Multiliteracy of Primary School Science Based on Local Wisdom in the Era of Society 5.0

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Abstract. Scientific literacy is a basic thing that elementary school students must have to enter the era of Society 5.0. Society 5.0 is an example of how data can be used to mobilize and connect everything, including efforts to solve social problems. Scientific literacy is the ability to understand science, communicate science, and solve problems. Efforts to improve scientific literacy. This includes, among others, the application of learning models that are appropriate to the situation and abilities of students so that students can provide direct experience and apply the essence of science. One of them is the application of the scientific multiliteracy model. Learning with this model can connect scientific material with local knowledge. In this case, science based on local wisdom generally applies, but science generally involves concepts and theories. Application of the Scientific Multiliteracy Model Based on Local Wisdom in science learning is expected to have an impact on increasing student literacy, especially elementary school students.

Keywords: Scientific literacy, Local Wisdom, Society 5.0.

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INTRODUCTION

The development of science and technology in the field of life in society in the 21st century is related to making a statement that the most important competencies that students must possess are learning and updating skills, mastery of media and information, as well as life and work skills (Abidin, 2015). Facing the challenges and demands of the 21st century, humans must be able to adapt to understand and improve their standard of living. One way to achieve this is through education. Education can also improve a person's life in terms of potential, attitudes, and thoughts, namely, education can develop with the quality of human resources. This statement is in accordance with Law no. 20 of 2003 that the national education system, where the goal of national education is to develop the potential of students to become human beings who believe in and fear God Almighty, have a noble character, are healthy, knowledgeable, capable, creative, independent, democratic and responsible. The achievement of educational goals in Indonesia can be seen from well-conducted evaluations at the national and international levels. One of them is Indonesia's participation in the Organization for Economic Cooperation and Development (OECD), which oversees the country's economic growth, which can be seen from the level of education passed by the PISA test (Program for International Student Assessment). Find out about students' reading, numeracy, and science abilities in OECD countries (Kemendikbud, 2011). In Indonesia, though character education is a concern for ge initiatives. Since the first presidential term, interest in literacy and moral education in Indonesia began to be encouraged during Jokowi's presidency, especially according to the efforts of Anies Baswedan (Indonesian Ministry of culture and education). In 2015 he approved Regional Regulation No. 23 of 2015 concerning Character Building in the Nawa Cita program. This regulation regulates the types of activities for all levels of education from the seven basic respects for humanity. It contains the internalization of values through moral and spiritual behavior with the assertiveness of maintaining the spirit of nationalism and diversity to cement national unity. Maintaining the school environment, namely together to maintain security, comfort, calm, and cleanliness of the school environment; positive social interactions between students; the positive social relationship between students and teachers. Appreciation for the unique potential of students to be developed. Strengthening the role of parents related to community elements. Overall, mandatory implementation is a contextual activity that is adapted to local wisdom values in students to become an effort to strengthen human values (Asari, 2019). According to the Moroccan Declaration (Abidin, 2015) in the 21st

century, the most important skills that a person must have are skills that are unique to multiliteracy and future literacy in various forms including literacy, mathematical literacy, scientific literacy, etc. Science education is one of the things that is very important to maintain life because science is the knowledge that helps solve everyday life problems. A similar view from the NRC (in Toharudin et al, 2011) says that scientific literacy is the ability to use information in scientific endeavors to solve problems. Low scientific literacy is thought to be related to science learning not providing opportunities for students to develop logical logical thinking. Essential school science subjects especially guide students to build their knowledge through the principles of a scientific attitude, scientific procedures, and scientific products. Good learning will produce high-quality results and certainly provide opportunities to train critical thinking for elementary school children by learning science, especially increasing scientific literacy. Science in the Age of Society 5.0 plays an important role in global challenges. Therefore, we need a learning process that can prepare correctly prepare students who are scientifically skilled, creative, reasoning, critical, and reasonable to communicate and work together. Scientific literacy capacity can be interpreted as the ability to understand science, communicate about science (orally or in writing), and the application of scientific skills to solve problems so that one has a high attitude and sensitivity to oneself and the environment. Empirical facts show that several studies show that there is still a weakness in the ability of teachers to carry out learning processes and activities which are the essence of science. Learning science is still characterized by the transfer of product knowledge (facts, laws, and theories) which must be understood to understand aspects of science such as processes that are ignored (Suparya, 2018). In their study, Khoerunnisa et al. (2017).

