

# Literature Study of Science Literation with Strategy Sagu Sabu (One Teacher One Book) to Answer the Demogrphic Bonus in XXI Century

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Abstract: The main challenge in the world of education is education with the Graduates Competency Standards (SKL) which are able to adjust to a higher level. Initial preparation begins with planting a culture of literacy in family, school and community. All parties combined to welcome and reward with life skills in the XXI century. The purpose of this research is to study and develop community literacy. Students who are accustomed to critical thinking, creative, collaboration and communication. The method in this study is a method of literature study, which examines several journal articles and books. In this study is the teacher as the end result of the demographic bonus one of them who uses activities that are used for students through scientific literacy activities. In this case a strategy that can be done one of them is by applying sago sabu (one teacher one book). The teacher expresses science-based ideas and ideas in one book, as a guide in spreading the knowledge he has and teaches it to students. The knowledge provided is very useful for students to survive competently in the face of global challenges and challenges in the future.

## 1 INTRODUCTION

BPS data shows that Indonesia gets a demographic bonus from 2020 to 2035 with 70% of its population in productive age, namely 15-60 years. This situation

is very beneficial if we prepare the young generation well to welcome it, otherwise if we don't prepare it will be a threat to this country. The preparation is done by cultivating literacy activities ranging from family, school and community.

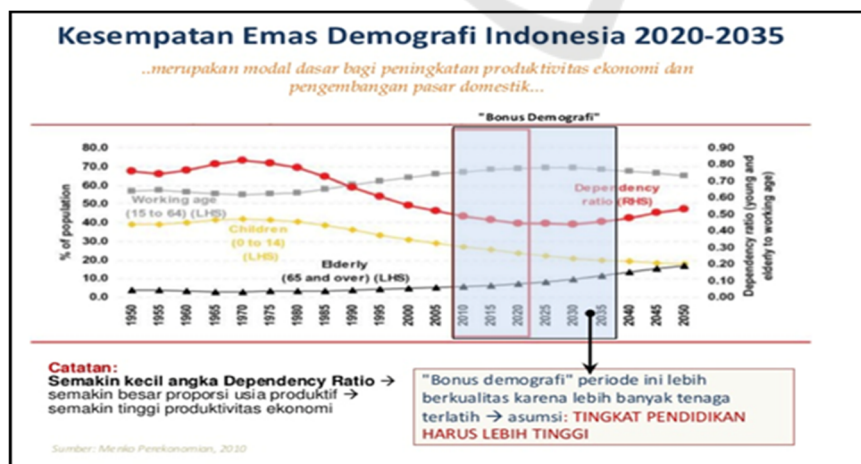


Figure 1: Indonesian Demographic Graph (source: <https://goo.gl/QkEEyn>).

## 2 RESEARCH METHODS

This research is a qualitative research with literature study method. According Sukardi (2017) literature study conducted by each researcher with the main goal is to find the foundation of the foundation or foundation for obtaining and building a theoretical foundation, frame of thinking, and determining temporary suspicion or often referred to as hypothesis research, so that researchers can understand, seek, organize, and then use library variations in the field. By conducting literature studies, researchers have a deeper and deeper understanding of the problems to be studied. Various sources of literature that can be used by researchers are journals, research reports, scientific magazines, newspapers, relevant books, results of seminars, unpublished scientific articles, sources, letters, and others.

## 3 RESULTS AND DISCUSSION

### 3.1 Science Literacy

Literacy is the ability of students to understand something new and relate to previous understanding to gain meaningful new knowledge. Science is natural science that is certain. According to Suhendra Yusuf (2003), scientific literacy is important to be mastered by students in relation to how students can understand the environment, health, economy, and other problems faced by modern society that are highly dependent on technology and the progress and development of science. Windyariani (2017) aims at science education to imply the need to teach students to utilize scientific concepts that can be applied to the environment, technology and society. It can be concluded that scientific literacy is the activity of using science and technology knowledge in analyzing questions and summarizing existing facts to make decisions and make changes related to nature in everyday life.

Science literacy is very complex with students' lives, which is related to character, knowledge, understanding and culture. Sing Tang (2016), the Standards for Science and Technical Subjects, science teachers are expected to use their content area. The expertise is to help students meet the challenges of reading, writing, speaking, listening, and language in their respective fields. A concrete example of scientific literacy is reading, writing,

listening, speaking, seeing, role playing, digitizing information, etc. In view of Morocco et al. (2008) which is about competencies that need to be mastered in the 21st century, namely a high understanding of concepts, the ability to think critically, the ability to communicate and collaborate, and the ability to think creatively. Based on this goal, current literacy is not just requiring students to master language skills but competency of thinking, technology, scientific competence and socio-cultural competencies.

