ability to recognize and understand the role of mathematics, solve mathematical problems in various contexts, interpret mathematical assessments, and explore and apply mathematics rationally (Afriyanti, et al., 2018). Indonesia's PISA results in 2018 decreased when compared with PISA results in 2015, from a score of 386 to 379. In mathematics, Indonesia is ranked 74th out of 79 countries that are members of PISA, where 71% of Indonesian students are under minimum competency (Ministry of Education: Coordination of National Assessment, 2020). The Ministry of Education follows up on the low literacy numeracy capability by applying AKM as a national assessment following Ministry of Education and Culture No. 43 of 2019 because AKM is designed to measure literacy and numeracy skills based on Pisa problem characteristics.

Habituation of literacy numeracy can have an impact on higher levels of education. It can be reviewed based on previous research on the numeracy ability of Teachers' Professional Education (PPG) students in solving math problems. The study concluded that students' ability to write numbers and symbols related to mathematical completion in real life is relatively low (Hartatik &Nafiah, 2020). This is because many students make mistakes in writing notations on their work results, so there is a misconception between the author and the reader. The gap from previous research is the main reason for writing this article, which aims to describe the Minimum Competency Assessment (AKM) to photograph numeracy capabilities.

RESEARCH METHODS

This study uses the method of literature study using method researchers collect data by retrieving data in the library, by reading, recording, and processing the source as research material with a strategy in methodology (Melfianora, 2017). This research is conducted by collecting data from various sources or documents considered relevant to obtain research data.

MINIMUM COMPETENCY ASSESSMENT (AKM)

One of the prerequisites for realizing 21st-century life skills is literacy skills. AKM is a basic competency assessment tested on students used to measure learners' reasoning ability when faced with problems that require literacy and numeracy skills, namely problems that require basic knowledge of mathematics. AKM has two fundamental competencies, namely reading literacy and mathematical literacy, or so-called numeracy. Reading literacy assessment aims to measure the ability to understand, use, evaluate, reflect various types of text to solve problems and develop the capacity of individuals as Indonesians and citizens of the world to contribute productively in society. Meanwhile, numeracy assessment aims to measure the ability to think using concepts, procedures, facts, and mathematical tools in various contexts relevant to individuals as Indonesians and citizens of the world. Literacy and numeracy skills are basic skills that support learning in a variety of subjects. Reading and literacy numeracy competencies assessed include logical-systematic thinking skills, reasoning skills using concepts and knowledge that have been learned, and the skills of sorting and processing information. AKM presents problems in various contexts to be solved by students by utilizing their reading and literacy numeracy competencies. AKM is intended to measure competence in-depth, not just content mastery.

The components of reading and literacy numeracy assessments can be divided by content, cognitive processes, and context. Based on the reading literacy assessment test content, a variety of texts is informational and fictional text, while numeracy assessments test numbers, geometry and measurements, data and uncertainty, and algebra. Based on cognitive processes in reading literacy assessment, learners are tested for competence in terms of 1) finding information, 2) interpreting and integrating text content, and 4) evaluating and reflecting text content in other contexts outside the text. Meanwhile, numeracy assessment involves 1) concept understanding process, 2) concept application ability for routine problems, and 3) reasoning to solve non-routine problems. Finally, based on the context of reading and literacy, numeracy assessments are tested on students using personal, sociocultural, and scientific contexts.

There are various forms of questions in AKM, such as multiple-choice, complex multiple-choice, matchmaking, short stuffing, and description. AKM is computer-based and adaptive, i.e., the questions presented depending on the ability of the learners. If the student can answer correctly, then further questions can be given more complex questions. On the other hand, if the student answers wrongly, then the next question is simple. AKM participants are all education units. However, not all students can follow AKM because AKM participants are selected randomly. The results of AKM are used for school reflection facilities to improve learning in schools.