METHOD

This research is qualitative research with a literature survey method. The research subject is an analysis of books, scientific articles, and other literacy sources related to the multiliteracy of Elementary School Science in the Era of Society 5.0. Digital literacy of elementary school students data analysis is carried out by assessing the process of strengthening digital literacy characters. A data review for this study was carried out using library materials (references) (Atiah, 2020). This study is categorized as a literature review because it aims to describe the material in the form of scientific articles taken from various scientific publications. The data collection process uses documentary techniques using the Perish Publisher application. several conditions: (1) the data is classified as a research scientific article, (2) the data is published in a national journal accredited Sinta1-6, (3) the data has relevance to the topic of multiliteracy learning in the context of independent learning. Based on the search results of Publisher Perish with the keyword 'multiliteracy learning', the scientific article data collected was further selected based on the level of relevance to the topic. Furthermore, data analysis was carried out in several stages, namely (1) identifying patterns of scientific article titles with the topic of multiliteracy learning, (2) identifying patterns of research objectives, and (3) identifying research methods. Teachers can benefit by (7) analyzing pattern detection trends by measuring the frequency and percentage of students using simple descriptive statistics in Ms.Excel and (8) making maps (networks) to form pattern detection networks to illustrate.

RESULTS

Governments and decision-makers recognize the importance of digital technology for educational purposes. National literacy is planned to advance education in Indonesia. Digital literacy is one of them literacy is one of the most important indicators that encourage the development of the world of education. The impact of increasing digital resources, broad accessibility, and openness are important indicators of increasing the quality of education (Altınay et al. 2016). Technological change etc. The explosive explosion of information has changed the dimensions of learning (Çam and Kiyici 2017). This encourages many people to develop digital skills to navigate effectively in a rapidly changing multidimensional digital world, especially for millennials (Kirchoff 2017). But with the development of education today. Character is increasingly difficult to instill in students, as well as education with the application of character in schools is very important because the more advanced the character education of students, the

more students who follow bad behavior. originating from a wide range of communications, the web, and web-based media. Games, especially today's learning exercises created with the help of the Internet, are increasingly influencing student teaching. With the birth of mobility, digital devices have become an indispensable part of human life and three important factors have been enhanced, such as speed, virtuality, and network. (Ozdamar-Keskin et al. 2020) Students use digital technology for learning activities such as reading and messaging, accessing learning management systems, reading books and electronic magazines, participating in forums, etc. (Jones et al. 2010). Although today's students are generally considered to be technologically literate, many still have difficulty using technology effectively (Tang and Chaw 2016). As users of digital products students are the most active users of technology, so are they the most vulnerable users (Gruszczynska, Merchant, and Pountney 2013). Digital literacy is defined as general skills using computational skills other than word processing software or databases, without a sociocultural dimension of digital literacy (Gruszczynska et al. 2013). Literacy implies continuous learning whereby individuals can achieve goals and develop using their knowledge, realize their potential, and participate fully in the activities of the whole community and society. (Çam and Kiyici 2017). Digital literacy refers to access to various cultural habits and resources that can be applied to digital devices (Hague and Payton 2010). Ability to create and share meaning from different models and forms; create, collaborate, and communicate effectively and understand how and when to use digital technology (Son, Park, and Park 2017). The use of digital media for educational purposes is considered an intervention to prepare and improve the younger generation in the era of globalization (Ismail 2015). Digital literacy, media literacy, and information literacy play an important role in primary, secondary, and higher education (Koltay 2011). Achieving this goal requires skills, especially literacy,-because literacy has played an important role in the education systems of many countries, shaping curricula, goals, and objectives (Çam and Kiyici 2017). As a result, education departments around the world have begun to incorporate digital literacy into their curricula (Chan et al. 2017). Experts argue that the concept of digital literacy is slightly different. The plural form of the word literacy is a deliberate step to broaden the meaning of literacy by combining several symbols (Laulu 2017). In the field of technology education, digital literacy sub-disciplines are computer literacy, technology literacy, information literacy, media literacy, visual literacy, and communication literacy (Goodfellow 2011). Based on this description, multiliteracy learning is popularly used in developing students' language skills, especially writing. This is caused by the writing process which requires complex abilities, from generating ideas,- and managing information from various sources to expressing ideas in written form. In particular, writing ability is still a special concern in the form of narrative.