Rustaman (2007) argues that science plays a role in building the character of society and the nation due to the rapid advancement of knowledge, the efficacy of processes that can be transferred to other fields, and also contains the value of values and attitudes within them. By creating an environment that is literate trains students accustomed to growing and actively participating in their lives. With the development of literacy learning goals, the standard of literacy learning has experienced development. Among them, early learning competencies are emphasized on linguistic aspects in order to master various forms of reading. Furthermore, the competency to think in order to interpret and rethink the reading so that it can be understood and interpreted. Next the emphasis on social competence in order to criticize various readings. Then growth competencies to understand and apply in life. Standards of ability that students must possess, according to Stuart Jr. (2014) namely the standard of reading ability; write; spoken language and linguistic standards. Thus the standard of literacy learning becomes a standard that is inseparable from various learning in various scientific disciplines, especially science.

Here the teacher has a very important role in literacy learning in schools. So the improvement of pedagogical and professional skills in teaching must continue to be improved in line with the current development of literacy. Education is not only used to have practical skills that can be used in the world of work but the teacher is required to prepare students who have high-level thinking skills that are used to answer the challenges of the XXI century such as finding problems, integrating, analyzing information and solving problems and having superior characters that are culture friendly and environment.

A big challenge for a teacher in creating quality global education includes (1) construction of meaning, (2) active learning, (3) accountability, (4) use of technology, (5) improvement of student competence, (6) certainty of choice, and (7) multicultural society (Arends, 2012). The initial step to answer these challenges the teacher must

implement student-based learning. Students themselves find and define meaning, so that they are trained to think highly of students. In line with constructivism, it is assumed that students can construct experience with new knowledge. Therefore, learning events should be designed in such a way as social and cultural activities where students construct meaning interwoven through the learning media provided by the teacher.

The challenge of both teachers must be to determine active learning. In this case students are not allowed to passively receive information from the teacher, but students are actively involved in appropriate experiences, and have the opportunity to develop meaning and construct their knowledge.

The challenge of the three teachers must have accountability means that they really master their fields and are able to carry out learning directly. The fourth challenge is that teachers must master technology, in line with a paradigm shift from an agrarian society to an industrial society, requiring the application of educational technology in the learning process, in order to develop the potential of students in accordance with the needs of society.

The challenges of the five teachers must carry out to improve students' competencies in the form of IQ and increase students' creativity in multiple intelligences. The challenge of the six teachers must determine the certainty of the place of teaching, which is in accordance with the quality and ability of education. The challenges of the seven teachers must be able to teach in the situation of students who are multicultural or culturally diverse. These challenges can be addressed wisely, by doing self-reflection and finding the best solutions to meet quality global education.

The efforts made by the government in responding to the challenges of the 21st century are changing the 2006 curriculum with the 2013 curriculum. The Ministry of Education and Culture (2013: 1) explained that the 2013 curriculum development is expected to produce productive, creative, innovative and affective Indonesian people through attitudes (know why), skills (know how) and knowledge (know what) are integrated. This effort was carried out because the results of the survey showed that Indonesia's literacy skills were always low. In connection with this since 2000 literacy skills of elementary and junior high school students in Indonesia have been measured several times and compared to other countries. In 2012, Indonesian students are still ranked at the bottom with other countries studied (TIMSS and PIRLS, 2012).

Based on the empirical data above, efforts to increase students' literacy skills are applied in the 2013 curriculum, by integrating the content of Indonesian language lessons with other study content. Through an integrated and differentiated literacy approach, students are expected to have better attitudes, skills and knowledge competencies. Therefore, the 2013 curriculum is not only oriented in cognitive abilities, but also oriented towards developing students' attitudes, skills and knowledge.

Based on this, the Ministry of Education and Culture promoted the School Literacy Movement (GLS) program which was prioritized from the Nawacita program, specifically numbers 8 and 9 which are closely related to quality human resources with high nationalist character and attitude. Ministry of Education and Culture, (2016: 7-8) explains GLS is a participatory effort or activity, involving school citizens, academics, publishers, mass media and the public.