LITERACY NUMERACY

Based on Permendikbud No. 35 of 2018, mathematics is one of the general subjects of group A that aims to improve affective aspects, cognitive aspects, and psychomotor aspects as the basis and strengthening skills in life. Literacy in mathematics is an effort to learn so that learning becomes more meaningful and not only focuses on the competence of knowledge but there is a change in self-attitude or affective aspects in order to develop skills so that it can communicate well in uncovering mathematical ideas, ideas and meanings (Haerudin, 2018). The ability contained in numeracy ability is the ability to analyze information and solve problems encountered in daily life by utilizing mathematical calculations practically (Haerudin, 2018). Furthermore, numeracy is a term that includes a variety of computational and mathematical skills that learners learn in formal education (Ellefson, et al., 2020). The ability to apply for math numbers, data, and symbols related to literacy numeracy. This skill can be used to help solve the problems of human life in society (Tyas &Pangesti, 2018). Numeracy ability has a role in the welfare of individuals and communities (Hartatik &Nafiah, 2020).

Numeracy ability must be equipped early because, in the 21st century, the ability is needed in public life (Gravemeijer, et al., 2017). After all, all aspects of daily life are closely related to numerical information (Alimi, et al., 2020). Haerudin stated that numeracy ability could analyze information and solve daily life problems by practically utilizing mathematical calculations (Haerudin, 2018). Technological advances and rapidly growing globalization flows (Mitić, et al., 2017) impact increasing demand for numeracy in the field of work (Gal, et al., 2020). This increases the demand for workers involved in more sophisticated mathematical-related tasks (Ministry of Education: Coordination of National Assessments, 2020). Numeracy required is an essential number skill and includes math skills implemented in real life (Marr, B., &Hagston, J., 2007). Currently to compete in the world of work prioritizes numeracy as a work-worthiness skill (Gal, et al., 2020) because numeracy is related to decision making that is sourced in mathematical information in the form of numbers, information, or symbols contained in daily life (Ekowati, et al., 2019). Numeracy required in the world of work includes calculating numbers, reading and interpreting charts and graphs, using simple formulas, ratios, and proportions, reading and interpreting charts (Marr, B., &Hagston, J., 2007). Related to this, the increasing need in the world of work to high-level skills (High Order Skills) such as graduate students who have good numeracy skills because the primary skills needed for digitization is not only crucial for labor market policy intervention, but also for policies that specifically target the education sector (Grundke, et al., 2018).

Efforts that can be made to improve numeracy ability are by integrating mathematical problems related to daily life by using ethnomathematics-based problems (Hendrawati, et al., 2019). Hariastuti (2017) defines ethnomathematics as a field that studies human behavior from different cultures in understanding and using concepts of cultures related to mathematics. Hendrawati, et al., (2019) studied the local culture of the Kowai People of Kaimana Regency for mathematics learning in their research.

Mathematics learning based on ethnomathematics can be interpreted by developing problems, teaching materials, and learning media that teachers can develop according to the area, where teachers and students can better know the region's culture and learn more meaningfully. In addition, Pangesti (2018) stated that efforts to improve numeracy skills are introducing students with Higher Order Thinking Skill (HOTS) to real life. HOTS is a way of thinking ability to interpret the nature of knowledge (Saraswati &Agustika, 2020). Miller (2018) stated that the utilization of interactive technology-based games could improve numeracy capabilities. The game in mathematics learning aims to introduce, develop students' understanding and math skills. Miller (2018) revealed that interactive technology in mathematics learning as part of the learning environment affects learning achievement. Jelatu, et al. (2019) states that learning achievements have a relationship with numeracy abilities. Playing games in the classroom can train numeracy skills and deepen knowledge with a pleasant climate. The research conducted by Pangesti (2018) is the knowledge of mathematics learning in accordance with the school curriculum is indispensable to improve literacy numeracy. Jordan, et al. (2009) states a strong and continuous predictive relationship between numeracy and mathematical results. As a result, numeracy is very important to be introduced early because it impacts determining the learning trajectory of children in mathematics learners.

CONCLUSION

Literacy numeracy skills are one of the essential abilities to be improved and developed to advance education in Indonesia. Therefore, there needs to be a reflection on the process of education and learning mathematics in schools. Minimum Competency Assessment (AKM) is one of the efforts to photograph students' numeracy skills so that students are able to face the development of science, information flow, and communication in the 21st century. Furthermore, based on literature studies, efforts can be made to improve numeracy skills by providing materials and integrating learning with ethnomathematics approaches, giving higher order thinking skills (HOTS) associated with real life, and utilizing interactive learning games.

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