DISCUSSION

In schools, science and technology are an integral part of education and the curriculum is taught from an early age (Semiawan, 2012). This is in accordance with the vision of learning science at the elementary school level. It is claimed that science lessons in elementary school are facts that are related to each other, which are the thoughts of students. Embracing science learning from an early age, especially learning science, plays an important role in future education. Basic science education makes an important contribution to the child's education process. Science lessons in elementary schools should provide opportunities to naturally increase students' curiosity. because elementary school students are always face-to-face with nature, which is the subject of scientific education. This can help develop students' questioning, basic thinking, and critical thinking skills. The developments and paradigms of the Society 5.0 era changed attitudes and communities of the past, such communities prioritize cooperation and collaboration and are now going in a more individual direction. Individual behavior in modern times can be explained as a lifestyle based on normal personal freedom for the common good, that is what society does to their environment. The school's digital literacy movement is expected to shape the character of students in the era of society 5.0 in schools. Reading literacy in schools increases students' inspiration in learning, encourages students' innovative thinking, and builds students' self-confidence. So later they become students who excel in competing in the current era of globalization. Etymologically, wisdom means wisdom, knowledge, or skills to know, agree,

differentiate, determine, try and admit right or wrong (Atmadja, 2018). Wisdom is not based on knowledge and experience alone, but wisdom can also be seen from a local dimension,- so it can be interpreted as local wisdom. Local wisdom can be seen from two dimensions, knowledge, and actions that are patterned and generally passed down from generation to generation or from generation to generation forming traditions (Atmadja, 2011). According to Purna (2010), local wisdom is part of the culture of having traditions, belonging to the collective, working to solve problems, and having experienced the dimensions of space and time. This experience refers to the interaction between humans or the relationship between humans and nature. According to (Gidden, 2013) and (Keraf, 2012), the characteristics of local wisdom are as follows: 1) Collective, meaning that local wisdom is owned by a certain group, community, or community. 2) Empirical, meaning that local wisdom is something that is considered true because it is tested by continuous empirical experience. 3) Practice, local wisdom is practical because it is practiced in everyday life. 4) place, the meaning refers to the place. 5) Morality, meaning that local wisdom regulates behavior because the realization of local wisdom is a moral action. 6) Holistic, meaning local wisdom is related to knowledge and understanding of all life and its relations in the universe. 7) Protective, ie. Local wisdom has guardians, so it lasts a long time and becomes a tradition. 8) Integrative, meaning that local wisdom is integrated into religious teachings and practices. Local wisdom in scientific learning cannot be separated from the reciprocal relationship between Science, Technology, and Arts (IPTEKS) and culture. Local Wisdom Value Local wisdom means a harmonious interaction between humans, nature, and the built environment in an area which is also determined by its culture (Dahlian, 2015). Local wisdom is the cultural output of human thought in the process of adapting its existence to nature which can be manifested in its works as a built and intangible environment. Local wisdom is always changing,- because it follows a dynamic culture and cannot be separated based on the human mindset (Antariksa, 2009). Local wisdom can be understood as local ideas that are wise, full of wisdom, of good value, ingrained, and internalized by the community. The value of local wisdom means the moral virtues that occur in society. In my opinion, local wisdom is a cultural concept born based on critical thinking about how that culture takes place. Therefore, local wisdom can be the rejection or creation of a larger culture. For elementary school students, learning values is not only a matter of absolute truth but also about how to instill norms of good behavior in life as a result of having high enlightenment and understanding, and a commitment to apply virtues to everyday life [Davis, 2003]. Bouhmama (2006) reveals that cultural values determine certain terms of moral development.

CONCLUSION

The development of students' knowledge in elementary schools includes scientific knowledge, science as a process, science as a scientific attitude, and students' understanding of scientific concepts. Scientific literacy is defined as the ability to understand and communicate about science and the ability to solve problems. To increase children's scientific literacy in elementary schools, teachers can apply one of the learning models, namely the scientific learning model. The level of learning in the scientific model is defining problems, making hypotheses, collecting and recording data, analyzing data, testing hypotheses, and closing date. Applying the scientific literacy model can combine scientific material with local wisdom-based science material, where knowledge based on local wisdom applies universally Scientific science usually involves concepts or theories. The application of the scientific multiliteracy model is local scientific-based learning which is expected to have an impact on improving students' reading skills, especially among elementary school children. This study shows that learning media in the era of society 5.0 is a technology-based learning environment, where the learning environment is in social media, which is otherwise very well known. Students in this study show that social media is a relevant learning mass media in the current generation of education. the use of social media as a tool for learning and guiding students is a natural step in that direction considering that today's generation is very familiar with social media, and even their part of the virtual world is sometimes bigger than the part of the real world. Literacy activities can be developed with multiliteracy with students not only teaching reading literacy but needing to be equipped with digital literacy. In this age, information obtained from new knowledge and being able to form a

better society by using digital devices in an ethical, polite, and responsible manner by paying attention to social, cultural, economic, and aspects and rules surrounding digital literacy. Traditional literacy culture, for example, writing, reading, and listening, is still hoped that digital literacy can boost literacy skills for generations of digital natives.

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