### **3.2 Sago Sago Strategy (One Teacher One Book)**

The teacher is the first person to create a literate-rich school. Teachers are required to be professional in conducting learning to answer the demands of the times. It is appropriate for a teacher to transfer his knowledge to students in the teaching and learning process. Especially to succeed the GLS program from the Ministry of Education and Culture is not only focusing on students, but a teacher must be able to become a literate student leader. Noble teacher because of the work. Then work, O teacher, so students reach the real point of literacy.

Interaction and practice of learning are always intertwined between teachers and students, brilliant ideas, interesting ideas, challenging science material, fun learning methods, all of which can be recorded and then used as reading sources that can be used as inspiration for creative students. So, make writing it as a means of literacy to share with students in creating generations of character and excellence like the teacher.

Hernowo (2006) said that nutrition-rich books are ready to empower readers. In this case it means that the book contains elements of stories in a coherent way to attract interest and change readers, especially students. Not that the book in question is a fiction book, but the book is delivered in a language that is easily understood by students, through open stories and rich in meaning.

The role of the book is very important, namely that it can educate students by moving students' thoughts

and perceptions. Through that, students can absorb the nutrients contained in the book so that they can closely close the brain cells of students. If students have absorbed nutrition from the book, students can achieve literacy activities in the form of the ability to use language and images in a rich, diverse form, for example reading, writing, listening, speaking, seeing, presenting and thinking critically of ideas appeared even students were able to rewrite ideas that emerged after reading the nutritious book.

Come on the teachers, start writing. Tony Buzan (2003) used the shedding method using the left and right brains to initiate writing. Gabriele Rico (2000) clustering so that what we spill can bring all of us out. Let's start with pleasant writing techniques, freely spill what you want to incise. Do this every day, develop your writing in children's language. Start by reading books, articles, journals related to science to enrich your vocabulary in writing and sharpen your memory of prior knowledge. Then ask questions in yourself, write your answers with a light story but focus on the answers. If this reading and writing activity is honed every day, then you will be rich in insight and language. So, you will be able to tell in writing science textbooks that promote theoretical discovery, insert certain formulas and lift the name of the inventor, express ideas and facts. So that the reader can finally be involved in science activities in the form of understanding and taking all decisions related to the surrounding environment and finding solutions to any problems that exist.

Change for the better, be prepared to get out of your comfort zone and enter the challenge zone. The ideal time to adapt is 1 to 2 years, after which we will become accustomed to these changes. How not, this is all prepared on the basis of XXI century education which not only builds knowledge, but also builds the character, affection and skills of students. This is believed to be the future children of the nation will be more advanced and at least parallel with other nations in the world.

### **3.3 Answers to the Demographic Bonus of the XXI Century**

Abidin (2015) argued that education in the XXI century was like a woman with a beautiful face, she was critical in intellectual, creative in thought, ethical in association and character in life. All of that is the result of something that is being fought for at this time. The literate teacher is a teacher who is ready to print students to be better than him, equip students with life skills in the XXI century.

Abidin (2015) states that the initial concept of struggle began with equality which was defined as the ability to read and write, scholarship and increasingly developed into knowledge. From the description, it can be concluded with multiliteration namely language skills related to context, culture and media.

Astuti (2016) believes that XXI-century society needs people with knowledge of scientific and technological issues. Therefore, the 2013 curriculum is prepared to produce human resources that can answer the challenges of life in the XXI century. 2013 curriculum is not just channeling knowledge, but involves students directly in the process of developing knowledge. The aspect of assessment itself is not only to know the achievement of knowledge, but as a source of inspiration for the development of learning to find out the weaknesses of students and seek efforts to improve subsequent learning.

Abidin, et al (2017) indicate that there are five basic capital building literacy schools namely teachers, headmaster leadership, school programs, facilities and infrastructure, and socio-cultural community. Benitez et al. (2009) stated that the development of a good school must begin with a vision, which will shape the transformative principals' leadership patterns. With a clear vision, the principal can determine the mission, goals and strategies that the multilaterate school wants to achieve. School programs are realistic and can be carried out on an ongoing basis, as well as giving contextual meaning to students. Library, reading corner is one of the literacy school facilities and infrastructure, which is convenient for students in reading. Literacy schools have the ability to develop the potential that exists within the local community through a network of education with the community. Start pioneering multilaterate schools with what we can do today, so that change can be done immediately for the better future of students.

## **4 CONCLUSION**

Literacy schools are schools that can facilitate students to be able to fulfill their students' competencies in facing the challenges of life in their day. The teacher is the first person to create a literate-rich school. Such teachers are professional teachers who can work to develop their capabilities to create multilaterate schools through science reading books that they created for the golden generation.

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